U.S. Department of Energy
Office of Inspector General
Office of Inspections and Special Inquiries

Inspection Report

Internal Controls Over the Accountability of Computers at Sandia National Laboratory, New Mexico

DOE/IG-0660

August 2004

Department of Energy

Washington, DC 20585

August 30, 2004

MEMORANDUM FOR THE SECRETARY

FROM: Gregory H. Friedman
                  Inspector General

SUBJECT: INFORMATION: Inspection Report on "Internal Controls Over the
                  Accountability of Computers at Sandia National Laboratory, New
                  Mexico"

BACKGROUND

The Office of Inspector General initiated an inspection to determine the adequacy of internal controls over the extensive inventory of laptop and desktop computers at Sandia National Laboratory, New Mexico. Computers are used in the full range of operations at Sandia, to include processing classified information. Department of Energy (DOE) and Sandia property policies identify computers as "sensitive property," due largely to their susceptibility to theft and misappropriation.

RESULTS OF INSPECTION

We concluded that internal controls over classified and unclassified desktop, laptop, and related computer equipment at Sandia could be improved. We identified internal control weaknesses that undermine confidence in Sandia's ability to assure that laptop, desktop, and related computer equipment is appropriately controlled and adequately safeguarded from loss or theft and that classified computer use meets security standards. Specifically, we found that Sandia:

- Used computer peripherals for classified processing without appropriate accreditation;

- Had no property controls for computers with a purchase price below $1,000, to include computer peripherals connected to classified systems, which could weaken the accountability and control of sensitive and classified information; and

- Had not effectively implemented property management controls for computers built in-house or procured with purchase cards.

In light of the designation of computers as sensitive property, we believe that strict property controls need to be consistently applied to classified and unclassified computers at Sandia and that a strong program of review and oversight needs to be in place to assure that all computing resources are properly accounted for and controlled. Our report includes recommendations to management designed to enhance Sandia's internal controls over its computer resources.

This inspection complements similar work performed by the Office of Inspector General at several other DOE sites.

MANAGEMENT REACTION

Management concurred with our recommendations and has taken or initiated corrective actions. Management's comments are provided in their entirety in Appendix B of the report.

We found management's comments to be responsive to our report.

Attachment

cc: Deputy Secretary
    Administrator, National Nuclear Security Administration
    Under Secretary for Energy, Science and Environment
    Director, Office of Security and Safety Performance Assurance
    Director, Policy and Internal Controls Management
    Director, Office of Program Liaison and Financial Analysis

INTERNAL CONTROLS OVER THE ACCOUNTABILITY OF COMPUTERS AT SANDIA NATIONAL LABORATORY, NEW MEXICO

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Overview

INTRODUCTION AND OBJECTIVE

Computers are used extensively in the full range of operations at Sandia National Laboratory (Sandia), Albuquerque, New Mexico, to include the processing of classified information. Sandia reported an inventory of over 5,400 laptop and 23,800 desktop computers at the end of Fiscal Year 2002. Department of Energy (DOE) and Sandia property policies identify computers as "sensitive property," due in part to their susceptibility to theft and potential for conversion to cash. As such, we believe that management controls over computers throughout the DOE complex must remain robust and consistent. Therefore, we initiated an inspection of Sandia's management controls over computers. Specifically, the objective of this inspection was to determine the adequacy of internal controls over desktop and laptop computers at Sandia.

This inspection complements similar work performed by the Office of Inspector General at various DOE sites, the results of which may be found in the following reports: "Interim Inspection Report on Inspection of Internal Controls Over Personal Computers at Los Alamos National Laboratory" (DOE/IG-0597, April 2003); "Internal Controls Over Laptop and Desktop Computers at the Savannah River Site" (INS-L-03-09, July 29, 2003); "Internal Controls Over Classified Computers and Classified Removable Media at the Lawrence Livermore National Laboratory" (DOE/IG-0628, December 2003); "Management of Sensitive Equipment at Selected Locations" (DOE/IG-0606, June 2003); and "Internal Controls Over Personal Computers at Los Alamos National Laboratory" (DOE/IG-0656, August 2004).

Internal Controls Over the Accountability of Computers at Sandia National Laboratory, New Mexico

OBSERVATIONS AND CONCLUSIONS

We concluded that internal controls over classified and unclassified desktop, laptop, and related computer equipment at Sandia could be improved. We identified internal control weaknesses that undermine confidence in Sandia's ability to assure that laptop, desktop, and related computer equipment is appropriately controlled and adequately safeguarded from loss or theft and that classified computer use meets security standards. Specifically, we found that Sandia:

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Details of Findings

NONACCREDITED PERIPHERAL DEVICES

Sandia used computer peripherals for classified processing without appropriate accreditation. Computer peripherals include personal digital assistants (PDAs) and personal electronic devices (PEDs). In at least two instances, computer peripherals were connected to a classified system without appropriate accreditation.

Accreditation, which is required by DOE M 471.2-2, "Classified Information Systems Security Manual," is the authorization by a designated approval authority that a computer can be used to process classified information in a specific environment, based on the computer meeting pre-specified technical requirements for achieving adequate data security. All systems are to be reviewed and accredited before they become operational to ensure the appropriate level of confidentiality, availability, and integrity of classified information to be processed on the systems. The use of PDAs/PEDs to process classified information before they are accredited violates DOE requirements designed to ensure that national security interests are protected.

Sandia computer security personnel told us at the time of our on-site inspection that no accreditation paperwork had been prepared for the PDAs/PEDs, but that they would take action to correct this condition. Subsequent to this discussion, Sandia officials took corrective action and provided the Office of Inspector General with the appropriate accreditation documentation.

PROPERTY MANAGEMENT CONTROLS

Sandia had no property controls for computers and computer peripherals with a purchase price below $1,000, to include those accredited for classified processing. As such, the accountability and control over sensitive and classified information at Sandia is affected. Specifically, in August 1996, DOE authorized Sandia to eliminate property management controls on sensitive items[1] with a purchase price below $1,000. Subsequently, computers and computer peripherals with a purchase price below $1,000 were not assigned property numbers and were not tracked in Sandia's property inventory.

The authorization to eliminate property management controls excluded those items "where the primary determinant of their designation as sensitive property was based solely on the type of

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[1] The Code of Federal Regulations (CFR), 41 CFR 109, defines "sensitive items" as those items of personal property that are considered to be susceptible to being appropriated for personal use or that can be readily converted to cash. Examples include firearms, computers, cameras, and portable tools.

item," such as "firearms, notebook computers, and cell phones." We determined that Sandia eliminated property management controls on all computers with a purchase price below $1,000, which we believe circumvents the intent of DOE guidelines, and created a property management control system different than other comparable DOE sites.

Then, in April 1998, DOE authorized Sandia to eliminate property management controls on sensitive items that exceed their service life. This authorization was based on a Sandia cost/benefit analysis that showed an anticipated annual cost avoidance of $311,743 if sensitive item property control requirements were relaxed. The cost/benefit analysis stated that "current" losses due to shortage and theft amounted to only $12,736 annually for sensitive items.

However, these authorizations may no longer be relevant given the substantial changes in computing technology since 1996 and the corresponding increase in computer security concerns. Since 1996, the power and memory of computers has dramatically increased, while their cost has significantly decreased. In addition, new and inexpensive devices, such as computer peripherals, have been created that have the ability to store large amounts of classified and unclassified information. By not tracking computers and computer peripherals with an acquisition cost below $1,000, or that have exceeded their service life, Sandia is unable to report the loss or theft of such equipment or to conduct appropriate inquiries to determine the disposition of sensitive or classified information when the equipment cannot be located.

OTHER PROPERTY MANAGEMENT ISSUES
Sandia had not effectively implemented property management controls for computers built in-house or procured with purchase cards. We determined that Sandia personnel built at least two computers in-house from parts obtained through purchase card acquisitions and used these computers for classified processing. Although these computers were accredited, they were never assigned a Sandia property number and were not tracked in the Sandia property inventory.

Under Sandia's property management policy, sensitive property that is assembled from parts with an acquisition cost less than $1,000 must be assigned a property number tag and must be tracked in Sandia's Fixed Assets Database when the value of the assembled item is $1,000 or greater. However, in the case of the two computers that were built in-house, we determined that Sandia

made no assessment of the value of these computers after assembly to justify not tracking them in the Sandia Fixed Assets Database. The computers subsequently were placed into service and processed classified information without property controls. While we were not able to identify the actual cost of the parts used to assemble these computers, we believe the value of the assembled items was in excess of $1,000.

In addition, contrary to policy, Sandia continues to allow the acquisition of computers through the use of purchase cards. Sandia purchase card policy developed in 1997 prohibited the use of purchase cards for the acquisition of computers with a cost of $1,000 or more. However, for example, between May 2000 and March 2003, Sandia authorized 32 one-time exceptions and 18 blanket exceptions to this policy.

In March 2003, Sandia revised its policy to prohibit the use of purchase cards for the acquisition of desktop and laptop computers, regardless of cost. The policy states that purchase card procurements of property, to include computers, would only be authorized in exceptional circumstances (i.e., there was no other procurement mechanism available or it was a mission critical purchase with proper authorization). However, since this policy went into effect, Sandia has authorized 11 one-time exceptions and 1 blanket exception.

RECOMMENDATIONS   We recommend that the Manager, Sandia Site Office, take appropriate action to ensure that:

1. All computing devices connected to classified systems at Sandia are accredited according to DOE policy prior to classified processing.

2. The authorization to eliminate property management controls for sensitive property with an acquisition value under $1,000 at Sandia is re-evaluated.

3. All computers constructed by Sandia are assessed to determine their value after assembly, and property numbers are assigned in accordance with property management thresholds.

4. Sandia re-evaluates the exception process for using purchase cards to acquire computers.

5. The issues raised in this report are considered in the next Site Office evaluation of Sandia's property management performance measures.

MANAGEMENT COMMENTS

In comments on our draft report, management concurred with our recommendations and stated that corrective actions have been taken or are underway.

INSPECTOR COMMENTS

We found management's comments to be responsive to our report. We note that an attachment to management's response identified a concern with the number of exceptions to Sandia's restrictions on using purchase cards to procure computers that we reported. We clarified the language in this section of the report and confirmed the accuracy of the revised language with Sandia staff.

Appendix A

SCOPE AND METHODOLOGY

We conducted the fieldwork portion of our review from December 2002 to April 2004. Our review included interviews with DOE officials from the National Nuclear Security Administration Service Center and the Sandia Site Office, officials from Sandia Property and Computer Security Divisions, and subcontractor employees. We also reviewed applicable policies and procedures regarding property management.

Also, pursuant to the "Government Performance and Results Act of 1993," we reviewed Sandia's performance measurement processes as they relate to management controls over personal property.

This inspection was conducted in accordance with the "Quality Standards for Inspections" issued by the President's Council on Integrity and Efficiency.

Appendix B

Department of Energy
National Nuclear Security Administration
Washington, DC 20585

AUG 1 7 2004

MEMORANDUM FOR	Alfred K. Walter Acting Assistant Inspector General for Inspections and Special Inquiries
FROM:	Michael C. Kane Associate Administrator for Management and Administration
SUBJECT:	Comments to Draft Inspection Report on Accountability of Computers at Sandia, S03IS025; IDRMS 2004-26039

The National Nuclear Security Administration (NNSA) appreciates the opportunity to have reviewed the Inspector General's (IG) draft inspection report, "Internal Controls Over the Accountability of Computers at Sandia National Laboratory, New Mexico." NNSA agrees with the observations made by the IG and with the subsequent recommendations.

The IG concluded that internal controls over classified and unclassified desktops, laptops and related computer equipment at Sandia could be improved. We agree that the system of controls benefit from review and continual improvement. In fact, several of the recommendations made by the IG have already been made by the Laboratory and improvement efforts are underway in many of the areas noted.

I have attached specific comments to the recommendations contained in the report. Should you have any questions related to this response, please contact Richard Speidel, Director, Policy and Internal Controls Management, at 202-586-5009.

Attachment

cc: Robert Braden, Senior Procurement Executive. NA-63
        Patty Wagner, Manager, Sandia Site Office
        Karen Boardman, Director, Service Center

Printed with soy ink on recycled paper

RECOMMENDATIONS

"We recommend that the Manager, Sandia Site Office, take appropriate action to ensure that..."

Recommendation 1

All computing devices connected to classified systems at Sandia are accredited according to DOE policy prior to classified processing.

Management Comment

Concur

The Sandia Site Office reports that Laboratory officials have taken the corrective action. Specifically, the Laboratory reports that the two systems not properly accredited as per Sandia Corporate Process Requirement 400.2.13.23 (Classified Computing) were properly accredited (as per Sandia Security Plan SNLA2076) during the audit. Sandia CPR400.2.13.23 requires management to ensure that classified computing systems are covered by an accredited security plan and that classified systems are operated in accordance with their accredited security plans. Sandia is accredited by DOE to operate under two separate plans, SNL 2000 (Master Computer Security Plan for Stand-alone Personal Computers dated May 2004) and SNLA2076 (Master Plan for Classified Lab/Test Equipment dated March 2003).

These plans ensure that the requirements of DOE M 471.2-2 are properly addressed and that all systems are reviewed and accredited to ensure the appropriate level of confidentiality, availability, and integrity exists before the system is operated. Additionally, the training material used in the annual computer security training (COM100) was reviewed and verified that the requirement to accredit all classified information system, before being placed in operation, was part of the training material.

NNSA considers actions associated with this recommendation to be completed.

Recommendation 2

The authorization to eliminate property management controls for sensitive property with an acquisition value under $1,000 at Sandia is re-evaluated.

Management Comment

Concur

We agree that the specifics of implementing property management controls need to be re-evaluated from time to time to adequately represent concerns with the management of property. A business case is being prepared by the Laboratory to present property management options regarding value thresholds for property tracking to Sandia management for approval. This action should be completed by the end of December 2004.

Recommendation 3

All computers constructed by Sandia are assessed to determine their value after assembly, and property numbers are assigned in accordance with property management thresholds.

Management Comment

Concur

Sandia, under direction from Lockheed Martin Corporation, their parent company, has recently determined that property training will be mandatory for all personnel. This course, Property Basics, does address the "assembled" computers issue, and trains to it. Course material will be reviewed to ensure that language is clear and unequivocal to the issue. In addition, Sandia's property Corporate Process Requirements (CPRs) is currently under revision, and, while current CPR language does contain the requirement to control "assembled" computers, clarification of property threshold definition is being inserted into the requirement document. This action would be completed by December 31, 2004.

Recommendation 4

Sandia re-evaluates the exception process for using purchase cards to acquire computers.

Management Comment

Concur

The Laboratory has re-evaluated their policies and procedures related to procurement cards and will continue to evaluate the efficacy to enable mission work while controlling government resources.

We do have some specific comments related to the facts as presented. The report indicates that Sandia has issued 31 one-time exceptions and 15 blanket exceptions for the use of procurement cards since the policy was changed in 2003 to prohibit computer purchases. In fact, Sandia has issued one blanket purchase exception and 11 one-time exceptions since the policy was changed in 2003; in addition, no one-time exceptions have been issued since March 2004.

Our review of the facts does not suggest the exception process implemented in 2003 has resulted in lost or untagged computers; thus it does not appear from the results of this audit that the exception process has negatively impacted controls. The recommendation that Sandia reevaluate the exception process for using purchase cards to acquire computers is appropriate given the mission critical work supported by such procurements and the risks mitigated by the policy. Through such evaluations, Sandia can effectively enforce its policy requiring manager approval and notification of Property Management of all exceptions. The exception policy implemented in 2003 and its continuous reevaluation will ensure such purchases are made only when other procurement mechanisms are not available.

In its evaluation of its procurement card policy, Sandia Procurement concludes that the exception process is meeting its goal to ensure mission critical purchases are made when other mechanisms are not available, without compromising stewardship responsibilities. In addition to line manager review and approval for issuing exceptions and Property Management notification, Procurement runs reports every six months showing all transactions made by exception and forwards the results to Property Management for analysis and follow-up. Specifically, field

testing of database accuracy is performed to ensure proper asset tagging and control. To support these efforts, Sandia has acquired data mining tools that identify trackable assets in its enterprise information system.

NNSA considers actions associated with this recommendation to be completed.

Recommendation 5

The issues raised in this report are considered in the next Site Office evaluation of Sandia's property management performance measures.

Management Comment

Concur

NNSA will take this report into consideration when the Site Office negotiates the Fiscal Year 2005 performance measures for property management. This action should be completed by October 2004.

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2. What additional information related to findings and recommendations could have been included in the report to assist management in implementing corrective actions?

3. What format, stylistic, or organizational changes might have made this report's overall message more clear to the reader?

4. What additional actions could the Office of Inspector General have taken on the issues discussed in this report which would have been helpful?

5. Please include your name and telephone number so that we may contact you should we have any questions about your comments.

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