

DOE/IG-0556

AUDIT
REPORT

NUCLEAR MATERIALS
ACCOUNTING SYSTEMS
MODERNIZATION INITIATIVE



JUNE 2002

U.S. DEPARTMENT OF ENERGY
OFFICE OF INSPECTOR GENERAL
OFFICE OF AUDIT SERVICES



U. S. DEPARTMENT OF ENERGY
Washington, DC 20585

June 6, 2002

MEMORANDUM FOR THE SECRETARY

FROM: Gregory H. Friedman (Signed)
Inspector General

SUBJECT: INFORMATION: Audit Report on "Nuclear Materials Accounting Systems Modernization Initiative"

BACKGROUND

The Department of Energy (Department), by its own estimate, spends about \$217 million annually to operate over 50 separate nuclear material tracking systems and to perform other procedures necessary to maintain accountability over its nuclear material inventory. Because these systems are not fully integrated, obtaining comprehensive data about nuclear materials is inefficient. In addition to the many site-level systems, the Department also maintains the Nuclear Materials Management Safeguards System (NMMSS). Used since 1965, NMMSS comprises a major component of the Government's nuclear materials accounting system. It contains high-level, aggregate data on quantity, as well as individual transaction data on shipments of nuclear materials, both internal and external to the United States. The Department and the Nuclear Regulatory Commission share the \$4 million annual operating costs for NMMSS. In recognition of the inefficiencies of maintaining numerous tracking systems, the Department initiated a study in 1999 to examine opportunities to modernize its nuclear materials management systems.

The Office of Inspector General has undertaken a number of reviews designed to evaluate the performance of the Department's information technology program, including its nuclear materials accounting systems. Based on this work, we have concluded, as noted in our *Special Report on Management Challenges at the Department of Energy*, (DOE/IG-0538, December 2001), that information technology is one of the most significant management challenges facing the Department. Because of the importance of this issue and the potential for significant savings, we initiated an audit to assess the Department's efforts to redesign or modernize its nuclear materials accounting information systems, and to determine whether such efforts were consistent with the Department's Corporate Systems Information Architecture.

RESULTS OF AUDIT

We found that the Department had not adequately managed its activities to redesign or modernize its nuclear materials accounting systems. Moreover, planned and ongoing system development efforts were not fully consistent with the Corporate Systems Information Architecture. Specifically, the Department:

- Despite the expenditure of over \$700,000, had no plans to complete an initiative to adopt a corporate-level nuclear material accounting solution;

- At a projected cost of over \$7.5 million, permitted organizations to continue to develop or upgrade site-specific systems that may not be capable of integration; and,
- Undertook a major redesign to NMMSS, aimed at modernizing the system and improving external reporting, but did not require field sites and program offices to provide the site-level funding necessary to ensure success of the effort.

The problems identified during our review occurred because the Department did not take a unified approach to the nuclear materials management system modernization effort and did not follow its own software development guidelines. While current modernization efforts will provide a number of improvements in accounting for nuclear materials, they will not, in our view, achieve the level of standardization the Department initially envisioned. As a consequence, the Department may not realize its anticipated potential annual operating savings of about \$66 million.

In conducting this review, we recognized and included in our analysis the fact that certain Departmental elements have special requirements and that a "one-size-fits-all" approach may not be practical or appropriate. However, at a minimum, the activities of field and Headquarters program elements need to be coordinated to avoid duplicative efforts; provide the greatest integration possible; and, ensure that the Department has appropriate control over its nuclear material inventory.

MANAGEMENT REACTION

The Office of Security and the Chief Information Officer shared many of our concerns on the nuclear materials modernization initiatives and they generally agreed with the facts presented and conclusions reached in the audit report. The National Nuclear Security Administration did not concur with our finding and recommendations and indicated that it had unique requirements that may not be served by a corporate level solution.

Attachment

cc: Chief of Staff
Administrator, National Nuclear Security Administration
Under Secretary for Energy, Science and Environment
Director, Office of Management, Budget and Evaluation/Chief Financial Officer
Chief Information Officer

NUCLEAR MATERIALS ACCOUNTING SYSTEMS MODERNIZATION INITIATIVE

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Overview

INTRODUCTION AND OBJECTIVE

The Department of Energy (Department) operates over 50 separate tracking systems to maintain accountability over its nuclear material inventory. Because its accounting systems are not fully integrated, obtaining comprehensive data about nuclear materials is inefficient. In addition to these separate site-level systems, the Department also maintains the Nuclear Materials Management Safeguards System (NMMSS). Used since 1965, NMMSS comprises a major component of the Government's nuclear materials accounting system and contains aggregate high-level data on quantity as well as individual transaction data on shipments of nuclear materials, both internal and external to the United States. The Department and the Nuclear Regulatory Commission share the \$4 million annual operating costs for NMMSS and use the system to maintain overall material accountability. In recognition of the inherent inefficiencies of maintaining numerous tracking systems, the Department initiated a comprehensive study in 1999 to examine opportunities to modernize its nuclear materials management systems.

The primary purpose of the study was to examine methods of improving the quality and timeliness of data and reducing the cost of maintaining accountability over nuclear materials over their lifecycle. This study, referred to as the Nuclear Materials Stewardship Initiative (Stewardship Initiative), was to develop a means of integrating cross-cutting nuclear materials management responsibilities, enable more complete tracking of foreign obligations of special nuclear materials, and decrease manual data requests, while reducing overall costs. As part of the Stewardship Initiative, a separate business process reengineering study was to be performed to identify opportunities for improvement. Based on cost data provided by site representatives, the initial phase of the study calculated that the Department spends over \$217 million annually to manage, use, track and report information on the nuclear materials inventory and that savings of as much as \$66 million per year might be possible by integrating its material accounting systems.

Problems with nuclear materials management systems are long-standing issues within the Department. In December 1994 the General Accounting Office (GAO) issued *U.S. International Nuclear Materials Tracking Capabilities Are Limited* (GAO/RCED/AIMD-95-5), which criticized the Department for not performing adequate planning before upgrading NMMSS. The Office of Inspector General also reported problems related to the management of nuclear materials information systems in our report on *Corporate and Stand-Alone Information*

Systems Development (DOE/IG-0485, September 2000). Specifically, we noted that duplicative and/or redundant computer systems, including nuclear materials tracking systems, existed or were under development at virtually all organizational levels within the Department.

The objective of our audit was to assess the Department's efforts to redesign or modernize its nuclear materials accounting information systems and determine whether such efforts were consistent with the Corporate Systems Information Architecture.

CONCLUSIONS AND OBSERVATIONS

The Department had not adequately managed its system redesign and modernization activities for nuclear materials accounting systems. Furthermore, planned and ongoing nuclear materials accounting systems development activity was not always consistent with the Corporate Systems Information Architecture. For example, the Department had no plans to complete an initiative to demonstrate the feasibility of a corporate-level nuclear materials accounting solution. Additionally, organizations were allowed to continue to develop or upgrade accounting and production related systems at a projected cost of over \$7.5 million. Finally, the Department undertook a major redesign to NMMSS without providing the support or site-level funding necessary to ensure success of the effort.

The Clinger-Cohen Act of 1996 and Office of Management and Budget (OMB) implementing guidance require agencies to maximize the value of investments by developing and implementing an information technology architecture that requires a structured, disciplined approach to systems development. Specifically, agencies are to adopt a management approach that minimizes duplication or redundancy and one that requires that costs, needs and alternatives be considered prior to initiating a development effort.

The Department did not meet these requirements because it did not take a unified approach to the redesign effort and did not follow its own software development guidelines. While the NMMSS redesign effort will provide a number of improvements in accounting for nuclear materials, it will not achieve the level of standardization envisioned in the Stewardship Initiative despite the expenditure of over \$4 million. Because of its fragmented management approach, the Department may not realize significant savings from integrating its nuclear materials accounting systems that were identified by the initial sponsors of the Stewardship Initiative.

This audit identified issues that management should consider when preparing its year-end assurance memorandum on internal controls.

(Signed)
Office of Inspector General

Nuclear Materials Accounting Systems Modernization

Coordinated Approach Has Not Been Adopted

Despite the potential for significant savings, the Department had not adopted a coordinated approach to modernizing its nuclear materials accounting information systems. For example, while the Department had initiated an integration effort, it had no plans to complete the effort and had not made a final decision on how best to modernize its systems. In addition, specialized program or site-specific systems that may not be compatible with the finally selected integration alternative are being planned or are currently being developed; a practice that was not consistent with the Corporate Systems Information Architecture. The Department also authorized a major upgrade to NMMSS without providing the support or funding necessary to ensure success of the effort.

Nuclear Materials Stewardship Initiative Remains Incomplete

The Department had not chosen a final approach for modernizing its nuclear materials accounting systems. Even though the first stage of the Stewardship Initiative was completed in August 2000 and identified the potential for significant savings and many opportunities for improvement, the Department had no plans for completing the initiative. Although certain tasks recommended in the first stage of the Stewardship Initiative had been completed, a number of activities remained incomplete, and no current year funding has been provided for finalizing the Stewardship Initiative. Without a proposed solution and action plan, opportunities to modernize the Department's nuclear materials accounting information systems and realize significant savings are unlikely to be realized.

Continuing Systems Development Activity

While some action had been taken to standardize its site-level nuclear materials accounting systems, the lack of a coordinated approach limited the overall effectiveness of the effort. Based on the need to replace aging site-specific systems and standardize practices, the Department developed the Local Area Nuclear Materials Accounting System (LANMAS) at a total cost of about \$6 million. This system, which the Deputy Secretary required Headquarters and field elements to consider when upgrading or replacing their materials accounting system, was developed and is maintained by the Savannah River Site. The Deputy Secretary's implementing memorandum stated, "...the use of LANMAS will allow for greater reliability, efficiency and cost savings through increased standardization and use of advanced technologies." While the Department was successful in implementing LANMAS at 10 locations, certain sites reported that they were unable

to use the system because of security issues and the lack of support for material production facilities. For example, officials with the National Nuclear Security Administration (NNSA) and the Los Alamos and Sandia National Laboratories told us that they considered using LANMAS before launching efforts to update their site-level tracking systems but were unable to do so. While the corporate sponsor, the Office of Security, indicated that it was willing to perform an analysis to fully define implementation issues and develop proposals/plans to bridge program gaps, NNSA officials told us that they could not permit the analysis because it would have been too labor intensive. Rather than taking action to resolve these issues, the Department instead permitted sites to continue the development or upgrade of site-specific accounting and production related systems that may not be capable of integration and will ultimately cost in excess of \$7.5 million.

We also learned that NNSA was planning to develop a Headquarters-level system to accumulate component-level data on nuclear materials. An NNSA representative told us that such a system was needed to better manage materials and would provide type and location information essential in emergency response situations. The official emphasized that NMMSS could not, and should not, supply component level information because of "need-to-know" issues. The planned application would extract data from various site-level systems for analysis, and eliminate delays involved with reconciling the annual Nuclear Material Inventory Assessment with NMMSS. At present, this process is performed using manual methods and takes a number of months to complete. Planning remains in the conceptual stage, no design work has taken place, and NNSA has yet to examine requirements of the Department's software engineering process.

NMMSS Redesign

Lack of progress of the Department's integration effort may limit the overall effectiveness of the NMMSS system redesign. The initial decision to redesign NMMSS was based primarily on the need to migrate the system to a modern platform and to improve certain aspects of external reporting. While the Department permitted the redesign effort to continue and tasked the designers with standardizing measurement and reporting methods, it did not take action to ensure success of the effort. Specifically, sites and program offices were not required to cooperate with the effort and specific funding necessary for site-level system modifications was not provided.

Even though the NMMSS redesign team sought to enhance data quality by standardizing site-level reporting, its efforts have not been completely effective. To its credit, the redesign team performed a number of site-level outreach activities regarding benefits available from standardization. The team also took a number of actions to ensure that the development effort maintained compatibility with LANMAS and maintained coordination with the Chief Information Officer (CIO). Despite these efforts, many sites would not support the move to standardized reporting and did not have the resources available to populate necessary data fields. Absent a selected alternative and a clear mandate from the Department, certain sites decided against modifying their local processes because they did not perceive a benefit at the site level. Because of these problems, the redesign will not achieve the level of standardization envisioned in the Stewardship Initiative for improved nuclear materials management despite the expenditure of over \$4 million.

System Development Requirements

The Clinger-Cohen Act of 1996 (Clinger-Cohen) and OMB implementing guidance require agencies to maximize the value of investments by developing and implementing an information technology architecture that requires a structured, disciplined approach to systems development. Specifically, agencies are to adopt a management approach that minimizes duplication or redundancy, and one that requires that costs, needs and alternatives be considered prior to initiating a development effort. Clinger-Cohen requires that new or redesigned information systems be consistent with the agency's Corporate Systems Information Architecture. To ensure consistency, the CIO, as well as GAO guidance, require that a formal lifecycle review be completed prior to development of information system resources. This practice minimizes the potential for costly system redesigns when essential features are omitted from the original design.

Software Engineering Process and Implementation Standards

The Department did not meet these requirements because it did not take a unified approach to the redesign effort and did not consistently follow its own software development guidelines. Because of reorganizations, the Stewardship Initiative no longer has a corporate or programmatic sponsor to oversee completion efforts, select a final alternative, or mandate compliance by field and program offices. Government and commercial best practices consistently demonstrate that information technology investments championed by a corporate sponsor have the greatest chance of success. In addition, the CIO did not provide adequate oversight, monitoring, and control of the Stewardship Initiative and did not alert senior management when the Stewardship Initiative lost its sponsor.

In addition, while the Department has a number of guides and procedures in place, it had permitted its sole directive governing information technology management to expire. Although the expiration of this Order did not directly impact the initial phase of the Stewardship Initiative, it could place final completion of the project in jeopardy. Specifically, field and program offices relied on DOE Order 200.1, *Information Management Program*, to provide guidance to ensure that development activities were managed in a manner that supported strategic and operational plans of the Department. However, this Order was allowed to expire in September 2000 and no new guidance has been issued. The lack of up-to-date standards increases the risk of information resources being developed that are not consistent with the Department's architecture.

**Significant Savings
Opportunities May Be Lost**

Without corrections of the identified problems, the Department is unlikely to realize the potential savings identified by the initial sponsors of the Stewardship Initiative. Without development of a coordinated approach, the Department's goal of integrating nuclear materials accounting across the complex has little chance of success. In addition, it will continue to incur costs for development of site and program specific systems that may not be compatible with the overall integration effort. These development costs are expected to exceed \$7.5 million for two of the national laboratories identified during our audit.

Furthermore, the Department will ultimately spend over \$4 million for an NMMSS redesign without achieving the level of standardization envisioned in the Stewardship Initiative.

RECOMMENDATIONS

To facilitate modernization of the Department's nuclear materials accounting systems, we recommend that the Administrator, National Nuclear Security Administration and the Office of Security, in coordination with the Chief Information Officer:

1. Develop a coordinated approach and select a final alternative for modernizing nuclear materials accounting information systems that is consistent with the Department's Corporate Systems Information Architecture as well as security and program specific operational needs; and,
2. Impose a moratorium on development efforts to minimize redundancy during the process of developing and selecting a modernization alternative. Unless necessary to address emergencies, development should be limited to maintaining site-level systems and other nuclear materials accounting information systems in a steady state.

We also recommend that the Department's CIO update the directive governing information management systems development.

MANAGEMENT REACTION

The Office of Security generally agreed with the facts presented and conclusions reached. Although the CIO did not provide specific written comments, the CIO also indicated general agreement with the facts and conclusions. The CIO and Office of Security shared many of the same concerns on the nuclear materials modernization initiatives that we expressed in this report. Specifically, the Office of Security cited the reluctance on the part of many offices in standardizing and adopting a more corporate approach to improve nuclear materials accounting. The Office of Security's written comments are included, in their entirety as Appendix 3.

NNSA did not concur with our finding and recommendations. NNSA management stated that it would evaluate the programmatic requirements for each site and then make a decision about whether using a common system would benefit NNSA.

While NNSA did not concur with our recommendation to develop a coordinated approach to selecting a final alternative for modernizing nuclear materials accounting systems, it stated that it would, at a minimum, evaluate a "path forward" to interface with the Department's corporate system, such as common interface and/or data-exchange standards. Furthermore, NNSA stated that it was more important to establish and maintain a system that provides accurate materials information for each site than to implement initiatives to meet an information architecture.

Additionally, NNSA did not concur with our recommendation to impose a moratorium on development efforts while selecting a corporate level alternative. NNSA believed that the recommendation was not appropriate for its operations because limiting improvements in existing systems to emergencies would not allow sites to adapt to changing program requirements or achieve other efficiencies.

NNSA was also concerned with the validity of the estimated operating costs and potential savings discussed in the report and questioned the validity of comparisons between the Los Alamos development effort and LANMAS. NNSA stated that the Los Alamos development effort that will cost about \$7 million encompasses a significantly greater effort for the overall information system at Los Alamos than just the nuclear material accountability system.

Finally, NNSA pointed out that because there are currently no plans or set requirements for the overall integration effort, it is not clear that even the corporate site-level system (LANMAS) would be consistent with the integration effort.

NNSA's general comments are included as Appendix 4. NNSA also provided technical comments that are addressed in the body of this report.

AUDITOR COMMENTS

While we understand NNSA's position, a coordinated approach among the Department's disparate group of users of nuclear materials accounting information is a prerequisite to ensuring that efficiencies are realized and the effectiveness of investments in information technology design are maximized. For example, our recommendation for a coordinated approach that is consistent with the corporate architecture is not mutually exclusive of NNSA's desire to provide accurate site level information. Rather, the recommendation seeks to establish a coordinated approach to determine how the Department's needs and programmatic/site needs can be met most cost effectively. In fact, our recommendation is consistent with OMB guidance, which has encouraged Federal agencies to maximize their IT investments by avoiding duplicative development efforts by leveraging similar information needs in a coordinated approach.

Furthermore, our recommendation for a moratorium recognizes the need for development efforts to maintain site-level systems in a steady state. We do not envision a situation whereby programming changes to meet evolving requirements would not be permitted. Rather, we believe that a moratorium should be imposed on large-scale modernization efforts until a decision is reached on a final system that is consistent with the corporate architecture.

Regarding NNSA's doubts about costs and savings discussed in this report, we believe that the information is the best available. The Department employed a diverse team of over 40 subject matter experts from all areas of nuclear materials management during the initial phase of the Stewardship Initiative to identify costs and opportunities for improvements. Furthermore, during our audit, we performed limited validation procedures on these estimates by interviewing a number of headquarters and field site representatives, including NNSA officials, who indicated that the information contained in the study was the best available. At a minimum, we believe that the study presents sufficient information to prompt the Department and its constituent programs to initiate action to develop a coordinated approach towards modernizing its nuclear materials management information systems.

Finally, regarding NNSA's concerns over the validity of comparisons between the Los Alamos development effort and LANMAS, we agree that the Los Alamos development effort exceeds the current capabilities of the corporate site-level system. However, it is unclear how much of the functionality of the new development effort could have been met by the corporate site-level system because its potential was never fully investigated. We also believe that a coordinated approach to implementing site-level systems would minimize the difficulties involved in eventually developing a corporate level integrated information system.

Appendix 1

SCOPE

The audit was performed between October 2001, and February 2002, at Department Headquarters in Washington, DC; the Lawrence Livermore National Laboratory in Livermore, CA; the Los Alamos National Laboratory in Los Alamos, NM; and the Sandia National Laboratory and Albuquerque Operations Office in Albuquerque, NM.

METHODOLOGY

To accomplish our objectives, we:

- Reviewed applicable laws and regulations pertaining to the use and acquisition of information technology. We also reviewed reports by our office and the General Accounting Office;
- Reviewed the *Government Performance and Results Act of 1993* and determined if performance plans and measures had been established;
- Reviewed numerous documents related to the Stewardship Initiative and NMMSS. During our audit, we performed limited validation procedures on estimates contained in the Stewardship Initiative by interviewing a number of Headquarters and field site representatives, including NNSA officials; and,
- Held discussions with program officials and personnel from the Offices of the CIO and Plutonium, Uranium, and Special Materials Inventory. We also held discussions with various officials and staff at the operations offices and laboratories we visited.

The audit was conducted in accordance with generally accepted Government auditing standards for performance audits and included tests of internal controls and compliance with laws and regulations to the extent necessary to satisfy the audit objectives. Accordingly, we assessed internal controls regarding the development and implementation of wide area networks. Because our review was limited, it would not necessarily have disclosed all internal control deficiencies that may have existed at the time of our audit. We did not rely on computer-processed data to accomplish our audit objectives.

We held an exit conference with Headquarters officials on May 16, 2002.

PRIOR REPORTS

OFFICE OF INSPECTOR GENERAL REPORTS

- *Accounting for Government-Owned Nuclear Materials Provided to Non-Department Domestic Facilities*, (DOE/IG-0529, October 26, 2001). The Department could not fully account for nuclear materials loaned or leased to domestic licensees. According to NMMSS records, substantial amounts of nuclear materials were located at two facilities that no longer existed, and several licensee facilities carried negative material balances. These problems occurred and persisted because the Department did not provide adequate oversight of the system and effectively coordinate with the Nuclear Regulatory Commission.
- *The Department of Energy's Implementation of the Clinger-Cohen Act of 1996*, (DOE/IG-0507, June 2001). The Department had not been completely successful in implementing the requirements of the Clinger-Cohen Act of 1996. Specifically, the Department had not closely monitored policy implementation efforts that resulted in inconsistent adherence to policies. The Department's decentralized approach to information technology management and the organizational placement of the CIO caused these weaknesses. Also, the CIO lacked the authority necessary to ensure that policy implementation is consistent across the complex.
- *Corporate and Stand-Alone Information Systems Development*, (DOE/IG-0485, September 2000). Duplicative and/or redundant computer systems exist or are under development at virtually all organizational levels within the Department. Despite efforts to implement several corporate-level applications, many organizations continued to invest in custom or site-specific development efforts that duplicated corporate functionality. The Department has been unable to control development and eliminate duplicative systems because it has not developed and implemented an application software investment strategy. As a result, the Department has spent at least \$38 million on duplicative information systems.
- *Special Report on Management Challenges at the Department of Energy*, (DOE/IG-0538, December 2001). Information technology management remains one of the most serious challenges facing the Department. Although the Department has recently taken a number of actions to improve overall management, opportunities for additional improvements in information technology management and cyber security exist.

GENERAL ACCOUNTING OFFICE REPORTS

- *U.S. International Nuclear Material Tracking Capabilities are Limited*, (GAO/RCED/AIMD 95-5, December 1994). The Department did not follow sound system development practices in the upgrade of NMMSS from a mainframe to a PC based platform. Because the Department was only duplicating the functionality of the legacy system, it was also duplicating its limitations. In addition, user needs were not adequately defined, and system alternatives were not explored prior to the upgrade commencing.

OFFICE OF SECURITY COMMENTS



Department of Energy

Washington, DC 20585

April 18, 2002

MEMORANDUM FOR FREDERICK D. DOGGETT
DEPUTY ASSISTANT INSPECTOR GENERAL
FOR AUDIT SERVICES
OFFICE OF INSPECTOR GENERAL

FROM: JOSEPH S. MAHALEY, DIRECTOR
OFFICE OF SECURITY

A handwritten signature in black ink, appearing to read "J. S. Mahaley", written over the printed name of the Director.

SUBJECT: Draft Report on "Nuclear Materials Accounting
Systems Modernization Initiative"

My staff has reviewed the draft report and have discussed its contents with Mr. Scott Rogers and Ms. Dolores Quinteros of your staff. We appreciate their cooperation in working with us in the data-gathering phase of this audit and in having the opportunity to review an earlier draft of this report.

The Office of Security's work with the Local Area Nuclear Material Accounting System (LANMAS) and the Nuclear Materials Management and Safeguards System (NMMSS) Upgrade (or Redesign) has made significant progress toward greater standardization and modernization of our nuclear materials accounting systems. Your draft report notes our achievements to date, particularly in moving the NMMSS onto a modern software platform that has increased functionality and in implementing LANMAS at nearly a dozen sites across the complex.

We share many of the concerns expressed in the draft report regarding a reluctance on the part of many offices and the field in standardizing and adopting a more corporate approach to improved nuclear materials accounting. Based on what remains to be done and in line with the organizational structure of the Department, we believe that it is more appropriate for the National Nuclear Security Administration and appropriate Lead Program Secretarial Officers, in coordination with the Chief Information Officer, to implement the two recommendations. Under our current organizational structure, those organizations have exclusive authority to impose moratoriums on site system development and enforce program and site adherence to the Corporate Systems Information Architecture, as your report recommends.

Please have your staff contact Mr. David W. Crawford, Director, Office of Plutonium, Uranium and Special Materials Inventory with any questions. He can be reached at (301) 903-1895.



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NATIONAL NUCLEAR SECURITY ADMINISTRATION COMMENTS



Department of Energy
National Nuclear Security Administration
Washington, DC 20585

MAY 02 2002

MEMORANDUM FOR Frederick D. Doggett
Deputy Assistant Inspector General
for Audit Services

FROM: Anthony R. Lane *Anthony R. Lane*
Associate Administrator for
Management and Administration

SUBJECT: Comments to Inspector General's Draft Report
Modernization of Nuclear Materials Accounting
Systems

The Office of the Inspector General issued their draft report on "Nuclear Materials Accounting Systems Modernization Initiative" on April 4, 2002. We understand the efforts of the Inspector General to review programs for potential cost savings. In the case of this audit, we understand the Inspector General wanted to assess the Department's efforts to redesign or modernize its nuclear materials accounting information systems and determine whether such efforts were consistent with the Department's Corporate Systems Information Architecture. The IG believes that the Department has not adequately managed its activities to redesign or modernize its nuclear material accounting systems and, planned and ongoing nuclear materials accounting systems development activity was not always consistent with the Corporate Systems Information Architecture. The IG further believed that the identified problems with the nuclear materials management system modernization effort occurred because the Department did not take a unified approach to the redesign effort and did not follow its own software development guidelines.

While we appreciate the efforts the IG made Department-wide, the National Nuclear Security Administration (NNSA), as a separately organized agency, will evaluate the programmatic requirements for each site and then will make a determination if a common system is beneficial to the NNSA. This approach has caused some confusion on the part of DOE staff offices regarding the interrelationships between the two organizations.

NNSA is concerned about the validity of the \$217 million estimate for operating costs and the \$66 million projected estimate of cost savings cited in the draft report. We also note that this study does not have a departmental sponsor. This information came from a previous department-wide study in which the NNSA



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costs were estimated at \$24 million for our Materials Control and Accounting program. We are aware that the estimate of some \$66 million annual savings identified by the department-wide study equates to an average savings in excess of \$1 million per system per year. However, this projected annual savings is significantly more than the total cost of operating Lawrence Livermore's accountability system. We, as an organization, are making every effort to integrate efficiencies and effectiveness into all aspects of our programs. Taking this position may run counter to efforts that DOE is trying to implement and could cause a significant difference in perceived cost savings.

The Office of Defense Nuclear Security has some significant technical comments which I have attached along with the formal comments. Should you have any questions about the attached comments, please contact Mr. John C. Todd, Chief, Office of Defense Nuclear Security, or Mr. Richard Speidel, Director, Policy and Internal Controls Management.

Attachment

cc: John C. Todd, Chief, Office of Defense Nuclear Security

**Comments on
Inspector General Draft Report
“Nuclear Materials Accounting Systems
Modernization Initiative”**

General Comment

Realizing that the National Nuclear Security Administration is a separately organized agency reporting to the Secretary of Energy, the comments to the draft report and the recommendations only reflect the position of the National Nuclear Security Administration.

Recommendations

“To facilitate modernization of the Department’s nuclear materials accounting systems, we recommend that the Administrator, National Nuclear Security Administration and the Office of Security, in coordination with the Chief Information Officer:”

Recommendation 1

Consistent with security and program specific operational needs, develop a coordinated approach and select a final alternative for modernizing nuclear material accounting information systems that is consistent with the Department’s Corporate Systems Information Architecture.

Management Comment

Nonconcur

The staff of the Chief, Defense Nuclear Security is working with the Materials Control and Accounting staff of the weapons laboratories and production plants. While we appreciate the efforts of the Inspector General in looking at the Department-wide situation, the NNSA, as a separately organized agency, will evaluate the programmatic requirements for each site and then will make a determination if a common system is beneficial to the NNSA. At a minimum, the NNSA will evaluate any “path forward” to interface with the Department’s corporate system, such as a common interface and/or data-exchange standards for site systems. It is more important to establish and maintain a system that provides accurate materials information for each site than to implement initiatives to meet an information architecture.

Recommendation 2

During the process of developing and selecting a modernization alternative, impose a moratorium on development efforts to minimize redundancy. Unless necessary to address emergencies, development should be limited to maintaining site-level systems and other nuclear material accounting information systems in a steady state.

Management Comment

Nonconcur

While we understand the rationale for the recommendation, it is not appropriate for NNSA. Limiting improvements in existing systems to emergencies only does not allow sites to adapt accountability systems to changing program requirements and achieve other efficiencies. As NNSA evaluates the best process for it to follow, there will be a natural reduction in any developmental efforts.

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