U.S. Department of Energy
Office of Inspector General
Office of Inspections

Inspection Report

Oversight of Shock Sensitive Chemicals at the Department's Ames Laboratory

DOE/IG-0615

August 2003

Department of Energy

Washington, DC 20585

August 11, 2003

MEMORANDUM FOR THE SECRETARY

FROM: Gregory H. Friedman
Inspector General

SUBJECT: INFORMATION: Inspection Report on "Oversight of Shock Sensitive Chemicals at the Department's Ames Laboratory"

BACKGROUND

Shock sensitive chemicals, which are used throughout the Department of Energy (DOE) complex, have the potential to undergo a rapid reaction that can release relatively large amounts of energy that may be violent enough to produce an explosive detonation. Therefore, properly managing them is critical to ensuring the safety of personnel, as well as the protection of DOE assets. The U.S. Chemical Safety and Hazard Investigation Board reported that reactive chemicals, which include shock sensitive chemicals, have become a significant safety problem. According to the Board, between 1980 and 2002 there were 167 incidents nationally involving these chemicals that resulted in 108 fatalities. Consequently, the Office of Inspector General (OIG) conducted a review to determine the adequacy of management controls over shock sensitive chemicals at the Ames Laboratory.

RESULTS OF INSPECTION

We concluded that, although Ames has documented requirements in place for controlling shock sensitive chemicals, implementation shortcomings have resulted in shock sensitive chemicals not being properly controlled, raising concerns with respect to personnel safety and the protection of DOE assets. Specifically, we found that:

- Ames has not implemented a life cycle management system to ensure the proper identification, labeling, tracking, storage, handling, and disposition of shock sensitive chemicals; and

- Ames has a safety performance measure broad enough to encompass management controls over shock sensitive chemicals; however, associated assessment procedures for the performance measure do not specifically address shock sensitive chemicals.

We also determined that the Department does not have a standard definition or listing of shock sensitive chemicals. Consequently, there is inconsistent handling among DOE sites of chemicals that may be shock sensitive.

We recommended that the Assistant Secretary for Environment, Safety and Health (1) develop and implement a Departmental definition and/or list of shock sensitive chemicals; and

(2) evaluate whether Department-wide standards for controlling shock sensitive chemicals should be developed and then appropriately implement the results of that evaluation.

We also recommended that the Manager of the Chicago Operations Office ensure that (1) a review is conducted at Ames to ensure all shock sensitive chemicals currently on-site are properly controlled, (2) a life cycle management system is implemented at Ames to properly control shock sensitive chemicals, and (3) Ames incorporates an assessment of whether shock sensitive chemicals are being properly controlled as part of its safety walk-through process.

MANAGEMENT REACTION

In comments on our draft report, the Assistant Secretary for Environment, Safety and Health agreed that the management of shock sensitive chemicals needs to be enhanced. She also provided alternatives to the recommendations addressed to her. While the OIG has not replaced its recommendations with those identified by the Assistant Secretary because of their orientation towards identifying specific corrective actions, the actions identified appear to be responsive to the intent of our recommendations and, when implemented, should address our concerns.

The Manager of the Chicago Operations Office concurred with our recommendations to him and identified a number of corrective actions that have been taken that appear to address our recommendations.

Attachment

cc: Deputy Secretary
Under Secretary for Energy, Science and Environment
Assistant Secretary for Environment, Safety and Health
Manager, Chicago Operations Office

OVERSIGHT OF SHOCK SENSITIVE CHEMICALS AT THE DEPARTMENT'S AMES LABORATORY

TABLE OF CONTENTS

Overview

INTRODUCTION AND OBJECTIVE

The Office of Inspector General initiated a review to determine the adequacy of management controls over shock sensitive chemicals at the Department of Energy's (DOE's) Ames Laboratory (Ames), which is located in Iowa. Ames is administered by DOE's Chicago Operations Office and is managed and operated by Iowa State University (ISU) under contract with DOE.

Proper management of shock sensitive chemicals, which are used throughout the DOE complex, is critical to ensuring the safety of personnel and the protection of DOE assets. Shock sensitive chemicals have the potential to undergo a rapid reaction that can release relatively large amounts of energy that may be violent enough to produce an explosive detonation. The U.S. Chemical Safety and Hazard Investigation Board reported that reactive chemicals, which include shock sensitive chemicals, have become a significant safety problem. According to the Board, between 1980 and 2002 there were 167 incidents nationally involving these chemicals that resulted in 108 fatalities. Nearly 30 percent of these incidents occurred at storage, handling, and consumer sites.

The objective of this inspection was to determine whether Ames has an adequate system to ensure the proper identification, labeling, tracking, storage, handling, and disposition of shock sensitive chemicals. Also, pursuant to the Government Performance and Results Act of 1993 (GPRA), we reviewed Ames' performance measurement process as it relates to Ames' management controls over shock sensitive chemicals.

OBSERVATIONS AND CONCLUSIONS

We concluded that, although Ames has adopted reasonable documented requirements for management of shock sensitive chemicals, implementation shortcomings have resulted in shock sensitive chemicals not being properly controlled, raising concerns with respect to personnel safety and the protection of DOE assets. Specifically, we found that:

- Ames has not implemented a life cycle management system to ensure the proper identification, labeling, tracking, storage, handling, and disposition of shock sensitive chemicals; and

- Ames has a safety performance measure broad enough to encompass management controls over shock sensitive chemicals; however, associated assessment procedures for the performance measure do not specifically address shock sensitive chemicals.

We also determined that the Department does not have a standard definition or listing of shock sensitive chemicals. Consequently, there is inconsistent handling among DOE sites of chemicals that may be shock sensitive.

Lack of Management Oversight System

We determined that, although Ames has documented requirements in place for controlling shock sensitive chemicals, Ames has not implemented a life cycle management system to ensure the proper identification, labeling, tracking, storage, handling, and disposition of shock sensitive chemicals. Title 29, Code of Federal Regulations (CFR), Part 1910.1450, "Occupational exposure to hazardous chemicals in laboratories," states that a chemical hygiene program shall be developed at facilities where hazardous chemicals are used and control measures shall be implemented to reduce employee exposure. The CFR also includes guidance derived from an industry standard pertaining to shock sensitive chemicals, which provides that laboratories should maintain quantities for immediate use or less than a 3- to 6-month supply. Further, the CFR states that such chemicals should be labeled, dated, inventoried, and disposed of prior to their expiration date.

The effects and force of a detonation involving a shock sensitive chemical varies with the type of chemical. Pursuant to a requirement in the CFR, Ames prepared a Chemical Hygiene Plan (CHP), and it provides specific guidance for managing different types of shock sensitive chemicals. The Ames CHP notes that certain chemicals can form peroxides when exposed to air and can explode if subjected to heat, friction, or impact. The Ames CHP states that these chemicals should be dated upon receipt and opening and that they should be disposed of within 6 months of opening or 12 months of purchase. The Ames CHP states that certain chemicals form severe peroxide hazards in storage when exposed to air and should be discarded within 3 months. It further states that other chemicals are inherently explosive, but are relatively safe if stored using adequate precautions. For example, picric acid can detonate with the same effects as an equal amount of dynamite, but it is relatively safe when stored as a water-wet paste.

We identified 46 laboratories or chemical storage rooms at Ames that contained shock sensitive chemicals and reviewed the shock sensitive chemicals stored in 9 of them. Our sampling found that the majority of the chemicals were not marked with the dates that the chemicals were received and, where applicable, opened. Most of the chemical containers were partially empty, indicating that they probably had been opened at some time. We determined that the few chemical containers that bore dates of receipt were beyond the recommended disposal date. Some chemicals had purchase and/or expiration dates that were over 10 years prior to the time of our fieldwork. For example, we found a chemical container with

an expiration date of April 1992, and the chemical contained therein was characterized by the Ames CHP as belonging in the 3-month disposition category. We also identified two questionable containers of picric acid. As previously stated, picric acid is considered to be safe if stored as a water-wet paste. However, one of the two containers bore an expiration date of October 1996, and the other had an expiration date of October 1999. For safety purposes, we did not open either container to confirm the presence of water because the friction of removing the cap potentially could have caused the chemical to detonate if it had deteriorated to a nonwater-wet paste state.

We learned that issues regarding controls over shock sensitive chemicals at Ames have been raised previously. A 1992 DOE assessment at Ames found that several shock sensitive chemicals had not been labeled with the date of receipt or opening. In addition, the assessment noted that a 1989 Environmental Survey Preliminary Report found inadequate labeling, tracking, storage, and disposal of peroxide forming chemicals.

Performance Measurement

As part of implementing GPRA, the Department is required to establish program goals and subsequently measure performance against those goals. We found that the contract between ISU and DOE contains a performance measure that includes provisions for an annual safety walk-through. However, our review of the safety walk-through procedures disclosed that the safe storage and handling of shock sensitive chemicals is not specifically included. Given the serious potential consequences associated with the improper management of shock sensitive chemicals, we believe the procedures should be modified to specifically include a review of internal controls over shock sensitive chemicals.

Definition of Shock Sensitive Chemicals

We determined that there is no standardized Departmental definition or list of shock sensitive chemicals. We reviewed shock sensitive chemical storage and handling procedures from three Department facilities. We noted that each site's procedures contained a list of shock sensitive chemicals and that these lists were inconsistent. For example, a chemical identified as shock sensitive by one facility was not being handled as shock sensitive by Ames. We believe that the dangers associated with shock sensitive chemicals necessitate their accurate and consistent identification throughout the Department complex.

RECOMMENDATIONS

We recommend that the Assistant Secretary for Environment, Safety and Health:

1. Develop and implement a Departmental definition and/or list of shock sensitive chemicals.

2. Evaluate whether Department-wide standards for the identification, labeling, tracking, handling, storage, and disposal of shock sensitive chemicals should be developed, and appropriately implement the results of this evaluation.

We recommend that the Manager, Chicago Operations Office ensure that:

3. A review is conducted at Ames to ensure the proper identification, labeling, tracking, handling, storage, and disposal of all shock sensitive chemicals currently on-site.

4. A life cycle management system is implemented at Ames to properly identify, label, track, handle, store, and dispose of shock sensitive chemicals.

5. Ames incorporates an assessment of whether shock sensitive chemicals are being properly identified, labeled, tracked, handled, stored, and disposed of as part of its safety walk-through process.

MANAGEMENT AND INSPECTOR COMMENTS

In comments on our draft report, the Assistant Secretary for Environment, Safety and Health agreed that the management of shock sensitive chemicals needs to be enhanced. She also provided alternatives to recommendations 1 and 2. Regarding recommendation 1, the following were provided:

- The Office of Safety and Health should produce and publish a Safety Notice on the subject of shock sensitive/reactive chemicals. This Notice will be distributed across the complex via an electronic mail broadcast and [provide] direction to program offices.

- Revise appropriate documents to include a section on shock sensitive chemicals and provide a list of chemicals that are recognized as being shock sensitive.

- A future Chemical Management Workshop should make the topic of shock sensitive chemicals a focus for the workshop.

Regarding recommendation 2, the following were provided:

- Require widespread dissemination to the field offices for the use of the Chemical Safety Topical Committee product, the DOE chemical management handbooks, and the upcoming volume 3 of the handbook ("A Roadmap to Chemical User Safety and Health Requirements," which is a consolidation of safety and health requirements applicable to chemical-related work at DOE).

- Continue to stay abreast of developments in the area of reactive chemical management being led by the Chemical Safety Board with the involvement of the Occupational Safety and Health Administration, the Environmental Protection Agency, and several industry trade associations, and make relevant information available to the DOE community through the chemical management web page, periodic safety bulletins, and direction to program offices.

While the OIG has not replaced its recommendations with those identified by the Office of Environment, Safety and Health (EH) because of their orientation towards identifying specific corrective actions, the actions identified by EH appear to be responsive to the intent of our recommendations and, when implemented, should address our concerns.

The Manager of the Chicago Operations Office (CHO) concurred with recommendations 3, 4, and 5, and identified what appear to be appropriate corrective actions.

The verbatim comments provided by EH and CHO are included as Appendix A.

United States Government **Department of Energy**

memorandum

DATE: JUN 23 2003

REPLY TO
ATTN OF: Office of Worker Protection Policy and Programs:Bill McArthur:3-9674

SUBJECT: RESPONSE TO DRAFT INSPECTION REPORT, *OVERSIGHT OF SHOCK-SENSITIVE CHEMICALS AT THE DEPARTMENT'S AMES LABORATORY*

TO: Christopher R. Sharpley, IG-40

Thank you for the opportunity to respond to the recommended actions in your Draft Inspection Report, *Oversight of Shock-Sensitive Chemicals at the Department's Ames Laboratory*.

I am very aware of the importance of good chemical management and the need to assess the hazards of chemicals which are shock sensitive. The Office of Safety and Health, in cooperation with the Energy Facility Contractors Group, sponsors and hosts an annual Chemical Safety Workshop. These workshops provide a forum for the Department of Energy (DOE) complex to exchange lessons learned and best practices on the safe management of chemicals and has covered the topic of shock-sensitive chemicals for the past 3 years. As your review identified, appropriate actions are still not fully implemented. Therefore, greater awareness and direction needs to be provided to the DOE Field Offices and contractors to enhance the management of shock-sensitive chemicals.

Attached, in response to your memorandum dated June 5, 2003, and the subject draft inspection report, are my comments on recommended actions 1 and 2. For additional information, please contact Dr. Bill McArthur, Office of Worker Protection Policy and Programs, on 3-9674 (or bill.mcarthur@eh.doe.gov).

Beverly A. Cook
Assistant Secretary
Environment, Safety and Health

Attachment

Response to Office of Inspector General Recommendations
for the Assistant Secretary, Environment, Safety and Health
on the June 2003 Draft Inspection Report,
Oversight of Shock-Sensitive Chemicals at the Department's Ames Laboratory

Recommendation 1: Develop and implement a uniform departmental definition and list of shock-sensitive chemicals.

Given the available knowledge and technology regarding the identification of shock-sensitive chemicals, it is currently not feasible for the Department of Energy (DOE) to develop a specific definition or a list of shock-sensitive chemicals.

There is currently no consensus in the scientific community as to the exact definition of and the criteria for determining a shock-sensitive chemical. Existing lists of chemicals that may be shock-sensitive generally include the caveat that the list is only to be used as a guide, and not all shock-sensitive materials are included. Additionally, there is a great deal of uncertainty regarding the hazards and safe handling of peroxidizable organic chemicals. This is due, in part, to the fact that no definitive data are available about the concentration at which these peroxides pose a hazard. Several common peroxide detection methods may not detect all types of unstable peroxides. Similarly, some common deoxidation procedures may not remove all types of unstable peroxides.

The topic of shock-sensitive/reactive chemicals has been a major topic of the annual Chemical Safety Workshop hosted by the Office of Safety and Health. Presentations, training sessions, and discussions of this topic were presented by Federal, industry, and professional organizations including DOE Federal and contractor representatives, the Chemical Safety Board (CSB), and the Center for Chemical Process Safety. In 2002 a working group (Methods for Addressing the Hazards of Shock-Sensitive, Time-Sensitive, and Reactive Chemicals) was formed to address this issue. This group, composed of Federal and contractor staff from across the complex, will examine the issue and present their findings and conclusions during the 2003 workshop.

A list of past workshop presentations on this subject is given below.

Joint DOE/Energy Facility Contractors Group (EFCOG) Chemical Management 2000 Workshop (October 24-26, 2000)

- *Identification and Management of Shock-Sensitive/Time-Sensitive Reactive Chemicals* (Dave Quigley, Idaho National Engineering and Environmental Laboratory; David Blair, Environmental and Technical Specialists, Inc.; Lydia Boada-Clista, DOE Ohio Field Office)

Joint DOE/EFCOG Chemical Management 2001 Workshop (October 23-25, 2001)

- Reactive and Toxic Chemical Hazards--A Management Challenge, *Evaluating Chemical Reactivity Hazards* (Scott Berger, American Institute of Chemical Engineers-Center for Chemical Process Safety)
- *Dealing with Potentially Shock-Sensitive Chemical Wastes B A Status Report of Oak Ridge Chemical Deactivation/Processing Activities* (Charlie Satterwhite and James Bailey, Bechtel Jacobs Company/Oak Ridge)

Joint DOE/EFCOG Chemical Management 2002 Workshop (November 5-7, 2002);
TECHNICAL SESSION - *Enhancing Controls for Unstable and Reactive Chemical Hazards*

- *Managing Potentially Shock-Sensitive Legacy Chemicals: An Update on Oak Ridge Chemical Deactivation/Processing Activities* (James Bailey, Bechtel Jacobs Company/ Oak Ridge)

- *A Programmatic Approach to Managing Unstable, Reactive, and Toxic Chemicals* (Fred Simmons, Westinghouse Savannah River Company)

- *Identification and Management of Shock-Sensitive and Reactive Chemicals* (Lydia Boada-Clista, DOE Ohio Field Office)

- *CSB=s Reactive Chemical Hazard Investigations B Lessons Learned and Recommendations for Improving Reactive Hazard Management* (John Murphy, Chemical Safety Board)

- *A Comprehensive Approach to Managing Reactive Chemical Hazards* (Scott Berger, American Institute of Chemical Engineers-Center for Chemical Process Safety)

Alternate Recommendations:

- The Office of Safety and Health should produce and publish a Safety Notice on the subject of shock-sensitive/reactive chemicals. This Notice will be distributed across the complex via an electronic mail broadcast and direction to program offices.

- Revise appropriate documents to include a section on shock-sensitive chemicals and provide a list of chemicals that are recognized as being shock sensitive.

- A future Chemical Management Workshop should make the topic of shock-sensitive chemicals a focus for the workshop.

Recommendation 2: Evaluate whether Department-wide standards for the identification, labeling, tracking, handling, storage, and disposal of shock-sensitive chemicals should be developed and appropriately implement the results of this evaluation.

The Office of Safety and Health has published a two-volume handbook, *Chemical Management.* Volume 1 provides information for assessing chemical hazard management within the context of the site's Integrated Management System. Chapters in this handbook include hazard analysis, acquisition, inventory and tracking, storage, control of chemical hazards, and disposal. While not specific to shock-sensitive chemicals, the recommendations in this volume should be applied to all chemicals. Volume 2 presents site approaches to chemical programs implementation from across the DOE complex and the chemical industry.

These documents present approaches to chemical management, which should be applied to all chemicals that include shock-sensitive as well as other hazardous chemicals.

Alternate Recommendations:

- Require widespread dissemination to the field offices for the use of the Chemical Safety Topical Committee product, the DOE chemical management handbooks, and the upcoming volume 3 of the handbook (*A Roadmap to Chemical User Safety and Health Requirements*, which is a consolidation of safety and health requirements applicable to chemical-related work at DOE).

- Continue to stay abreast of developments in the area of reactive chemical management being led by the Chemical Safety Board with the involvement of the Occupational Safety and Health Administration, the Environmental Protection Agency, and several industry trade associations, and make relevant information available to the DOE community through the chemical management web page, periodic safety bulletins, and direction to program offices.

Department of Energy
Chicago Operations Office
9800 South Cass Avenue
Argonne, Illinois 60439

JUN 3 0 2003

Christopher R. Sharpley
Acting Assistant Inspector General
for Inspections
IG-40 FORS

SUBJECT: COMMENTS ON DRAFT INSPECTION REPORT ON "OVERSIGHT OF SHOCK SENSITIVE CHEMICALS AT AMES LABORATORY" DATED JUNE 5, 2003

Reference: Memorandum, C. Sharpley to Assistant Secretary for Environment, Safety and Health, and Manager, Chicago Operations Office, dated June 5, 2003, Subject: Draft Inspection Report on "Oversight of Shock Sensitive Chemicals at the Department's Ames Laboratory"

Thank you for the opportunity to review the referenced draft report and offer feedback. The audit conducted from January 28-30, 2003 identified serious deficiencies in Ames Laboratory's implementation of their documented procedures for shock sensitive/peroxide forming chemicals which have since been corrected. Additional control measures have been added to the chemical inventory and tracking procedures, including a life cycle management system. Overall, we find the report conclusions to be appropriate and have offered only two comments for your consideration.

Due to hazard potential associated with the improperly labeled and stored chemicals, corrective actions were implemented immediately upon identification. These corrective actions should be effective in preventing further issues with regard to improper labeling and storage of the date sensitive chemicals. Immediately following the January audit, the Laboratory, in consultation with the Ames Area Office, conducted an inspection of the chemical holdings in all Ames Laboratory occupied space. This inspection team included experts in chemical safety from Ames Laboratory, from Iowa State University, and the Department of Energy (DOE) Facility Representative. A qualified vendor was used to assist with removal and disposal of the improperly labeled/stored chemicals identified as a result of both the Inspector General audit and the broader follow-on inspection.

The Ames Area Office has participated in subsequent monthly safety walk-throughs of various laboratories with chemical inventories and has found the new controls to be effective to date. Additional DOE oversight will continue to monitor the effectiveness of the corrective actions implemented as a result of this audit.

Recommendations

I fully support and concur on each of the three recommendations (3, 4, and 5) addressed to the Manager, Chicago Operations Office. Please note that for recommendation 5 "ISU" should be changed to "Ames". Corrective actions have been implemented as follows:

Recommendation 3: The Laboratory has completed a review of Ames chemical storage to ensure the proper identification, labeling, tracking, handling, storage, and disposal of peroxide-forming chemicals. This action was completed February 19, 2003. The Ames Area Office participated in the review and has been in communication with the Laboratory

on the management of shock sensitive/peroxide forming chemicals since the completion of the IG audit. They have participated in the development of corrective actions including the implementation of a life cycle management system. The Ames Area Office will continue to monitor the Laboratory's management practices via walkthroughs and surveillance activities.

Recommendation 4: Ames Laboratory has devised and implemented a life cycle management system for the management of shock sensitive/peroxide forming chemicals. This system includes the identification of materials and ensures disposal prior to expiration dates. A site-wide label for peroxide forming chemicals was developed and implemented February 19, 2003.

Recommendation 5: Note that for this recommendation "ISU" should be replaced by "Ames". As stated above, the Laboratory had implemented a life cycle management system for the management of these chemicals. The Laboratory's Independent Walk Through Program had been modified to include an emphasis on time-sensitive chemicals, effective February 2003. Additionally, safety personnel are conducting quarterly inspections of Laboratory space to assure the appropriate management of shock sensitive/peroxide forming chemicals, effective June 2003.

Comments on Observations and Conclusions

1) During the audit closeout the Ames Area Office and the Laboratory understood that the IG audit included positive observations and conclusions regarding documented requirements and training. Audit recommendations and further follow-on review by the Laboratory did not identify particular issues with these areas. For completeness, two new bullets stating these observations and conclusions are requested to be included in the report:

- Ames has adopted reasonable documented requirements for management of shock-sensitive chemicals, although a significant number of examples were found of containers that were not properly labeled.
- Ames researcher staff has an understanding of the special precautions for handling and storage of shock-sensitive chemicals, supported by chemical hygiene training.

2) The first sentence in first paragraph implies that Ames has not implemented a chemical management system. A more accurate statement would be:

> "We determined that the chemical management system implemented at Ames does not effectively ensure the proper identification, labeling, tracking, storage, handling, and disposition of shock sensitive chemicals."

If you have any questions in regard to this matter, please contact Roxanne Purucker, Ames Area Office Manager, at 630-252-2096.

Marvin E. Gunn, Jr.
Manager

cc: M. Johnson, SC-3, FORS, w/o encl.
K. Coates, SC-62, GTN, w/o encl.

Appendix B

SCOPE AND METHODOLOGY

We reviewed the management control system for shock sensitive chemicals at the Department's Ames Laboratory. The inspection fieldwork was conducted primarily during January and February 2003. We identified and reviewed applicable Federal and DOE regulations and other key documents applicable to the inspection. We interviewed Federal and contractor staff assigned to DOE Headquarters, the Chicago Operations Office, and the Ames Laboratory. We conducted a physical inspection of facilities at Ames. This inspection was conducted in accordance with the "Quality Standards for Inspections" issued by the President's Council on Integrity and Efficiency.

IG Report No. DOE/IG-0615

CUSTOMER RESPONSE FORM

The Office of Inspector General has a continuing interest in improving the usefulness of its products. We wish to make our reports as responsive as possible to our customers' requirements, and, therefore, ask that you consider sharing your thoughts with us. On the back of this form, you may suggest improvements to enhance the effectiveness of future reports. Please include answers to the following questions if they are applicable to you:

1. What additional background information about the selection, scheduling, scope, or procedures of the inspection would have been helpful to the reader in understanding this report?

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.

Name _____ Date _____

Telephone _____ Organization _____

When you have completed this form, you may telefax it to the Office of Inspector General at (202) 586-0948, or you may mail it to:

Office of Inspector General (IG-1)
Department of Energy
Washington, DC 20585

ATTN: Customer Relations

If you wish to discuss this report or your comments with a staff member of the Office of Inspector General, please contact Wilma Slaughter at (202) 586-1924.

The Office of Inspector General wants to make the distribution of its reports as customer friendly and cost effective as possible. Therefore, this report will be available electronically through the Internet at the following address:

U.S. Department of Energy Office of Inspector General Home Page
http://www.ig.doe.gov

Your comments would be appreciated and can be provided on the Customer Response Form attached to the report.