U.S. DEPARTMENT OF COMMERCE
Office of Inspector General

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY

Logistics Group Operations Are Mostly Sound but Management Attention Is Needed in Some Areas

Final Inspection Report No. 18321/March 2007

PUBLIC RELEASE

Office of Inspections and Program Evaluations

CONTENTS

SUMMARY

The Logistics Group unit of the Administrative Services Division provides the National Institute of Standards and Technology's (NIST's) Gaithersburg, Maryland, headquarters with a number of services. They include personal property management and disposal, shipping and receiving, arranging household moves for select employees and researchers, and operating a supply storeroom. In addition, the Logistics Group, along with the Finance Division, conducts an annual inventory of the precious metals used by NIST researchers.[1]

From October to December 2006, the Office of Inspector General conducted a review of select services provided by the Logistics Group as part of its effort to strengthen internal controls over financial and programmatic processes within the Department.[2] Such services included precious metals inventory maintenance, shipping and receiving, property accountability for the group's operations,[3] and storeroom operations. As part of our review, we met or spoke with staff from the Logistics Group and from several NIST divisions as well as an official from the Department's Office of Security to discuss physical security measures. In addition, we reviewed pertinent guidance, records, purchase card statements, and contract award files provided by NIST Gaithersburg staff (see page 3). Overall, we found that the Logistics Group's operations and procurement activities were generally sound. However, we found several areas where the Logistics Group's operations need management attention. Our specific observations are as follows:

Management should address several issues involving NIST's precious metals inventory. NIST's large inventory of precious metals was valued by NIST's Finance Division at approximately $1.2 million as of September 30, 2006. Precious metals are used by researchers in their experiments and are maintained in several containers by custodians in both Gaithersburg, Maryland, and Boulder, Colorado.[4] We found no material (i.e. significant) discrepancies with respect to the precious metals inventory in Gaithersburg through interviews with precious metals custodians and our review of relevant documents. However, we found that NIST's precious metals guidance should be revised (1) to provide additional procedures to strengthen inventory maintenance, such as instructions for recording new precious metal purchases and disposing of excess precious metals, and (2) to reflect current organizational information. In addition, none of the NIST Gaithersburg precious metals custodians reported receiving any formal training on how to manage their inventories and several of them stated that such training would be useful. Finally, we found that several containers, each holding personal appeal precious metals worth more than $5,000, were not connected to the NIST Police Services alarm system, as required by NIST guidance (see page 5).

[1] Precious metals, such as gold, silver, platinum, palladium, rhenium, and iridium, are metals that have a high monetary value in relation to their volume or weight. The first three examples are also referred to as personal appeal precious metals because of their general appeal for use outside the workplace.
[2] U.S. Department of Commerce, Office of Inspector General, September 2006. *Semiannual Report to Congress,* pages 6-7.
[3] We looked at property management only for the Logistics Group and not for all of NIST's operations.
[4] We did not examine the precious metals inventory maintained at NIST's Boulder campus.

Property management procedures and controls are generally adequate, but the need for some X-ray scanning equipment should be assessed. The Logistics Group is responsible for processing incoming and outgoing packages per departmental and NIST procedures. The group's staff also operates a storeroom to provide NIST researchers and employees with supplies and materials for scientific research and facilities maintenance. We found that property management procedures and physical access controls for the shipping and receiving areas and the storeroom are generally adequate. We also found minimal risk of theft, and the Emergency Services Division chief told us there had been no reported thefts from the storeroom's inventory during fiscal years (FYs) 2003 through 2006. However, we noted a large X-ray machine located in the Logistics Group's receiving area that was intended for screening large packages or groups of packages was not being used. We were told that there was not enough staff to operate the machine and a separate, adequate security measure is now being used to screen package delivery trucks. NIST spent approximately $65,000 to purchase the machine and the Logistics Group incurs an annual cost of $5,500 to maintain it. NIST should assess the need for the X-ray machine and either use it or dispose of it appropriately (see page 9).

The Logistics Group's staffing, safety measures, and guidance on shipping and receiving procedures could be strengthened. During our review of the Logistics Group's operations, we found the following issues that need management's attention:

Staffing levels. We learned that current staffing levels impact operations and raise safety concerns. As of December 2006, the Logistics Group had a total of 25 positions—an onboard staff of 16 employees and 9 vacancies—that were fully funded.[5] The 36 percent vacancy rate means employees have to be shared among the shipping, receiving, storeroom, and property management areas to satisfy workload requirements especially when someone is absent. This results in some staff not being able to consistently perform their normal job duties and their respective work areas having to compensate for the loss in manpower. The Logistics Group's managers acknowledged that vacancies require them to share staff among areas to satisfy workload requirements. In addition, some physically demanding tasks are performed by only one person because of the reduced staffing levels, yet the chief of the Safety, Health, and Environment Division advised that it would be safer to have 2 individuals performing these tasks. Following our exit conference on February 9, 2007, the Logistics Group's supply management officer informed us that four new, permanent employees had been hired since we completed our fieldwork. However, given a problem with turnover and the lengthy process to bring in new employees, NIST should continue to assess existing staff resources and positions and ensure that the Logistics Group has adequate staffing to safely handle its daily operations.

Safety concerns. We also learned of additional safety concerns that should be addressed as soon as possible by management. The Logistics Group's staff told us of one safety issue regarding needed repairs to the ground below the cylinder room loading dock[6] where the surface is not level. They also expressed an interest in receiving additional information in the safe handling of

[5] These positions are funded for FY 2007 in the Commerce Administrative Management System, the Department's integrated financial management system.
[6] The cylinder room loading dock is used to transport large, heavy gas cylinders between the cylinder storage room and a delivery truck. It is separate from the main shipping and receiving loading docks.

gases and chemicals that transit through or are stored in the Logistics Group. We believe these problems warrant immediate management attention in order to avoid possible physical injuries.

Shipping and receiving guidance to NIST employees. Finally, we found that Logistics Group staff must field a high volume of calls daily involving requests for shipping and receiving information because many NIST employees are unaware of or ignore the agency's shipping and receiving procedures. In attending to these inquiries, the group's staff members must take time away from their responsibilities to process incoming and outgoing packages. It would help minimize these disruptions if the group revised NIST's shipping and receiving guidance and better communicated the revised guidance to NIST employees (see page 12).

The Logistics Group's procurement activities are generally sound, but its storeroom inventory management system is inefficient and should be replaced. The Logistics Group is responsible for stocking its storeroom with supplies and materials for NIST employees. Acquisitions of supplies and materials for use by the divisions are made primarily through purchase orders processed by the NIST Acquisition Management Division and to a limited extent through the use of the group's government purchase card. The Logistics Group also purchases supplies and equipment for its own internal use mostly through the acquisitions process. We reviewed a selection of the Logistics Group's contract awards from FY 2003-2006 and found that contract files contained written support for contract actions. However, our review of the group's FY 2006 government purchase card statements revealed some split purchases up to June 2006.[7] While this no longer appears to be a problem, the Logistics Group's purchase card statements should be properly reviewed and signed by the cardholder and the approving official to ensure accountability of purchases. In addition, the Logistics Group should assess its purchasing needs and, if necessary, request training for its cardholder to allow for additional purchasing options, such as an increase in the single purchase limit.

Finally, we found the Logistics Group cannot stock its storeroom efficiently, in part because the inventory management computer system is dated and has limited capabilities. The system does not allow staff to generate reports for items that are low in supply, so the staff visually monitors the supply of items in the storeroom. The Logistics Group needs a new inventory management system to efficiently manage storeroom inventory (see page 17).

On page 21, we provide a summary of recommendations to address our concerns.

NIST Response to OIG Draft Report and OIG Comments

In its written response to our draft report, NIST acknowledged the quality of our recommendations and informed us that it has begun taking steps to address several of them. Specifically, NIST stated that it has started work on safeguarding precious metals security containers, providing additional training to its precious metals custodians, and ensuring that the

[7] "Split purchase" is the term used to describe the practice of dividing a single purchase requirement into more than one transaction to avoid exceeding the micro-purchase limit, as set forth by the Federal Acquisition Regulation.

Logistics Group is adequately staffed to perform its daily operations. In addition, NIST reported that is has taken action to address the two safety concerns that we highlighted in our draft report. However, NIST's response did not address several of our recommendations. Specifically, it did not provide any information on our recommendations that called for revising the precious metals guidance, assessing the need for the large X-ray machine in the Logistics Group, and acquiring a new storeroom inventory management system. NIST's written response is included as an appendix to this report. We ask that NIST address those recommendations, as well as provide a status update on the recommendations it did address, in an action plan to be submitted within 60 calendar days of the date of this report.

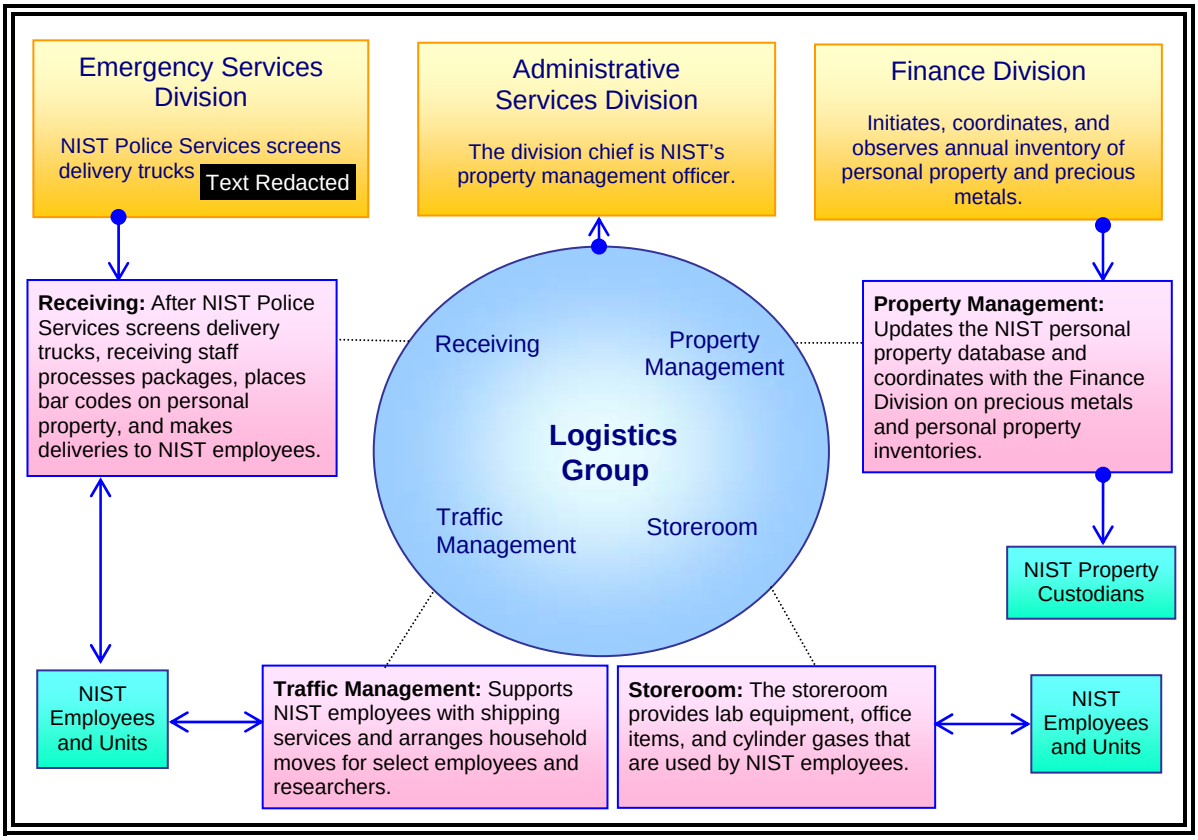
BACKGROUND

The Logistics Group, a unit of the Administrative Services Division of the National Institute of Standards and Technology (NIST) in Gaithersburg, Maryland, provides a number of services to the institute. Led by the supply management officer, who also serves as NIST Gaithersburg's property accountability officer, the group is responsible for the institute's management, inventory, utilization, records management, and disposal of personal property. In addition, it provides training for personal property custodians. Working closely with other NIST divisions (see Figure 1), the group provides general packaging and shipping services and arranges household moves for select employees and researchers. It also operates a storeroom and specialty gas cylinder program to provide direct supplies to NIST divisions, including lab equipment and materials, general office items, and gases such as nitrogen, argon, and helium.

***Quick Facts*: NIST**

- Headquarters in Gaithersburg, MD, with a second location in Boulder, CO
- Part of Commerce's Technology Administration
- Fiscal Year 2006 budget of $930 million
- Staff level of 2,910 FTEs
- Eight laboratories conducting physical and engineering science research, often in collaboration with industry, academia, or other government agencies

Figure 1. Logistics Group's Functions and Interaction with NIST Divisions



Source: Office of Inspector General

During the final quarter of each fiscal year, the Logistics Group conducts an annual inventory of personal property and of precious metals in coordination with NIST's Finance Division. Precious metals, such as gold, silver, platinum, palladium, rhenium, and iridium, are metals with a high monetary value in relation to their volume or weight. NIST's scientists use a variety of precious metals in research projects, including the "personal appeal" metals such as gold, silver, and platinum.[8] The institute's inventory of precious metals was valued at approximately $1.2 million at the end of fiscal year (FY) 2006. In addition to conducting the precious metals inventory with the Finance Division, the Group helps NIST divisions dispose of excess precious metals as needed.

In recent years, organizational and staff changes have affected the Logistics Group's structure and operations. In 2004, NIST underwent reorganization, and the group was moved from the Acquisitions and Logistics Division to the Administrative Services Division. Since then, retirements, divisional transfers, and an agency force reduction decreased the group's staff from 27 to 16 (as of December 2006). The current supply management officer and current chief of the Administrative Services Division were appointed to their positions in October 2005 and June 2006, respectively.

[8] Personal appeal precious metals are referred to as such because of their general appeal for use outside the workplace. Precious metals in general are purchased by individual NIST laboratories for use in research.

OBJECTIVES, SCOPE, AND METHODOLOGY

The purpose of our review was to assess select internal controls of the Logistics Group of the Administrative Services Division of NIST as part of the Inspector General's effort to strengthen internal controls over financial and programmatic processes within the Department. The Inspector General has determined this effort to be one of the Department's Top 10 Management Challenges.

Our objectives in this review were to:

- Assess the Logistics Group's property management procedures, including those for the precious metals inventory, and physical access controls for NIST's personal property storage areas within the Logistics Group;
- Assess the adequacy of the Logistics Group's security procedures; and
- Determine whether the Logistics Group complies with federal and departmental acquisition policies and procedures, specifically those involving the use of purchase cards and contracts for equipment and services.

To fulfill our objectives, we interviewed all 18 employees of the Logistics Group staff in Gaithersburg.[9] We also met with the Chief Financial Officer, the Administrative Services Division chief, and the Emergency Services Division chief and their staffs, staff from the Acquisition Management Division, and NIST employees who serve as precious metals custodians. At Commerce headquarters, we met with the Assistant Director of the Anti-Terrorism Division in the Department's Office of Security.

We reviewed the following documents for the period FY 2003 through FY 2006:

- Personal property records for the Logistics Group and precious metals inventories from NIST divisions in Gaithersburg and Boulder;
- Records detailing the use and disposal of precious metals by NIST employees;
- Contract award files for the Logistics Group's acquisitions;
- Logistics Group's government purchase card documentation;
- Guidance on physical access controls and security procedures for NIST precious metals and personal property storage areas;
- Federal, departmental and NIST policies and guidance on property management;
- Federal and departmental regulations on procurement and government purchase card use; and,
- Reports on NIST logistics and acquisition operations from the Commerce Office of Inspector General and the Government Accountability Office.

We conducted our fieldwork at NIST Gaithersburg from October 3 through December 8, 2006, under the authority of the Inspector General Act of 1978, as amended. The evaluation was conducted in accordance with the *Quality Standards for Inspections* issued by the President's

[9] During the course of our review, two employees left the group.

Council on Integrity and Efficiency in 2005. At the end of our review, we discussed our findings with the Deputy Director and other appropriate officials at NIST.

OBSERVATIONS AND CONCLUSIONS

I. Management Should Address Several Issues Involving NIST's Precious Metals Inventory

We found that the precious metals guidance needs to be revised in certain areas, and that training for precious metals custodians should be provided to strengthen inventory maintenance. In addition, we found that several containers, each holding personal appeal precious metals worth more than $5,000, were not connected to the NIST Police Services alarm system, as required by the guidance.

A. NIST's guidance and training for precious metals custodians should be improved

NIST's precious metals, in the forms of wire, powder, liquids, and pellets, are kept in several locked containers located on both the Gaithersburg and Boulder campuses (see Figure 2). These containers are managed by precious metals custodians, usually NIST researchers who assume this duty as an added responsibility.[10]

Figure 2. Different Forms of Precious Metals

Source: Office of Inspector General

Every year, the Logistics Group and the Finance Division conduct an inventory of all precious metals. We found no material (i.e. significant) discrepancies in NIST Gaithersburg's precious metals inventories. Our finding was based on our review of inventory records from FY 2003 through FY 2006, spot checks of custodians' inventories, and interviews with various individuals including six precious metals custodians, staff from the Logistics Group, the Finance Division, and the Emergency Services Division chief. Final precious metals inventory reports, issued by the Logistics Group and approved by NIST's Property Board of Review, adequately reported transactions of metals, which were purchased, transferred to other divisions, or disposed of as excess.

[10] Our review did not examine the precious metals inventory maintained at NIST's Boulder campus.

However, we found the precious metals guidance lacked certain procedures relevant to inventory maintenance and was outdated in several instances.[11] For example, the guidance does not contain procedures for (1) the purchase of new precious metals, (2) ensuring that new purchases of precious metals by the divisions are promptly reported to a precious metals custodian, and (3) disposing of excess precious metals. Several custodians told us that employees in their divisions had not reported precious metals purchases that were made throughout the year until they contacted them to inquire about purchases during the annual inventory process. The custodians attributed these instances to the employees' lack of understanding about precious metals inventory procedures. Some custodians were unaware of procedures or the point of contact for disposing of excess precious metals if the need arose. In addition, the reorganization that brought the Logistics Group under the Administrative Services Division is not reflected, and the guidance still refers to a central precious metals storeroom operated by the Logistics Group, despite the fact that the group disposed of its precious metals in 2004. Revisions to the guidance to address these problems would help NIST employees better understand procedures for handling precious metals and assist the custodians with their reporting duties.

All but one of the six custodians we interviewed were researchers. None had received any formal custodian training. Four said training would be useful, particularly if the custodian is not familiar with the use of the metals in research activities. The remaining two said they did not need training to carry out this responsibility. All six custodians learned how to maintain their individual precious metals inventory mainly through their own interpretations of the precious metals guidance or through assistance from their predecessors. We found that they have different styles of keeping records, using different spreadsheets and logs, and of classifying the status of metals. The custodian we spoke to who is not a researcher was unfamiliar with the terminology used for classifying metals. Two of the custodians did not keep individual receipts for borrowed metals, but instead required researchers to sign their logs noting which metals were taken from their inventories. Different recordkeeping practices and misclassification of metals could result in inaccurate inventories.

B. Several precious metals containers are not connected to the NIST Police Services alarm system

The precious metals guidance states that containers with inventories of personal appeal precious metals valued at over $5,000 should be connected to the NIST alarm system and monitored by NIST Police Services. The six precious metals custodians that we interviewed at NIST Gaithersburg each maintained inventories of personal appeal precious metals exceeding this value during FY 2006. The containers are all located inside individual laboratories or workspaces and the doors to these areas are locked when not in use. One custodian's container was located in a room with card reader-controlled access and monitored by NIST Police

[11] The guidance, dated January 15, 2004, is contained in Subchapter 7.09 of the *NIST Administrative Manual* and is accessible by NIST staff via their intranet at www.i-nist.gov.

Services, but the containers controlled by four other custodians were not connected to the alarm system.[12]

We were particularly concerned that one container, which contained approximately $262,000 worth of personal appeal precious metals, was not connected to the alarm system. We informed the Emergency Services Division chief of this in early November 2006, and he instructed an employee to locate all security containers at NIST, including those containing precious metals. On December 5, we informed the chief that three other custodians we had spoken to during our review also had containers not hooked up to the NIST alarm system. At this meeting, the chief said that he was in the process of moving the container with $262,000 worth of metals to a room whose access would be restricted by a card reader and monitored by NIST Police Services. The Emergency Services Division chief said he prefers putting an alarm on the door to the room housing a container rather than on the container itself because of the possibility of false alarms if the container is inadvertently bumped. Alarming the door would also restrict the number of people with access to the room where the metals are stored. This measure appears to meet the intent of the guidance and should be incorporated into any revision of the precious metals guidance. The Emergency Services Division chief said he will take appropriate action to safeguard precious metals inventories once he obtains the relevant information about NIST's security containers.

Recommendations:

The Director of the National Institute of Standards and Technology should ensure that the following actions are taken:

- Revise NIST's guidance on precious metals to include procedures relevant to inventory maintenance and to reflect current organizational information.

- Provide training to NIST's precious metals custodians.

- Properly safeguard security containers with personal appeal precious metals valued in excess of the threshold specified in NIST's guidance.

NIST Response to OIG Draft Report and OIG Comments

In its written response to our draft report, NIST stated that it has begun taking action to safeguard its precious metals containers and provide additional training to its precious metals custodians. We appreciate NIST's efforts to date in addressing these two issues. However, the response did not address our recommendation to update the current precious metals guidance contained in the *NIST Administrative Manual*. We reiterate the importance of this recommendation and request

[12] The sixth custodian maintained custody of personal appeal precious metals worth over $5,000, but stored most of his inventory in another custodian's container that held a similar amount of personal appeal precious metals. This container was not connected to the alarm system.

that NIST update us on efforts to improve its precious metals maintenance and guidance in its action plan.

II. Property Management Procedures Are Generally Adequate, but the Need for a Large X-ray Scanning Machine Should Be Assessed

Shipments from various package and freight carriers arrive daily at the Logistics Group's shipping and receiving area for processing. The group's staff makes deliveries twice a day throughout NIST Gaithersburg. The Logistics Group's storeroom is open during business hours for NIST staff to obtain supplies and materials. We found the Logistics Group has adequate property management procedures and physical access controls in place to process incoming and outgoing packages at its main workspaces. However, a large X-ray machine intended for screening large packages or groups of packages is not being used.

A. Property management procedures and physical access controls within the Logistics Group are generally adequate

We found the Logistics Group staff uses appropriate property management procedures, which are available to them in a hard copy procedures manual, to process incoming and outgoing packages. The Logistics Group's shipping and receiving areas are staffed continuously during business hours. The receiving staff processes incoming packages and accounts for any personal property before delivering the items to NIST employees. Most packages are delivered to the NIST addressee the same business day as arrival. Very few packages are stored overnight in the receiving area.

To assess physical access controls, we conducted several walkthroughs of the shipping and receiving areas, including one with the Emergency Services Division chief. Based on our walkthroughs and his input, we found minimal risk of theft. Staff members told us and we confirmed that they immediately confront any unknown persons in the areas. We also found the group's storeroom was manned continuously during business hours and that most employees only visit the storeroom to obtain supplies**.** We were told of two inventory discrepancies, but the Logistics Group staff thought they were most likely the result of data entry errors. Neither the staff nor the chief of the Administrative Services Division reported any unusual deviations in storeroom inventory. In addition, the Emergency Services Division chief informed us that there were no reports of theft from the storeroom's inventory between FYs 2003 and 2006.

We conducted a spot check of personal property assigned to the Logistics Group. We verified that the items we selected from a listing downloaded from the NIST personal property management system were still assigned to and under the custody of the Logistics Group. However, the locations of a few items in the group, such as laptops and hand-held devices, did not correspond to the exact locations as noted in the system. Once informed, the supply management officer promptly updated the system to reflect the actual locations of the personal property items about which we inquired.

NIST is currently conducting a complete inventory of all its personal property. This effort began in mid-November 2006 and is scheduled for completion in the spring of 2007. In support of this effort, the supply management officer, who also serves as NIST Gaithersburg's property accountability officer, provided property custodian training for NIST employees during November and December 2006 in both Gaithersburg and Boulder. The chief of the

Administrative Services Division, who is also NIST's property management officer, told us that he was revising NIST's internal property management guidance to promote greater property accountability within the operating units. We anticipate that these efforts will help further strengthen NIST's internal controls over personal property.

B. The Logistics Group rarely operates its large X-ray scanning machine

The Logistics Group has one small and one large X-ray machine in the receiving area that may be used to screen incoming packages. Staff members told us they Text Redacted Text Redacted general guidance for using the small machine to screen Text Redacted Text Redacted Packages that meet these criteria, Text Redacted are screened. A separate measure utilizing Text Redacted Text Redacted that is operated by a team of two security clerks from the Emergency Services Division is being used to screen package delivery trucks Text Redacted Text Redacted

The large X-ray machine was purchased in 2003 for approximately $65,000 to screen larger packages or groups of packages on a skid. Staff members told us the large X-ray machine has only been operated a few times in the 3 years it has been at NIST. They said at least three employees would be needed to operate the machine on a regular basis. Considering the current staffing levels and volume of incoming packages, which is several hundred per day, it would be difficult to ensure three people are available to operate the machine. In addition, we were told that the layout of the receiving area does not allow staff to efficiently load and unload packages onto and off the large X-ray machine using a motorized forklift or other loading equipment. Yet, the Logistics Group is incurring annual costs of $5,500 on a maintenance contract that runs until July 31, 2007, for the unused machine.

In 1995 after the bombing of the Alfred P. Murrah Federal Building in Oklahoma City, Oklahoma, the Department of Justice issued guidelines[13] stating that Level IV facilities, such as NIST Gaithersburg, should require X-ray screening of all mail and packages.[14] The Emergency Services Division chief acknowledged that the Logistics Group Text Redacted Text Redacted He said using specialized equipment Text Redacted Text Redacted meets the intent of the package screening guidelines without slowing down the work of the Logistics Group staff.

The Assistant Director for Anti-Terrorism in the Department's Office of Security said it is not always feasible to screen all incoming packages, though it would be preferable. He said that a facility's security manager can meet the intent of the guidelines if he or she implements a

[13] These guidelines are incorporated into the Department of Commerce's *Manual of Security Policies and Procedures* as *Appendix K: Department Of Justice Standards for Protection of Federal Facilities*, dated April 4, 2003.
[14] The NIST mailroom, which operates separately from the Logistics Group, screens all mail and packages with an X-ray machine.

measure to mitigate the threat Text Redacted of incoming packages. He told us that the Emergency Services Division's Text Redacted Text Redacted meets the intent of the guidelines.

We raised the issue of the unused X-ray machine with the supply management officer and the chief of the Administrative Services Division, and they said they would look into whether use of the large X-ray machine was needed in the receiving staff's operations. In a separate meeting, the Emergency Services Division chief told us that he would like to keep the large X-ray machine in case certain threat level conditions occur. He added that the security clerks from his division would operate the machine under these circumstances. Because there is some uncertainty about whether the large X-ray machine is needed, we suggest that the supply management officer and the chiefs of the Administrative Services and Emergency Services Divisions, in consultation with the Department's Office of Security, decide whether the Logistics Group's large X-ray machine is needed and if it is, specify procedures and staff for its use. If the machine is not needed, NIST should dispose of it appropriately.

Recommendation:

The Director of the National Institute of Standards and Technology should ensure that the following actions are taken:

Determine whether the Logistics Group's large X-ray machine is needed. If it is, define the roles and responsibilities of the Logistics Group and the Emergency Services Division with respect to its use, provide adequate training to appropriate staff on how to operate the machine, and use it to screen the appropriate items. If it is not needed, transfer the machine to another part of the Department or otherwise dispose of it appropriately.

NIST Response to OIG Draft Report and OIG Comments

NIST's written response to our draft report did not address our recommendation regarding the continued need for the large X-ray machine in the Logistics Group. We acknowledge that such a decision requires careful deliberation among officials at NIST and the Department's Office of Security. We would appreciate an update on the status of this decision in the action plan.

III. The Logistics Group's Staffing, Safety Measures, and Guidance on Shipping and Receiving Procedures Could Be Strengthened

We assessed the Logistics Group's operations and found that current staffing levels impact operations and raise some safety concerns. We also found that management needs to address safety concerns involving (1) an uneven gas cylinder room loading dock and (2) employee requests for additional information on handling hazardous materials. Finally, we found that the Logistics Group staff is often sidetracked from processing incoming and outgoing packages because of repeated inquiries for information and insufficient shipping and receiving guidance available to NIST employees.

A. Current staffing levels impact operations and raise safety concerns

As of December 2006, the Logistics Group had a staff of 16 employees with 9 vacancies, a total of 25 positions, all of which are fully funded (see Figure 3).[15]

Figure 3. Logistics Group Staffing Levels – December 2006

Area	Current Staffing Level	Vacancies
Shipping	2	1
Receiving	5	4
Property Management	6	2
Storeroom	3	2
Total	**16**	**9**

Source: Administrative Services Division and Human Resources Division, NIST

However, the high number of vacancies means staff must often be shared among the Logistics Group's shipping, receiving, storeroom, and property management areas to fulfill workload requirements, especially when employees are absent on sick, annual, or other leave. This results in some staff not being able to consistently perform their normal job duties and their respective work areas having to compensate for the loss in manpower. This issue of reduced staffing, which Logistics Group management acknowledges as a concern, is more pronounced in the receiving area. In addition to existing vacancies, one of the employees assigned to the receiving area has been assisting with shipping duties because of a heavy workload there. This has effectively further reduced the number of receiving area employees.

Current staffing levels pose safety concerns involving the transport of heavy equipment and furniture. Staff told us that one person regularly loads and delivers filled gas cylinders that weigh several hundred pounds each, and they were concerned about it. In May 2006, an employee was injured attempting to manage a cylinder alone. Since then, an additional staff member has assisted with these duties when workloads permit, but one person regularly continues to deliver cylinders alone. The chief of the Safety, Health, and Environment Division and her staff told us that it would be prudent to have two staff members transporting cylinders.

[15] These positions are funded for FY 2007 in the Commerce Administrative Management System, the Department's integrated financial management system.

Similarly, we found that one person is largely responsible for transferring excess furniture and lab equipment at NIST Gaithersburg. While this staff member can request help from others to move items, in practice, he does not have regular daily support and often moves these heavy items alone.

Although candidates were interviewed for Logistics Group positions prior to December 2006, only three were hired. Moreover, four employees left the group in 2006, including two who left during our review. The group's staff and the former supply management officer reported that the two largest obstacles for recruiting and hiring new employees are salary and promotion potential. In 2004, several positions were downgraded when management reorganized the group as part of an A-76 cost comparison.[16] The former supply management officer informed us that the results of this review contributed to a turnover problem within the group. As a result, employees are limited in salary potential, and there is less incentive for recent hires to improve their skills or stay.

After our exit meeting on February 9, 2007, with NIST officials to discuss our findings, the Logistics Group's supply management officer informed us that four new, permanent employees had been hired since the completion of our fieldwork. The receiving area has two new employees while shipping and the storeroom each have one. The supply management officer also informed us that NIST's Office of Human Resources Management was in the process of completing candidate certifications needed to fill two additional staff vacancies in receiving. We anticipate that these efforts will improve the group's operations. However, given a problem with turnover and the lengthy process to bring in new employees, the supply management officer and the Administrative Services Division chief should continue to assess existing staff resources and positions and ensure that the Logistics Group has adequate staffing to safely handle its daily operations.

B. Additional safety concerns warrant management attention

Management should immediately address two safety concerns brought to our attention by Logistics Group staff. First, the ground below the cylinder room's loading dock is uneven, which causes the cylinder delivery truck's backlift to rest unevenly on the dock. That causes a hazard when cylinders are loaded and unloaded. Staff members used to place a metal plate over the backlift to create a level surface (see Figure 4 on the following page). But that "fix" was unsafe as well, so they began loading and unloading cylinders from the regular shipping and receiving docks. This means both gas cylinders and packages are loaded and unloaded from the same docks. The cylinder room's loading dock is separate from the shipping and receiving area and is better situated for transporting cylinders because it adjoins the cylinder room. Yet, it lies unused due to the uneven ground below it.

We notified the NIST Safety, Health and Environment Division about this during our review. They said they would look into the situation further. In August and October 2006, the traffic

[16] The Office of Management and Budget released Circular A-76 as federal policy regarding the performance of commercial activities. The circular requires agency heads to review in-house commercial activities to ensure they are performed at an estimated cost that is lower than the cost for a qualified contractor or other commercial source.

management staff supervisor contacted the NIST Plant Division to fix this hazard. But as of December 2006, the ground below the cylinder room loading dock had not been repaired. The Plant Division chief informed us that his staff recently completed a plan to fix the problem and is moving forward to secure a contractor through the acquisitions process to perform the work. The Plant Division should repair the ground below the cylinder room loading dock as soon as possible and take any other actions necessary to ensure that the cylinder room loading dock is safe for operation.

Figure 4. Cylinder Room Loading Dock.

The cylinder truck's backlift does not lie level on the loading dock (right, above)

Staff sometimes uses a metal plate to create a level surface to load cylinders (below).

Source: Office of Inspector General

Second, we believe additional information on the safe handling of hazardous materials should be provided to the Logistics Group. Relevant staff members have had hazardous material training. Yet some staff members told us they would like additional information describing the risks and hazards of chemicals and gases stored and delivered by the group in order to be fully aware of potential hazards and avoid any mishaps when handling these materials. We believe that additional safety information should be disseminated to the Logistics Group staff to raise awareness of possible hazards involving chemicals and gases handled by the staff and to help avoid accidents.

C. NIST employees are not adequately informed about shipping and receiving procedures

The Logistics Group's staff must process incoming personal property and outgoing domestic and international shipments according to departmental and NIST policies. This includes ensuring that accountable property has bar codes for NIST's personal property inventory records prior to delivery. Since deliveries are usually made in bulk quantities, staff must sort each package for X-ray requirements, delivery location, bar code tagging, and other special considerations.[17]

However, staffers told us they routinely receive a high volume of telephone inquiries about shipping and receiving procedures from NIST employees who (1) are unfamiliar with shipping and receiving procedures and (2) do not understand that delivery times, which are guaranteed by certain carriers for certain times of the day, only apply to the packages arriving at the receiving

[17] Some special considerations include: (1) computers that need to go to NIST technicians for software installation prior to delivery, (2) radioactive materials that need to be isolated from other deliveries, and (3) priority delivery items that must remain frozen or otherwise be delivered quickly because they are perishable, or have arrived through overnight/urgent service.

area and not to their respective office(s). Employees who call the receiving area often want staff to search for their individual packages and provide a status update. Employees who call often do not have necessary information, such as a tracking number, the name of the person who ordered the item, or the addressee's contact information, to help the staff locate the package quickly, even though a recording on the group's main phone line instructs callers to have that information available. As a result, staff must stop processing packages and spend time locating individual employee packages.

The group also receives numerous inquiries from NIST employees involving shipping procedures and requirements. The online *NIST Administrative Manual* informs employees that the Logistics Group processes outgoing shipments, and it includes a link for additional information on foreign country shipping requirements. However, many employees call the shipping area to ask whether the Logistics Group is the proper unit for shipping outgoing packages and inquire about specific packaging and shipping requirements. The calls are frequent and disrupt the group's operations by requiring the staff to stop processing shipments to respond to a high volume of inquiries. To correct these problems, management of the Logistics Group should revise the current, written guidance on its shipping and receiving requirements and effectively communicate it to NIST employees (via a 'Frequently Asked Questions' guide on NIST's intranet, for example) to minimize disruptions to the group's operations.

Recommendations:

The Director of the National Institute of Standards and Technology should ensure that the following actions are taken:

- Continue to assess existing staff resources and positions and take appropriate action to ensure that the Logistics Group has adequate staffing to safely handle its daily operations.

- Repair the ground below the Logistics Group's cylinder room loading dock as soon as possible and take any other actions necessary to ensure that the cylinder room loading dock is safe for operation.

- Provide the Logistics Group staff with additional safety information on the chemicals and gases that they handle.

- Revise the Logistics Group's written shipping and receiving guidance currently provided to NIST employees and better communicate the revised guidance to them.

NIST Response to OIG Draft Report and OIG Comments

In its written response to our draft report, NIST reported that its Safety Office and Office of Environmental Compliance are providing immediate training to the Logistics Group staff on the safe handling of gases and chemicals. NIST further stated that formal safety training would be provided to the staff by the Public Health Service's Federal Occupational Health Office in April

2007. In addition, NIST said that it is preparing a contract with a vendor that will make the necessary road improvements to the cylinder room loading dock area. We hope that these repairs are completed in a timely manner. We look forward to an update on the repairs in NIST's action plan.

We note that NIST has begun to address the Logistics Group's staffing needs to enable it to perform its daily operations. We ask that the bureau report on the final result of NIST's assessment of the group's staffing requirements in its action plan. Finally, NIST's response did not address our recommendation about providing revised shipping and receiving guidance to NIST employees. We believe that this will help strengthen the group's operations and request that NIST address it in its action plan.

IV. The Logistics Group's Procurement Activities Are Generally Sound, but Its Own Storeroom Inventory Management System Is Inefficient and Should Be Replaced

The Logistics Group is responsible for stocking its storeroom with supplies and materials that are used by NIST staff for scientific research and facilities maintenance. These acquisitions are largely made through purchase orders processed by NIST's separate Acquisition Management Division. However, there are occasions when the supply management officer uses his government purchase card (which is subject to a single transaction limit of $2,500) to resupply items quickly or meet an urgent request by a NIST scientist or employee. The Logistics Group also purchases its own supplies and equipment, mostly through the acquisitions process. While we found no obvious problems with the Logistics Group's contract awards, we found evidence of "split purchases"[18] stemming from the use of the group's government purchase card**.** We also found that the Logistics Group was unable to stock its storeroom efficiently because its inventory management computer system has limited capabilities.

A. The Logistics Group's contract awards appear to comply with applicable federal procurement regulations, but previous government purchase card statements revealed split purchases

Between FY 2003 and FY 2006,[19] the Acquisition Management Division processed 50 contract awards with a variety of vendors for the Logistics Group. We reviewed 10 of the 50 contract awards, which covered the purchase of items and services such as communications equipment, an office printer, rent for cylinders containing specialty gases used by researchers for scientific experiments, heavy duty industrial equipment, equipment maintenance, and package shipping services. We examined whether contract awards were properly competed and awarded and found that contract files contained written support for contract actions as called for by Parts 6, 12, and 13 (Competition Requirements, Simplified Acquisitions Procedures, and Acquisition of Commercial Items) of the Federal Acquisition Regulation.

Several of the contract awards were sole source procurements, and we found that the award files contained adequate justification for sole source contracting.[20] There were several contract awards that required competitive bids from at least three vendors. Those files contained adequate documentation detailing each individual vendor's bids or contained documentation noting a vendor's decision not to bid or failure to submit a bid by the solicitation's deadline. For each solicitation requiring competition, the contract award was given to the lowest or the sole bidder.

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[18] "Split purchase" is the term used to describe the practice of dividing purchase requirements into more than one transaction to avoid exceeding the micro-purchase limit, as set forth by the Federal Acquisition Regulation. The micro-purchase limit was raised from $2,500 to $3,000, per Section 807 of the Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005 (Public Law 108-375) and implemented by Federal Acquisition Circular 2005-13, effective September 28, 2006.

[19] Because NIST's electronic procurement system, the Commerce Standard Acquisition and Reporting System (CSTARS), was taken offline for upgrading for nearly 1 month starting September 18, 2006, no contract awards were processed between September 15, 2006 and September 30, 2006, the end of FY 2006.

[20] Written justification is required on Commerce Department (CD) form 492, *Justification for Other Than Full and Open Competition*, which is part of the contract file.

We also reviewed the group's purchase card statements from December 2005 through October 2006 and found several purchases were split into multiples to avoid exceeding the micro-purchase limit. We found at least 20 transactions out of the 108 from that period that appear to involve split purchases. We confirmed that at least 6 of these transactions involved 3 instances of split purchases (see Figure 5 for two examples). The majority of the remaining 14 transactions appeared questionable because they occurred either on the same day or within one day of each other. The majority of the original credit card statements containing these transactions were not signed by the cardholder, and none were signed by the approving official. However, statements dated after June 2006 did not indicate split purchases and were reviewed and signed by both the cardholder and approving official.

Figure 5. Examples of Split Purchases

Vendor 1	*Transaction 1*	*Date:*	*February 9, 2006*	*Amount: $2,443.00*
Fulfilled 2 orders to meet a single requirement.	*Transaction 2*	*Date:*	*February 9, 2006*	*Amount: $1,105.80*
	Time lapse between transactions:	**Same day**	Total Purchase Amount:	**$3,548.80**
Vendor 2	*Transaction 1*	*Date:*	*February 28, 2006*	*Amount: $1,772.24*
Fulfilled 2 orders to meet a single requirement.	*Transaction 2*	*Date:*	*March 1, 2006*	*Amount: $1,284.08*
	Time lapse between transactions:	**1 day**	Total Purchase Amount:	**$3,056.32**

Source: Office of Inspector General

NIST guidance states that if a requirement exceeds the cardholder's single purchase limit (which in this case equaled the micro-purchase limit of $2,500), the cardholder cannot purchase the requirement through multiple transactions. This type of activity creates a split purchase and is prohibited by federal regulations. To ensure accountability of purchases, the Department and NIST require bank cardholders to verify purchases and sign their monthly statements, which are then reviewed and signed by an approving official. After interviewing relevant staff and reviewing documents, we were not given explanations as to why split purchases occurred or why some statements we reviewed were not properly signed. The previous cardholder, who had completed the training required for all NIST cardholders, is no longer employed at NIST and, therefore, could not explain the purchases in question. In June 2006, a new cardholder assumed responsibility for the Logistics Group purchase card, which might explain the change in purchase activities. The approving official for both cardholders explained that he regularly reviews and signs users' credit card statements. However, he could not explain why the statements we reviewed from the previous cardholder did not have his signature.

Given the Logistics Group's responsibility to purchase storeroom supplies to meet NIST-wide needs, the supply management officer should assess the group's purchasing demands. If necessary, he should request additional acquisition training for future cardholders to allow for additional purchasing options and reduce the potential for split purchases. One option might be to increase the single purchase limit on the cardholder's government credit card beyond the micro-purchase limit, after appropriate training is completed. Also, both the purchase cardholder

and approving official should review and sign each card statement to help ensure that split purchases do not occur in the future.

B. The storeroom's inventory management system limits the staff's ability to purchase supplies efficiently

The Logistics Group's storeroom staff uses a DOS-based computer system to track its inventory, including gases for its specialty gas cylinder program. Usually, the supply management officer submits a purchase order request for supplies after the storeroom staff informs him that supplies are low or out of stock. We found the storeroom's inventory management system has contributed to supply shortages. The system is query-based and able to provide only basic item information, such as a description, the number of units currently in stock,[21] and the item's last purchase order date (during the previous 18 months). However, the system cannot generate a list of items that are running low in quantity, nor can it notify staff if items fall below a certain quantity. The system can only generate a report showing items that are at zero balance. Staff members typically assess the storeroom's needs by visually identifying items that are low in supply or by knowing how often certain items are used and need to be replenished.

The system may also be the source of deviation in storeroom inventory records because it sometimes generates errors during updates. A contractor from NIST's Application Systems Division regularly performs system updates to register new sales data and adjust inventory records to reflect recent sales. Sometimes the contractor's updates do not take effect because of an unresolved glitch in the computer system. As a result, the contractor sometimes notices inaccurate data in the system. If the contractor is unable to correct data during subsequent updates, the result can lead to an inaccurate storeroom inventory.

The group staff, division chief, and the division's previous acting chief[22] each told us that the system is not user-friendly, only minimally assists storeroom operations, and may be the source of deviations in inventory records. In May 2006, the Administrative Services Division chief received approval to procure a new storeroom inventory management system, but the selection of a new system was put on hold in October 2006 so that management could explore cost-saving alternatives. The Administrative Services Division chief is currently researching whether the Logistics Group can customize an existing inventory management system used by the Plant Division to meet its storeroom needs. As of December 2006, the Administrative Services Division chief was preparing a new proposal for customizing the Plant Division's existing system for consideration by NIST budget and finance officials. He and the supply management officer have received two demonstrations of the proposed system by the vendor to test whether it meets the group's needs. We encourage the Administrative Services Division chief to complete his proposal and move forward to acquire and implement a new inventory management system.

[21] A unit may vary depending on the item (e.g. box of gloves, a package of pens, or individual staplers).
[22] The previous acting division chief held this position from January 2005 through June 2006.

Recommendations:

The Director of the National Institute of Standards and Technology should ensure that the following actions are taken:

- Assess the Logistics Group's current purchasing needs and, if necessary, request additional acquisition training for future cardholders to allow for additional purchasing options, such as increasing the single purchase limit on the cardholder's government credit card.

- Ensure that all Logistics Group purchase card statements are properly reviewed and signed by both the cardholder and the approving official.

- Complete and secure funding for the proposal to customize an existing system from the Plant Division that meets the Logistics Group's storeroom needs and implement it. If that is not possible, select, purchase, and implement a new system.

NIST Response to OIG Draft Report and OIG Comments

NIST's written response to our draft report did not address the recommendations that we presented in this chapter. We reiterate our recommendations and believe that they will help improve the group's procurement activities and storeroom operations. We request that NIST report any actions taken to fulfill these three recommendations in its action plan.

SUMMARY OF RECOMMENDATIONS

The Director of the National Institute of Standards and Technology should ensure that the following actions are taken:

1. Revise NIST's guidance on precious metals to include procedures relevant to inventory maintenance and to reflect current organizational information. (see page 5).

2. Provide training to NIST's precious metals custodians (see page 5).

3. Properly safeguard security containers with personal appeal precious metals valued in excess of the threshold specified in NIST's guidance (see page 6).

4. Determine whether the Logistics Group's large X-ray machine is needed. If it is, define the roles and responsibilities of the Logistics Group and the Emergency Services Division with respect to its use, provide adequate training to appropriate staff on how to operate the machine, and use it to screen the appropriate items. If it is not needed, transfer the machine to another part of the Department or otherwise dispose of it appropriately (see page 10).

5. Continue to assess existing staff resources and positions and take appropriate action to ensure that the Logistics Group has adequate staffing to safely handle its daily operations (see page 12).

6. Repair the ground below the Logistics Group's cylinder room loading dock as soon as possible and take any other actions necessary to ensure that the cylinder room loading dock is safe for operation (see page 13).

7. Provide the Logistics Group staff with additional safety information on the chemicals and gases that they handle (see page 13).

8. Revise the Logistics Group's written shipping and receiving guidance currently provided to NIST employees and better communicate the revised guidance to them (see page 14).

9. Assess the Logistics Group's current purchasing needs and, if necessary, request additional acquisition training for future cardholders to allow for additional purchasing options, such as increasing the single purchase limit on the cardholder's government credit card (see page 17).

10. Ensure that all Logistics Group purchase card statements are properly reviewed and signed by both the cardholder and the approving official (see page 17).

11. Complete and secure funding for the proposal to customize an existing system from the Plant Division that meets the Logistics Group's storeroom needs and implement it. If that is not possible, select, purchase, and implement a new system (see page 19).

APPENDIX: NIST RESPONSE TO OIG DRAFT REPORT

UNITED STATES DEPARTMENT OF COMMERCE
National Institute of Standards and Technology
Gaithersburg, Maryland 20899-0001
OFFICE OF THE DIRECTOR

MEMORANDUM FOR Johnnie E. Frazier
Inspector General

Through: Robert C. Cresanti
Under Secretary for Technology

From: William Jeffrey
Director

Subject: NIST Response to Draft Inspection Report No. IPE-18321 Entitled "*Logistics Group Operations Are Mostly Sound but Management Attention is Needed in Some Areas*"

Thank you for providing me a copy of the draft inspection report entitled "*Logistics Group Operations Are Mostly Sound but Management Attention is Needed in Some Areas.*" I would like to commend you on the thoroughness of your review and the quality of your recommendations. NIST takes its responsibility to effectively manage all property, implement appropriate access controls, and conduct acquisitions in accordance with federal regulations, very seriously. NIST has already begun work on several of the report recommendations including safeguarding precious metal security containers, providing additional training to NIST precious metal custodians, and ensuring that the Logistics Group is adequately staffed to ensure that daily operations can be performed safely. We have taken immediate action to address the safety concerns highlighted in the report. We have a contract in preparation to make the necessary road improvements at the loading dock. We are using an alternative loading dock until the repair is completed. Our NIST Safety Office and Office of Environmental Compliance are providing immediate training to the staff of the Logistics Group on the safe handling of gases and chemicals. In addition, we have arranged for a formal training class later in the month of April to be given to them by the Federal Occupational Health Office of the Public Health Service.

Once again, thank you for the opportunity to review and comment on the draft report. I look forward to receiving the final version. If you have any questions please contact Steve Willett on (301) 975-8707.

NIST