

# Memorandum

DATE: April 19, 2004

Audit Report Number: OAS-L-04-14

REPLY TO  
ATTN OF: IG-30

SUBJECT: Review of Selected Issues Pertaining to Vapor Inhalation Allegations at the Hanford Site

TO: Assistant Secretary for Environmental Management

## INTRODUCTION AND OBJECTIVE

In May 2003, the Office of Inspector General (OIG) initiated a Department-wide audit addressing whether the Department's Computerized Accident/Incident Reporting System (CAIRS) contained accurate data. During the course of this audit, the OIG became aware of concerns regarding safety and health matters at the Hanford Site. At the request of the Secretary of Energy, the OIG subsequently began a criminal investigation into related allegations publicized in a September 2003 report issued by the Government Accountability Project (GAP).

In addition to the investigation, we chose, as part of our on-going review, to perform a limited review of accident and injury records to determine whether the Hanford contractors had correctly classified 45 chemical vapor exposure incidents cited in Appendix B of GAP's report. Our review involved the examination of data drawn from employee case files and contractor maintained occupational injury and illness files.

The OIG continues to investigate allegations of fraud at Hanford as well as any other concerns that may be identified as potential criminal violations. Accordingly, the results presented in this report are qualified pending completion of the investigation. Separately, the Department's Office of Independent Oversight and Performance Assurance and other external groups are also conducting reviews of related issues.

## CONCLUSIONS AND OBSERVATIONS

We concluded that Hanford contractors had, for the most part, correctly classified the chemical vapor exposure cases reported in Appendix B of the GAP report. Of the 45 items examined:

- Contractors appropriately classified 35 of the cases, while two exposures were incorrectly classified as non-recordable;
- Four were not discrete incidents and duplicated other cases, thus were excluded from the universe of cases we reviewed; and,
- We were unable to obtain sufficient information as to the existence and/or nature of four other purported exposures and were unable to reach a conclusion regarding those.

To determine if the cases were correctly classified, we used rules promulgated by the Occupational Safety and Health Administration (OSHA). The OSHA definition of "recordable" incidents includes work-related injuries and illnesses that result in medical treatment beyond first aid, days away from work, restricted work activity or job transfer, loss of consciousness, cancer, chronic irreversible disease, and death. Recordable injuries and illness are required to be logged onto a *Log of Work-Related Injuries and Illnesses* (Form 300) – also known as OSHA 300 logs. Based on our review of available documentation, we found the contractors' reporting for 35 of the cases to be consistent with OSHA guidance. Specifically:

- Three cases were "recordable" cases and were appropriately entered into the contractor's OSHA 300 logs;
- Twenty-nine cases were appropriately treated as "report only" or first-aid cases;
- One case was not recorded as either a first aid case or recordable injury because the individual never reported to the medical unit; and,
- Two of the cases were properly classified as non-recordable because the reported symptoms were considered to be non-work related.

Two of the exposure incidents were incorrectly classified as non-recordable. For one of the cases, the contractor officials initially classified the case as first aid because the treatment that was provided did not meet the OSHA requirements for recordability. While work restrictions were later imposed as a result of the exposure – thus making it a recordable incident – the contractor had not reclassified the case by the time of our review. The second case involved an employee's work transfer from the Tank Farms as a result of an exposure. Based on our review and an assessment performed by a safety expert from another site, we determined that the case should have been recorded. When notified of the results of these reviews, contractor officials corrected the reporting of this case.

### SUGGESTED ACTION

We suggest that the Department, as part of its on-going review, consider the results described in this report in arriving at its overall conclusion regarding health and safety related issues at Hanford.

## SCOPE AND METHODOLOGY

Our limited review was performed between March 1, 2004 and April 12, 2004 at the Hanford Site in Richland, Washington. The scope of the audit was limited to 1) reviewing available documentation regarding the 45 vapor exposure cases listed in Appendix B of the GAP report; and, 2) determining whether these cases were correctly classified as recordable, if appropriate.

To accomplish the audit objective, we reviewed case files for the pertinent exposure incidents including "Record of Visit" forms, documentation from the Government Accountability Project concerning vapor exposure incidents, and CH2M Hill Hanford Group's Problem Evaluation Request system. We compared the data obtained to OSHA recordability rules in 29 CFR Part 1904. We also interviewed key personnel in the Department's Office of River Protection and Departmental contractors CH2M Hill Hanford Group and the Hanford Environmental Health Foundation to gain an understanding of the data available, how such data was produced and used, and health and safety issues related to the Hanford Tank Farm.

This review was performed 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. Accordingly, we assessed internal controls over the Department's reporting of worker injuries and illnesses. Because our review was limited, it would not have necessarily disclosed all internal control deficiencies that may have existed at the time of our audit. In performing this review, we did not rely on computer-processed data.

The results of the review were discussed with the Manager, Office of River Protection on April 12, 2004. Since no recommendations are being made in this report, a formal response is not required. We appreciate the cooperation of your staff throughout the audit.



William S. Maharay  
Deputy Inspector General  
for Audit Services  
Office of Inspector General

cc: Assistant Secretary, Environment, Safety and Health  
Director, Office of Independent Oversight and Performance Assurance  
Manager, Office of River Protection

DOE F.1025.8  
(08-03)

United States Government

Department of Energy

# memorandum

DATE: April 19, 2004

REPLY TO:

ATTN OF: IG-36 (A04IF035)

SUBJECT: Audit Report on "Review of Selected Issues Pertaining to Vapor Inhalation Allegations at the Hanford Site"

TO: Director for Performance Audits and Administration

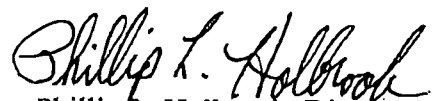
Attached is the required final report package on the subject audit. The pertinent details are:

- Staff days:            Programmed   N/A              Actual   N/A    
                          Elapsed days:        Programmed   365              Actual   49
- Names of OIG audit staff:

Assistant Director:        Fred Pieper  
Team Leader:                Jonathan Black  
Auditor-in-Charge:        Michelle Caldwell

- Coordination with Investigations and Inspections:

The Letter Report was discussed with Chris Sharpley, the Deputy Inspector General for Investigations and Inspections, on April 13, 2004.

  
Phillip L. Holbrook, Director  
Environmental Audits Division  
Office of Inspector General

**Attachments:**

- Final Report (2)
- Monetary Impact Report
- Audit Project Summary Report
- Audit Database Information Sheet

**MONETARY IMPACT OF REPORT NO.: OAS-L-04-14**

- 1. Title of Audit: Review of Selected Issues Pertaining to Vapor Inhalation Allegations at the Hanford Site
- 2. Division: Environmental Audits Division
- 3. Project No.: A04IF035
- 4. Type of Audit:

Financial: \_\_\_\_\_ Performance:     X      
 Financial Statement \_\_\_\_\_ Economy and Efficiency \_\_\_\_\_  
 Financial Related \_\_\_\_\_ Program Results     X      
 Other (specify type): \_\_\_\_\_

5.

FINDING		COST AVOIDANCE		QUESTIONED COSTS				MGT. POSITION	POTENTIAL BUDGET IMPACT
(A)	(B) Title	(C) One Time	(D) Recurring Amount Per Year	(E) Questioned	(F) Unsup-ported	(G) Unre-solved	(H) Total (E)+(F)+(G)	(I) C=Concur N=Noncon U=Indec	(J) Y=Yes N=No
TOTALS-ALL FINDINGS									

6. Remarks: The report concluded that the Hanford contractors, for the most part, correctly classified the chemical vapor exposure cases reported in Appendix B of the Government Accountability Report.

7. Contractor: \_\_\_\_\_ 10. Approvals: \_\_\_\_\_  
 8. Contract No.: \_\_\_\_\_ Division Director/Date: [Signature] 4/20/14  
 9. Task Order No.: \_\_\_\_\_ Technical Advisor & Date: [Signature] \_\_\_\_\_



Audit Project Office Summary (APS)

Report run on: April 22, 2004 10:26 AM

\*\*\*\* Keywords \*\*\*\*

HANFORD  
OSHA 300 LOGS  
RECORDABLE INJURIES  
VAPORS

\*\*\*\* Location Information \*\*\*\*

<u>Loc Code</u>	<u>Description</u>
HEH	HANFORD ENVIRONMENTAL HEA
OP1	OFFICE OF RIVER PROTECTIO
OPC	CH2M HILL HANFORD GROUP
RLF	FLUOR HANFORD, INC

\*\*\*\* Finding Information \*\*\*\*

<u>Find#</u>	<u>Title</u>	<u>Type</u>	<u>Amount</u>	<u>Yrs</u>	<u>Imp</u>	<u>Pos</u>	<u>Pos</u>	<u>Dept</u>	<u>Amount</u>	<u>Dept</u>	<u>Date</u>
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Audit Project Office Summary (APS)

Report run on: April 22, 2004 10:26 AM

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Audit History

Audit No: A04IF035

History Date: 20-APR-04

History Text:

REFERNCING WAS COMPLETED AND THE LETTER REPORT WAS ISSUED ON APRIL 19.



**AUDIT DATABASE INFORMATION SHEET**

1. Project Number: A04IF035
2. Title of Audit: Review of Selected Issues Pertaining to Vapor Inhalation Allegations at the Hanford Site
3. Report Number and Date: OAS-L-04-14; April 19, 2004
4. Management Challenge Area: 120-Worker/Community Safety
5. Presidential Mgmt Initiative:
6. Secretary Priority/Initiative:
7. Program Code: ESH-Env. Safety & Health
8. Location/Sites: Office of River Protection, Richland Washington; CH2M Hill Hanford Group, Richland Washington, Hanford Environmental Health Foundation, Richland Washington; Fluor Hanford, Richland Washington
9. Finding Summary:

The audit concluded that the Hanford contractors, for the most part, correctly classified the chemical vapor exposures cases reported in Appendix B of the GAP report. Specifically, 35 of the 37 incidents reviewed were correctly recorded according to the rules promulgated by the Occupational Safety and Health Administration. For the 2 exposures that were incorrectly classified as non-recordable, the contractor corrected the reporting of the cases when notified of the results of the review.

10. Keywords: Worker Safety Tank Vapors  
Injury and Illness Reporting Exposure  
Environment, Safety and Health OSHA  
Hanford

## Audit #A031F037

If your audit work or report deals with any of the following information, be sure to have your information reviewed by a classifier to ensure you are not inadvertently discussing Restricted Data or Formerly Restricted Data or any other level of classification. Information in the aggregate can be classified even if taken from unclassified sources.

<b>AIDS FOR REVIEW OF INFORMATION THAT MAY BE CLASSIFIED OR CONTROLLED</b>	<b>YES</b>	<b>NO</b>
Source or formula for Chemical/Biological Agents that has not been widely reported in open scientific literature.		X
Existence of a specific Chemical/Biological agent that is considered a threat to national security at a specified location within a government facility.		X
Statements that a specific Chemical/Biological agent considered a threat to national security cannot be detected by existing technology.		X
Information concerning significant technical advances and breakthroughs in Chemical/Biological agent detection, dissemination, or response technologies that could significantly assist an adversary.		X
Results or interpretation of research results from computer modeling that reveal specific operational deficiencies or vulnerabilities of a facility, infrastructure, or response plan which could be exploited or otherwise could materially aid an adversary in planning or conducting a Chemical/Biological attack.		X
Source term parameters (e.g. location, quantity, release rate, dispersal mechanisms, physical state, or particulate size distribution) of a Chemical/Biological agent <b>and</b> the airborne or surface concentrations resulting from dispersion modeling.		X
Specific dispersion mechanisms for specific chemical/Biological agents, including grinding techniques and pressurized systems that would be effective for dispersion over a large area.		X
Details of operational scenarios either for intelligence, civilian, or military organizations that would reveal current vulnerabilities or lessen the effectiveness of the scenarios.		X
Information about deployment of a specific detector or response system that could be used to defeat or significantly reduce the effectiveness of that system or otherwise materially aid an adversary in planning or conducting an attack.		X

## Audit #A03IF037

Descriptions of specific vulnerabilities of decontamination equipment or procedures that could be exploited to prevent or significantly reduce their ability to perform required functions or otherwise materially aid an adversary in planning or conducting a Chemical/Biological attack.		X
Descriptions of specific conditions (e.g., carrier for an agent or environmental condition) that could be exploited to reduced the effectiveness of standard decontaminants or decontamination procedures such that risks to unprotected personnel cannot be reduced to acceptable levels, or otherwise would aid an adversary in planning a Chemical/Biological attack.		X
Nuclear weapon design, fabrication, and utilization.		X
Radiological warfare.		X
Radiological dispersal devices.		X
Inertial confinement fusion.		X
Military nuclear reactors (not necessary for civilian).		X

Audit No. A03IF037

**POTENTIALLY SENSITIVE INFORMATION**

The following table is a listing of information considered potentially sensitive. If the information is detailed to such an extent that it would cause or potentially could cause damage to U.S. national security, citizens, or property, it cannot be placed in our public reports. Therefore, when you prepare your reports be sure to check for this type of information.

<b>CATEGORIES/TYPES OF INFORMATION</b>	<b>YES</b>	<b>NO</b>
<b>Facilities</b>		
➤ Detailed description and location of facilities to include maps, written directions, drawings, blue prints, photographs and such.		X
➤ Detailed descriptions and location of storage facilities for nuclear or other hazardous materials.		X
➤ Detailed descriptions and location of personnel or facility support systems (e.g. water supply, electrical supply systems, communications systems, emergency response personnel/equipment).		X
➤ Detailed descriptions and locations of computer systems used to process, store, and transmit sensitive information.		X
➤ Environmental Impact Statements that provide the consequences for what is being studied.		X
➤ Any detailed information pertaining to other sites that has not been reviewed/approved by the other site.		X
<b>Materials</b>		
➤ Form and quantity of hazardous materials, (chemical, nuclear, biological).		X
➤ Vulnerabilities of materials to unauthorized access or destruction.		X
➤ Consequences of release of hazardous materials.		X
➤ Detailed transportation related information (routes, maps, shipping means, containers).		X
<b>Security/Safety</b>		
➤ Detailed plans, procedures, communications, reaction times, or capabilities that would allow someone to determine vulnerabilities of the site.		X
➤ Specific assessments, exercise results, evaluations for a particular site.		X
➤ Specific personnel data identifying security/safety personnel.		X
➤ Specific equipment and its potential uses.		X

## Audit No. A03IF037

<b>Assessments</b>		
➤ Site-specific vulnerability assessments.		X
➤ Site-specific safety assessments/analysis.		X
➤ Site specific risk analyses.		X
➤ Specific hazardous assessments (Dispersion models and analyses, accident analyses, or site hazards).		X
<b>Personnel</b>		
➤ Specific organization charts or phone lists identifying senior management/key personnel.		X
➤ Specific personal data to include travel plans, meetings and such.		X
➤ Specific training materials that include sensitive information.		X
<b>Programs</b>		
➤ Detailed information identifying sensitive programs, special projects, SAPs, WFO.		X
➤ Reports detailing specific activities and/or results from programs and projects.		X
➤ Information pertaining to specific programs at other facilities/sites that has not been cleared with the other sites for publication on a publicly accessible web site.		X