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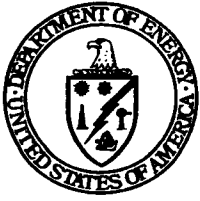
# Inspection Report

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Internal Controls Over Methamphetamine  
Precursor Chemicals at the Y-12 National  
Security Complex and the Oak Ridge  
National Laboratory

DOE/IG-0650

June 2004




## Department of Energy

Washington, DC 20585

June 14, 2004

MEMORANDUM FOR THE SECRETARY

FROM:

  
Gregory H. Friedman  
Inspector General

SUBJECT:

INFORMATION: Inspection Report on "Internal Controls Over Methamphetamine Precursor Chemicals at the Y-12 National Security Complex and the Oak Ridge National Laboratory"

### BACKGROUND

The Tennessee Ninth Judicial Drug Task Force requested support from the Office of Inspector General (OIG) for the Task Force's efforts to address the growing problem of illegal methamphetamine production in Tennessee. Specifically, the OIG was asked to evaluate the potential for certain chemicals to be stolen from Department of Energy (DOE) facilities in Oak Ridge, Tennessee, for possible use in the illicit production of methamphetamine. The Task Force has been aggressively trying to control the availability of methamphetamine precursor chemicals within its area of responsibility, which includes the region where DOE's Oak Ridge facilities are located. Methamphetamine is recognized as the third greatest drug threat in Tennessee and is the most prevalent synthetic illegal drug manufactured in the United States.

The OIG initiated an inspection at two of the Department's major Oak Ridge facilities, the National Nuclear Security Administration (NNSA) Y-12 National Security Complex (Y-12) and the Oak Ridge National Laboratory (ORNL), to determine whether there were adequate internal controls over precursor chemicals that could be stolen for use in the illegal production of methamphetamine.

### RESULTS OF INSPECTION

We did not find any indicators of theft of precursor chemicals from Y-12 or ORNL during our inspection, which included a review of a sample of the precursor chemicals at both locations. Also, we determined that the sites were adhering to Department requirements for controlling such chemicals. However, given the existence of precursor chemicals at these sites and the heightened concern that these chemicals could be targeted for theft, we believe that supplementary steps could be taken to reduce the possibility of site chemicals being diverted for the illegal production of methamphetamine. We found the following conditions that we believe management should consider taking actions to address:

- Personnel at the sites generally were not aware that certain chemicals could be the target of diversion for the illegal production of methamphetamine. No special procedures had been implemented for the control of these chemicals.



- For quantities of 55 gallons or less, chemical inventory procedures only required that the sites identify whether a chemical was still present, not its actual utilization, so potential diversion might not be readily identified.

We further determined that both Y-12 and ORNL procedures prohibit the use of purchase cards to procure hazardous materials, which would include most of the methamphetamine precursor chemicals. Emergency situations were the only exception to this prohibition. However, there were no specific controls in place to prevent a purchase card holder from improperly procuring hazardous materials.

In addition, while reviewing the policies and procedures applicable to procuring precursor chemicals, we learned that, contrary to site policy, the ORNL medical staff was using purchase cards to procure drugs, including narcotics, for site medical needs. Y-12's medical staff was also using purchase cards for this purpose; however, Y-12 policy was not clear regarding whether this was authorized.

The report includes several recommendations to Department management designed to enhance controls over methamphetamine precursor chemicals.

#### MANAGEMENT REACTION

Management concurred with our recommendations and identified appropriate 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 Science  
Manager, Y-12 Site Office  
Manager, Oak Ridge Operations Office  
Director, Policy and Internal Controls Management  
Director, Office of Program Liaison and Financial Analysis

# INTERNAL CONTROLS OVER METHAMPHETAMINE PRECURSOR CHEMICALS AT THE Y-12 NATIONAL SECURITY COMPLEX AND THE OAK RIDGE NATIONAL LABORATORY

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# Overview

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## **INTRODUCTION AND OBJECTIVE**

The Tennessee Ninth Judicial Drug Task Force requested support from the Office of Inspector General (OIG) for the Task Force's efforts to address the growing problem of illegal methamphetamine production in Tennessee. Specifically, the OIG was asked to evaluate the potential for certain chemicals to be stolen from Department of Energy (DOE) facilities in Oak Ridge, Tennessee, for possible use in the illicit production of methamphetamine. The Task Force has been aggressively trying to control the availability of methamphetamine precursor chemicals within its area of responsibility, which covers counties within the Appalachia-Cumberland Plateau region, which is where DOE's Oak Ridge facilities are located. Methamphetamine is recognized as the third greatest drug threat in Tennessee and is the most prevalent synthetic illegal drug manufactured in the United States.

The OIG initiated an inspection at two of the Department's major Oak Ridge facilities, the National Nuclear Security Administration (NNSA) Y-12 National Security Complex (Y-12) and the Oak Ridge National Laboratory (ORNL), to determine whether there were adequate internal controls over precursor chemicals that could be stolen for use in the illegal production of methamphetamine.

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**OBSERVATIONS AND CONCLUSIONS**

We did not find any indicators of theft of precursor chemicals from Y-12 or ORNL during our inspection, which included a review of a sample of the precursor chemicals at both locations. Also, we determined that the sites were adhering to Department requirements for controlling such chemicals. However, given the existence of precursor chemicals at these sites and the heightened concern that these chemicals could be targeted for theft, we believe that supplementary steps could be taken to reduce the possibility of site chemicals being diverted for the illegal production of methamphetamine. We found the following conditions that we believe management should consider taking actions to address:

- Personnel at the sites generally were not aware that certain chemicals could be the target of diversion for the illegal production of methamphetamine, so no special controls or procedures had been implemented for these chemicals.
- For quantities of 55 gallons or less, chemical inventory procedures only require that the sites identify whether a chemical was still present, not its actual utilization, so potential diversion might not be readily identified.

In addition, while reviewing the policies and procedures applicable to procuring precursor chemicals, we learned that, contrary to site policy, the ORNL medical staff is using purchase cards to procure drugs, including narcotics, for site medical needs. Y-12's medical staff is also using purchase cards for this purpose; however, the site policy is not clear regarding whether this is authorized. Also, although outside the scope of our review, we observed that the Y-12 system for ordering, picking up, and reconciling orders of narcotics lacks checks and balances.

We further determined that both Y-12 and ORNL have specific prohibitions against using purchase cards to procure hazardous materials, which would include most of the methamphetamine precursor chemicals, except in emergency situations. However, there are no specific controls in place to prevent a purchase card holder from improperly procuring such hazardous chemicals. To this end, ORNL officials identified instances to us where the policy had been violated.

## Details of Findings

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### BACKGROUND

There are a number of precursor chemicals used to produce methamphetamine. We looked at the methods used to purchase, receive, and dispose of such chemicals at Y-12 and ORNL. We narrowed our review to precursor chemicals that are not easily obtained or that are tedious to gather. For example, we included red phosphorous because the method commonly used to acquire it is to scrape it from the heads of matches, which is tedious and time consuming; hence, bulk holdings of this chemical can be an attractive target for theft. Other chemicals included in our review were potassium metal, anhydrous ammonia, pseudoephedrine, iodine, ether, and lithium metal.

Y-12 and ORNL are surrounded by perimeter fences, and access to the facilities requires some type of identification badge or proximity card. Over 8,000 Federal and contractor personnel have access to these facilities each day.

In discussions with an area law enforcement official, we were told that there have been no identified instances to date where employees from Y-12 or ORNL have been arrested in connection with illegal methamphetamine.

### AWARENESS

We determined that personnel at the sites generally were not aware that certain chemicals could be the target of diversion for the illegal production of methamphetamine. For instance, the individuals responsible for maintaining the chemical inventories at Y-12 and ORNL said that they were unaware that certain chemicals could be used in the production of methamphetamine. Therefore, no special controls or procedures had been implemented for these chemicals.

For example, during our inspection we physically reviewed controls at a laboratory building at ORNL. Over 1,000 employees have access to the building, and most of the laboratories are kept unlocked due to safety concerns. We found a sealed container labeled “red phosphorous” in an unlocked room. The container held 1.5 pounds of red phosphorous and was placed in the room awaiting disposal. We explained to an ORNL official that red phosphorous could be a target for diversion and use in manufacturing methamphetamine. When we returned to the laboratory over two months later, we found that the red phosphorous remained unsecured.

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According to an official from the Anderson County Sheriff's Office Drug Task Force, red phosphorous is very important to the "drug cook" and is quite difficult to obtain. He added that the amount the OIG discovered at ORNL would be extremely valuable on the "street" and, as such, should be closely controlled. We were advised by another law enforcement official that the local street value for ready-to-use red phosphorous is approximately \$90 per gram. Therefore, the estimated local street value of the 1.5 pounds of red phosphorous awaiting disposal is over \$61,000.

## **CHEMICAL TRACKING ISSUES**

For quantities of 55 gallons or less, chemical inventory procedures at Y-12 and ORNL only require that the sites track the presence of a chemical after initial receipt, not its actual utilization. The control requirement is to maintain records showing that the chemical is on-hand or gone. When the custodian notes that the chemical has been "consumed," it is generally presumed that it was used for legitimate purposes, so potential diversion might not be readily identified. We believe these controls could be strengthened.

For example, we observed that five containers (four 5-liter containers and one 40-liter container) of anhydrous ammonia were stored on a loading dock at Y-12. Anhydrous ammonia is a precursor chemical with a significant street value. Officials could provide no record of how much of the anhydrous ammonia had been used or remained in inventory. In the case of the 40-liter container, we were informed that the employee who had ordered it left for another position 12 years ago, and the container had remained on the loading dock since that time.

According to the official from the Anderson County Sheriff's Office Drug Task Force, most of the anhydrous ammonia found by his officers in connection with the illegal production of methamphetamine had been stolen. He said that because possession of anhydrous ammonia without a permit is illegal, it is more difficult to obtain and, therefore, is a major target for theft. The official added that the chemical's street value is currently \$250 per quart.

During our fieldwork, an official with the Y-12 Hazardous Materials Management Office advised us that, as a consequence of the issues we raised, a management assessment is now planned for the fourth quarter of fiscal year 2004 to review inventories of anhydrous ammonia and phosphorus. The official also indicated that as a result of the now limited commercial availability of iodine, this precursor chemical will be an additional item scrutinized in the future.



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**PURCHASE CARD  
PROCUREMENTS**

As part of our inspection, we reviewed the policies and procedures applicable to purchasing precursor chemicals. Since the precursor chemical pseudoephedrine is a drug, our review included the policies and procedures applicable to procuring drugs. We were informed by the ORNL and the Y-12 medical staffs that most of the drugs they utilize, including narcotics, are ordered using company purchase cards. We determined that the ORNL Small Purchase Card Program Policies and Procedures Manual states that drugs and controlled substances cannot be procured with a purchase card. The Y-12 Small Purchase Card Manual states that purchase cards are only to be used to procure “off-the-shelf commercial items.” ORNL officials could not provide documentation, such as a waiver, supporting the use of purchase cards to procure drugs. For Y-12, “off-the-shelf commercial items” was not defined, so it was unclear whether the medical staff was authorized to procure drugs, including narcotics, using purchase cards. Subsequent to our raising this issue, we were advised that the Y-12 and ORNL purchase card managers are in the process of addressing these situations.

Although not directly related to precursor chemicals, we observed that one person is responsible for placing narcotic orders for the Y-12 medical clinic, as well as picking up and reconciling the orders. We found no indicators of abuse; however, we believe that the process could be strengthened by improving checks and balances. We discussed our concern with the Y-12 purchase card manager and were advised that Y-12 would evaluate whether there should be a separation of duties.

We also determined that both Y-12 and ORNL have specific prohibitions against using purchase cards to procure hazardous materials, which would include most of the methamphetamine precursor chemicals, except in emergency situations. However, there are no specific controls in place to prevent a purchase card holder from improperly procuring such hazardous chemicals. The onus is primarily on the purchase card holder’s manager, who may not be familiar with methamphetamine precursor chemicals, to ensure purchases are legitimate. During our review, officials identified to us three instances at ORNL where hazardous materials were procured using a purchase card when no emergency existed. Although these instances did not involve precursor chemicals, they point to the ease with which a purchase card can be used to procure such materials.

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**RECOMMENDATIONS**

We recommend that the Managers, Y-12 Site Office and Oak Ridge Operations Office:

1. Enhance awareness among Federal and contractor site personnel regarding methamphetamine precursor chemicals;
2. Consider implementing additional internal controls for methamphetamine precursor chemicals; and
3. Determine whether it is appropriate for purchase cards to be used to procure drugs, including narcotics. Also, determine whether additional actions are appropriate to limit the purchase of precursor chemicals with purchase cards.

We recommend that the Manager, Y-12 Site Office:

4. Consider implementing additional checks and balances in the process for purchasing narcotics.

**MANAGEMENT  
COMMENTS**

Management concurred with all the recommendations. We have included management's comments in their entirety as Appendix B.

**INSPECTOR  
COMMENTS**

Management's comments were responsive to the recommendations.

## Appendix A

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### **SCOPE AND METHODOLOGY**

We initiated an inspection to determine whether Y-12 and ORNL have adequate internal controls over selected chemicals that might be the target of diversion for the illegal production of methamphetamine. We identified and reviewed applicable Federal and DOE regulations and conducted a limited physical inspection of site locations containing selected chemicals. We interviewed DOE and contractor officials and reviewed key documents applicable to the inspection. We coordinated with officials from the Tennessee Ninth Judicial Drug Task Force, Kingston, TN, and the Anderson County Sheriff's Department Drug Task Force, Clinton, TN. The OIG Office of Investigations facilitated initial coordination with the Tennessee Ninth Judicial Drug Task Force. We reviewed a random sampling of the selected chemicals identified through the Hazardous Materials Information System at Y-12 and ORNL. For inventory in stock, we looked at such areas as ease of access to the chemical and ease of removal from the site.

Also, pursuant to the "Government Performance and Results Act of 1993," we reviewed both Y-12's and ORNL's performance measurement processes as they relate to management controls over hazardous chemicals.

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

# Appendix B

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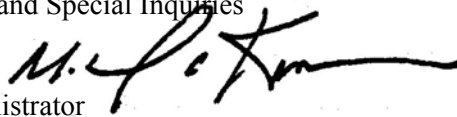


Department of Energy  
National Nuclear Security Administration  
Washington, DC 20585



MAY 07 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 Precursor  
Chemicals at Y-12

The National Nuclear Security Administration (NNSA) appreciates the opportunity to have reviewed the draft inspection report, "Internal Controls Over Methamphetamine Precursor Chemicals at the Y-12 National Security Complex and the Oak Ridge National Laboratory." NNSA is aware that this draft report was submitted to the Manager, Oak Ridge Operations Office for their comments. Therefore these comments are NNSA's alone.

We understand that the inspection was conducted at the request of the Tennessee Ninth Judicial Drug Task Force to determine whether there were adequate internal controls over precursor chemicals that could be stolen for the illegal production of methamphetamine. We appreciate the Inspector General (IG) acknowledging that there is no indication of theft of precursor chemicals and that we are adhering to the requirements for controlling such chemicals. We agree that we can always do better, therefore NNSA provided a copy of the draft inspection report to its complex as a "Lessons Learned" document.

Our specific comments to the recommendations follow:

Recommendation 1 – related to enhanced awareness of site personnel regarding the chemicals

Concur

Individuals in the Hazardous Materials Management Program have been made aware of the precursor materials that are not readily available through retail outlets that may be targets for a diversion. We will be

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prudent, however, in providing broader knowledge to site personnel other than those that really require that knowledge.

Recommendation 2 - related to the implementation of additional controls for precursor chemicals.

Concur

The site contractor's environmental, safety and health office will evaluate the feasibility of implementing additional internal controls for the subject precursor materials. This evaluation will be completed by June 30, 2004. As noted in the report, a Management Assessment has been scheduled for the environmental, safety and health, medical department, and procurement office to identify the precursor chemicals and then to set limits and controls. These controls will be implemented by June 30.

Recommendation 3 - related to the appropriateness of purchase cards being used to procure drugs.

Concur

The BWXT Y-12 Medical Department was advised in 1997 by Procurement to use the Small Purchase Card (SPC) system to purchase small quantities of medication. The IG report, page 2, states "...the site policy is not clear regarding whether this is authorized." The Small Purchase Card Manual Y30-512INS) states, "the Small Purchase Card is a preferred method over small cash purchases of procurements \$2,500 or less..." The Small Purchase Card is not be used for Hazardous or Radioactive Materials. Hazardous Materials are listed in Appendix A of the procedure. There is no mention of medications on this list. All purchases by a cardholder are monitored monthly by an Approving Manager.

BWXT Y-12 has taken action to block the credit card code for medical supplies for all cardholders except Y-12 Medical personnel. In addition, the next revision of the procedure for the Y-12 credit card program will specify that medical supplies can only be purchased by Y-12 Medical cardholders. In conjunction with the Medical Department, Procurement will establish quantities, limits, and controls for precursor chemicals including narcotics by June 30, 2004. Procurement will then revise the Small Purchase-Card procedure to implement the additional actions.

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Recommendation 4 - related to the implementation of checks and balances in the process for purchasing narcotics.

Concur

Y-12 considers the following actions as responsive to the recommendation. (1) A designated staff nurse is responsible for placing an order for narcotics either through the designated medical supplies organization or a local pharmacy after being approved by the Assistant Medical Director for Healthcare Administration; (2) A designated staff nurse will pick up the narcotic(s) from the local pharmacy or will receive the narcotic(s) via direct shipment from the designated medical supplies organization. The designated staff nurse, along with the Nursing Supervisor (Two Person Rule), confirms the order and places it in the narcotics cabinet; (3) a second nurse conducts a narcotic inventory daily each morning; (4) the Nursing Supervisor and Medical Director perform a mandated audit of narcotics annually confirming the number and type of narcotics ordered, received, and dispensed for the given year; and, (5) disposal of narcotics is witnessed and documented by federal personnel.

Should you have any questions related to this response, please contact Richard Speidel, Director, Policy and Internal Controls Management. He may be contacted on 202-586-5009.

cc: William J. Brumley, Manager, Y-12 Site Office  
Robert Braden, Senior Procurement Executive

# Memorandum

DATE: April 30, 2004

REPLY TO

ATTN OF: FM-733:Miller

SUBJECT: **RESPONSE TO DRAFT INSPECTOR GENERAL REPORT**

TO: Alfred K. Walter, Acting Assistant Inspector General for Inspections and Special Inquiries,  
IG-40/FORS

This is in response to your April 19, 2004, memorandum and attached draft report entitled "Internal Controls Over Methamphetamine Precursor Chemicals at the Y-12 National Security Complex and the Oak Ridge National Laboratory." The attached response reflects the comments of Oak Ridge Operations Office and UT-Battelle, the Oak Ridge National Laboratory contractor.

If you have any questions, please contact me at (865) 576-4446, or Jeanette Miller at (865) 576-2654.

  
Judith M. Penry  
Chief Financial Officer

Attachment

cc w/attachment:

J. S. Branton, UT-Battelle  
R. L. Orbach, SC-1/FORS  
M. L. Lewis, ME-100/FORS  
D. H. Sumner, IG-43  
M. G. Branton, LM-10, ORO

**OAK RIDGE OPERATIONS OFFICE COMMENTS**  
**IG DRAFT INSPECTION REPORT**  
**“INTERNAL CONTROLS OVER METHAMPHETAMINE PRECURSOR**  
**CHEMICALS AT THE Y-12 NATIONAL SECURITY COMPLEX AND THE**  
**OAK RIDGE NATIONAL LABORATORY”**

Oak Ridge Operations Office concurs in the report recommendations and is supportive of efforts to reduce the illegal production of methamphetamine.

UT-Battelle, the Oak Ridge National Laboratory (ORNL) contractor, will take the following actions as a result of this inspection:

1. Initiate an awareness campaign for ORNL personnel on the methamphetamine problem in our community and the identification of precursor chemicals available at the laboratory. This will be accomplished through the Safety 1<sup>st</sup> program with an outside speaker from the Roane County Drug Task Force.
2. Review current laboratory purchasing controls for procuring precursor chemicals to determine if additional information or controls are necessary.
3. Review current laboratory inventory controls for precursor chemicals to determine if additional inventory and management oversight is necessary for this category of chemicals.
4. Consider using a waste management tracking system to maintain control of precursor chemicals that are moved from a product condition under the hazardous chemical inventory system to waste status.

These actions are targeted to be completed by December 31, 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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