

DOE/IG-0450

AUDIT REPORT

THE U.S. DEPARTMENT OF ENERGY'S NON-NUCLEAR MATERIALS INVENTORY AT THE KANSAS CITY PLANT



JULY 1999

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

July 26, 1999

MEMORANDUM FOR THE SECRETARY

FROM: Gregory H. Friedman (Signed)
Inspector General

SUBJECT: INFORMATION: Report on "The U.S. Department of Energy's Non-Nuclear
Materials Inventory at the Kansas City Plant"

BACKGROUND

The Department of Energy (Department) maintains the majority of non-nuclear components of nuclear weapons at its Kansas City Plant. Allied Signal Federal Manufacturing and Technologies (Allied Signal) manages and operates the plant, while the Albuquerque Operations Office and its Kansas City Area Office are responsible for administering the contract with Allied Signal.

In recent years, the United States has significantly reduced the number of weapons maintained in the stockpile. As a result, a large quantity of non-nuclear materials accumulated at the Kansas City Plant. The value of the inventory, as of October 1998, was \$575 million. The objective of this audit was to determine if Department and contractor officials were identifying and disposing of non-nuclear materials inventory for which there was no current or future designated need.

RESULTS OF AUDIT

A preliminary review by the Kansas City Plant indicated that there was no current or future designated need for non-nuclear materials valued at about \$275 million. This represented about 47 percent of the total non-nuclear materials inventory as of October 1998. However, the Albuquerque Operations Office had not made a final decision on whether to retain or dispose of these items. Although there were several underlying causes, we concluded that Department and contractor officials had not given priority attention to the issue. Further, they had not developed a plan to reduce the non-nuclear materials inventory. As a result, the Department incurred additional storage costs that exceeded \$2 million annually for the excess inventory and, the Department did not benefit from the revenue that could have been derived from the sale of any marketable portion of the unneeded materials. We recommend that the Deputy Assistant Secretary for Military Application and Stockpile Management: (1) improve procedures for handling materials inventory, (2) create an inventory management plan to address the unneeded inventory, (3) dispose of all materials determined to be excess, and (4) verify that the inventory management plan is implemented.

MANAGEMENT REACTION

The Assistant Secretary for Defense Programs agreed with the finding and recommendations and provided a corrective action plan for reducing the inventory.

Attachment

cc: Deputy Secretary
Under Secretary

**The U.S. Department Of Energy's Non-Nuclear Materials Inventory At The
Kansas City Plant**

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OVERVIEW

INTRODUCTION AND OBJECTIVE

In 1993, the Department of Energy (Department) officially designated the Kansas City Plant as the consolidated site for the majority of non-nuclear components of nuclear weapons. The Plant is managed and operated by Allied Signal--the contractor responsible for providing maintenance, logistic support, engineering, technical, administrative, and other services necessary to accomplish efficient operations. As of October 1998, a large materials inventory (composed of individual parts used to assemble weapons components) was stored at the Kansas City Plant. The total value of this inventory was \$575 million.

The Department's Albuquerque Operations Office (Albuquerque) and its Kansas City Area Office were responsible for managing the non-nuclear materials inventory at the Kansas City Plant. These entities were also responsible for administering the contract with Allied Signal. The Office of Defense Programs had overall responsibility for overseeing Albuquerque and Kansas City operations and directing the Department's Military Application and Stockpile Management Program.

About 267,000 square feet of warehouse space at the Kansas City Plant had been dedicated to warehouse materials. The non-nuclear materials inventory occupied about 200,000 square feet of that space. However, a July 1996 study for consolidating nuclear weapons complex production operations recommended reducing the size of the Kansas City Plant. In accordance with this study, officials planned to reduce the available warehouse space to 167,000 square feet.

The objective of this audit was to determine if Department and contractor officials were identifying and disposing of non-nuclear materials inventory for which there was no current or future designated need.

CONCLUSIONS AND OBSERVATIONS

The Department was not effectively identifying and disposing of unneeded non-nuclear materials inventory at the Kansas City Plant. As of October 1998, materials valued at about \$275 million had not been reviewed and approved for retention or disposal. These materials were kept in the Plant's inventory even though Kansas City officials had made a preliminary determination that there was no current or future need for these materials. A final decision on the materials was not made because the Kansas City Plant's inventory procedures were not detailed enough, and management had not given priority attention to this issue and had not developed a plan on how to reduce the inventory. As a result,

Kansas City Plant incurred over \$2 million annually in additional storage costs, and it did not benefit from the revenue that could have been derived from the sale of any marketable portion of the unneeded materials.

The conclusions of this report parallel those of a concurrent audit on the Department's chemicals and materials inventory. This audit, which is in process, found that the recommendations made in a 1996 Departmental review of chemicals and materials had not been implemented. Both audits indicate a need for a more proactive approach to managing the Department's inventories.

Management should consider the issues discussed in this audit when preparing its yearend assurance memorandum on internal controls.

(Signed)
Office of Inspector General

Management Of Non-Nuclear Materials Inventory

Non-Nuclear Materials Inventory Exceeded Identified Need

As of October 1998, non-nuclear materials valued at about \$275 million at the Kansas City Plant had not been reviewed and approved for retention or disposal. Plant officials made a preliminary determination that these materials were no longer needed. However, Albuquerque had not made a final decision on retention or disposition. Albuquerque's review and approval was necessary since it had the decision-making authority on the quantity of non-nuclear materials needed to meet nuclear weapons stockpile requirements. The potentially unneeded inventory represented approximately 50 percent of the value of the non-nuclear materials at the facility. It consisted of approximately 10.8 million non-nuclear parts, and plant officials estimated that the inventory occupied about 40 percent of the total warehouse space dedicated to non-nuclear materials.

Policies And Guidance Required Inventory Determination

The Albuquerque Development and Production Manual (Manual) for weapons activities established high-level policies and guidance for managing materials inventory. The Manual required Albuquerque and contractors to annually review and adjust the non-nuclear materials inventory based on program need. Albuquerque policy was to maintain an inventory of only war reserve material for which there was an existing or planned requirement. Material determined to be excess to requirements was to be made available for other uses. If no other uses were identified, the material was to be disposed of in accordance with approved procedures. Detailed material management procedures are generated by the contractor.

Inventory Management System Had Weaknesses

The Department did not dispose of unneeded materials because procedures for managing the inventory were not detailed enough and Department and contractor staff had not considered the review of potentially unneeded inventory a high priority. As a consequence, they had not developed a comprehensive plan on how to manage the inventory and dispose of materials for which there was no current or future designated need.

Albuquerque's management guidance called for an annual evaluation of the inventory to determine continued retention or disposition. These procedures, however, did not fully define the process and the factors that were to be used in making this determination. For example, they did not discuss the value of each part in relation to its storage cost, the replacement cost, or the ease of replacement. In addition, a Kansas City

official confirmed that the annual listing provided to Albuquerque did not contain sufficient information to make a final determination. As a result, the potentially unneeded inventory could not be fully evaluated to determine whether it should be retained or made available for other uses.

In November 1997, as a result of an effort to reduce warehouse space, the Kansas City Plant developed new procedures to evaluate its non-nuclear materials inventory. This involved a step-by-step evaluation by the weapons program staff of each part in the inventory. The examination included assessing replacement costs, ease of replacement, and other key factors that had not been included in Albuquerque's inventory management procedures. In our view, this was a positive step in assessing the need for materials inventory at the plant. This process would have assisted Albuquerque in making decisions on inventory retention.

In commenting on the potentially unneeded inventory, officials from both Department and contractor offices stated that retention or disposition of non-nuclear materials had not always been a high priority. In the past, the Department had enough warehouse space to store materials, and priority had been given to supporting the production and maintenance of the existing stockpile. This perspective began to change in 1995 when Kansas City Area Office officials recognized that excess materials existed at the plant. They advocated the development of a strategy to reduce the materials inventory to an acceptable level. However, a detailed plan with clear goals and benchmarks was not developed. Such a plan would have aided in the reduction of the materials inventory at the plant and would have been consistent with the objectives of the Government Performance and Results Act of 1993. This act requires managers to establish goals, performance measures, and milestones for key program activities.

The Department has an opportunity to save money by evaluating and disposing of unneeded non-nuclear materials inventory at the Kansas City Plant. We determined that as much as \$2 million could be saved annually if management disposed of the entire \$275 million of materials inventory that had not been reviewed and approved for retention or disposal. This estimate was based on the inventory occupying 40 percent of the warehouse (200,000 square feet) and space costing \$26 per square foot, including overhead costs. Savings could also be achieved through the disposition of items in the inventory. Some of

**Materials Inventory
Savings Can Be
Achieved**

these items could be made available for appropriate processing and sale, and the proceeds could be used to offset the Kansas City Plant storage costs.

RECOMMENDATIONS

We recommend that the Deputy Assistant Secretary for Military Application and Stockpile Management give priority attention to resolving the materials inventory issue at the Kansas City Plant by implementing the following actions:

1. Improve current procedures for handling materials inventory through directive or by amending the Development and Production Manual. At a minimum, procedures need to be revised to include specific steps on evaluating and determining the need for non-nuclear materials.
2. Create an inventory management plan to address the potentially unneeded inventory. At a minimum, the plan should have definitive goals, performance measures, and milestones for the justification or disposition of the inventory.
3. Dispose of all materials determined to be excess and, where appropriate, make these items available for sale to others.
4. Verify that Albuquerque, the Kansas City Area Office, and the Kansas City Plant fully implement the inventory management plan.

MANAGEMENT REACTION

Overall, Defense Programs agreed with the finding, conclusions, and recommendations and stated that corrective actions are in process. Officials indicated that the Development and Production Manual has been revised to provide additional guidance and that the Kansas City Plant has provided Albuquerque with macro-level plans and schedules for inventory reduction. Quarterly reviews will be instituted to monitor progress and implementation of the inventory management plan. Management estimates that it will take approximately 5 years to reduce the current excess materials inventory.

In commenting on the \$2 million of expected cost savings, officials stated that a reduction in inventory would not result in overhead savings. Overhead costs associated with any vacated warehouse space would be reallocated to other parts of the program. In addition, believed that Defense Programs would incur costs to reduce and vacate unneeded warehouse space.

Defense programs officials also believed that failure to give priority attention to reducing the inventory, and not the lack of definite procedures, was the primary reason decisions had not been made regarding the non-nuclear materials inventory.

**AUDITOR
COMMENTS**

Management's proposed actions are responsive to the recommendations.

Appendix 1

SCOPE

The audit involved the portion of the Kansas City Plant non-nuclear materials inventory that was identified as not needed for current or future mission requirements as of October 1998. The audit was performed from October 1998 through April 1999 at Defense Programs in Washington, DC; the Weapons Program Division, Albuquerque Operations Office, Albuquerque, New Mexico; and at the Kansas City Area Office and Plant in Kansas City, Missouri.

METHODOLOGY

To accomplish the audit objective, we:

- Interviewed Defense Programs Headquarters personnel concerning inventory practices and responsibilities;
- Interviewed Albuquerque personnel and reviewed Albuquerque policies and procedures relating to weapons materials inventory management;
- Interviewed Kansas City Area Office and contractor officials and reviewed inventory documentation;
- Visited the KPMG Peat Marwick office in Kansas City, Missouri, to review audit work papers related to materials inventory prepared as part of the Department's annual financial audit;
- Reviewed the Report of the Materials in Inventory Initiative *Taking Stock: A Look at the Opportunities and Challenges Posed by Inventories from the Cold War Era* (DOE/EM-0275, January 1996);
- Reviewed the General Accounting Office report *Department of Energy: Management of Excess Property* (GAO/RCED-99-3, November 4, 1998); and
- Performed walk-throughs of warehouses at the Kansas City Plant.

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 objective. 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 extensively on computer-processed data. The materials inventory

Appendix 1

listing was obtained from the Kansas City Plant's computerized inventory management system. The reliability of this data was examined as part of the review of plant inventory in the annual financial audit.

We discussed the finding with Albuquerque and Kansas City Plant managers on May 5, 1999, and with Defense Programs officials on May 11, 1999.

Appendix 2

OTHER MATTERS

As part of our audit of the Kansas City Plant, we observed certain other items that were not part of the non-nuclear materials inventory that Kansas City should reevaluate for mission requirements. These items were located both at the Kansas City Plant and at offsite warehouse facilities. In discussions with contractor officials, we found three items that should be considered for transfer or disposition. They were:

- Polystyrene - The Kansas City Plant maintained more than 200 pallets of polystyrene for Lawrence Livermore National Laboratories. Due to the nature of this material, special storage arrangements were required offsite. The polystyrene has been stored offsite since 1984. To date, the total storage cost of the material exceeded its value. The annual storage cost was over \$4,000 and the inventory value was about \$40,000.
- Cylinder Casings - The Kansas City Plant stored many weapon cylinder casings even though a use had not been scheduled for a number of years. As yet, this inventory item had not been reviewed using the new approach to determine whether the storage cost exceeded the value of the casings.
- Parachutes - We observed more than 300 parachutes left over from a discontinued weapons system. According to officials, there had been no official request for parachutes since September 1989. Officials told us that disposal would be difficult because of explosive materials contained in the parachutes.

Albuquerque officials advised they would check these items, but they had not received previous requests for disposition.

In addition, we observed at least two items that should be pursued as just-in-time candidates. The just-in-time inventory system reduces inventory levels to the absolute minimum needed to fill orders received. This technique often lowers inventory carrying costs and total manufacturing costs. Albuquerque officials agreed that the Kansas City Plant should be using this technique.

- Gloves: The Kansas City Plant maintained an inventory of more than 200 types of work gloves for employees. According to Kansas City Plant staff, such items could be an excellent candidate for just-in-time procurement and management indicated that they planned to issue a contract for this purpose.
- Industrial Gases: The Kansas City Plant maintained a separate building in the complex to store industrial gases for use in the facility. The storage costs were expensive because special refrigeration was needed for certain types of gases. Such gases could be considered for just-in-time procurement if supplies were readily available within the local area.

We discussed these items with Albuquerque officials on May 5, 1999. The Office of Defense Programs waived the exit conference.

Appendix 3

SUMMARY OF PAST OFFICE OF INSPECTOR GENERAL AUDITS OF KANSAS CITY PLANT ACTIVITIES

- *Audit of the Department of Energy's Transportation Accident Resistant Container Program*, DOE/IG-0380, October 1995. The Department designed and produced 87 accident resistant containers for about \$29 million when the customer did not want them and expressed no desire to use these containers.
- *Audit of the Department of Energy's Management of Precious Metals*, DOE/IG-0375, June 1995. The Department and contractor administration of precious metals at 6 of 11 organizations was not effective and efficient because excess metals were on hand, additional excesses were expected to be recovered, and there was no method of disposing of these excess precious metals.
- *Report on Allowable Costs at Department of Energy Management and Operating Contractors*, DOE/IG-0321, February 23, 1993. DOE was generally not reimbursing M&O contractors for costs in categories that were specifically prohibited by the M&O contracts, as we found only three such instances. However, at six of the nine M&O contractors audited, we identified Fiscal Year 1991 costs of \$5.4 million that was considered unallowable.
- *Audit of Fiscal Year 1989 Cash Management Practices at Allied-Signal and Rockwell International*, WR-OC-90-6, May 29, 1990. Neither Albuquerque, Allied, nor Rockwell had a management process in place to ensure compliance with federal and Department cash management procedures.

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