

DOE/IG-0438

# **INSPECTION REPORT**

## **REPORTING AT OAK RIDGE OF POTENTIAL NONCOMPLIANCES WITH DOE PRICE-ANDERSON AMENDMENTS ACT IMPLEMENTING RULES**



**U.S. DEPARTMENT OF ENERGY  
OFFICE OF INSPECTOR GENERAL  
OFFICE OF INSPECTIONS**

**JANUARY 1999**

January 25, 1999

MEMORANDUM FOR THE SECRETARY

FROM: Gregory H. Friedman /s/  
Inspector General

SUBJECT: INFORMATION: Report on "Inspection of Reporting at Oak Ridge of Potential Noncompliances With DOE Price-Anderson Amendments Act Implementing Rules"

BACKGROUND

To provide oversight of how well Department of Energy (DOE) contractors were adhering to the nuclear safety rules established by the Department to implement the Price-Anderson Amendments Act of 1988 (PAAA), DOE established an enforcement program, managed by the Office of Environment, Safety and Health (EH). The purpose of the program is to identify and penalize DOE contractors for unsafe actions or conditions that violate nuclear safety requirements for protecting workers and the public. The single most important goal of the Department's PAAA enforcement program is to encourage early identification and reporting of nuclear safety deficiencies and violations of DOE nuclear safety requirements by the DOE contractors themselves, rather than by DOE. Enforcement actions may include the issuance of Notices of Violations and, where appropriate, civil monetary penalties of up to \$110,000 per violation per day. The objective of our inspection was to determine whether potential noncompliances with nuclear safety rules at the Department's Oak Ridge site were being identified and self-reported.

RESULTS OF INSPECTION

An EH accident investigation report of a welder fatality at the Oak Ridge K-25 Site identified a variety of safety management system breakdowns in work planning, hazard evaluation, communication, and establishment and implementation of adequate work controls. However, we determined that several of the safety management system breakdowns also resulted in potential violations of DOE PAAA nuclear safety rules, which were not identified as such and self-reported by the contractor.

We identified examples of potential noncompliances with DOE nuclear safety rules, which involved the failure by contractor personnel to follow established procedures for the welder's activities on the day of the accident. None of the violations of established procedures by the contractor personnel were recognized as potential noncompliances with the DOE rules that were established to implement the PAAA, and, therefore, none were self-reported by the contractor. Neither the EH accident investigation board nor contractor officials recognized that the violations of established procedures that contributed to the welder fatality were potential noncompliances with DOE PAAA implementing rules. We concluded, therefore, that additional actions are required by the Department to ensure that DOE contractors are taking appropriate steps to implement the Department's goal of early identification and self-reporting by the contractor of nuclear safety deficiencies and violations of DOE nuclear safety requirements.

We recommended that the Assistant Secretary for Environment, Safety and Health ensure that: (1) if an accident at a DOE facility where DOE PAAA rules apply involves violations of procedures (e.g., work control violations), an accident investigation board consider, based on reasonable evidence, whether the procedural violations were potential noncompliances with DOE PAAA rules; (2) when an accident investigation board identifies facts or circumstances that appear germane to DOE PAAA rules, the board promptly notifies the contractor's PAAA point of contact so that the contractor can review the facts and circumstances and report any potential noncompliances, as appropriate; (3) when an accident investigation board identifies facts or circumstances that appear germane to DOE PAAA rules, these facts or circumstances are included in the accident investigation report; and (4) for accidents at DOE facilities where there are work control violations and radiological issues that potentially involve DOE PAAA rules, the accident investigation reports are referred to the EH Office of Enforcement and Investigation for review. We also recommended that the Manager, Oak Ridge Operations Office, ensure that, where there is reasonable evidence that a noncompliance with DOE PAAA nuclear safety rules has occurred, Oak Ridge contractors fulfill their contractual responsibilities for identifying and self-reporting potential DOE PAAA rule noncompliances.

#### MANAGEMENT REACTION

Management concurred with the findings and recommendations and initiated appropriate corrective actions.

Attachment

cc: Acting Deputy Secretary  
Under Secretary

# REPORTING AT OAK RIDGE OF POTENTIAL NONCOMPLIANCES WITH DOE PRICE-ANDERSON AMENDMENTS ACT IMPLEMENTING RULES

---

## TABLE OF CONTENTS

### Overview

Introduction and Objective.....	1
Observations and Conclusions.....	3

### Identification and Reporting of DOE Rule Noncompliances

Details of Finding.....	4
Recommendations and Comments.....	11

### Appendix

Scope and Methodology.....	14
Exhibits.....	15

# Overview

---

## INTRODUCTION AND OBJECTIVE

On occasion, members of Congress have expressed concerns regarding the adequacy of the oversight provided by the Department of Energy (DOE) of its programs and activities. To provide oversight of how well the Department's contractors were adhering to the DOE nuclear safety rules established to implement the Price-Anderson Amendments Act of 1988 (PAAA), DOE established an enforcement program, managed by the Office of Enforcement and Investigation, Office of Environment, Safety and Health (EH), to identify and penalize DOE contractors for unsafe actions or conditions that violate nuclear safety requirements for protecting workers and the public.

The single most important goal of the Department's PAAA enforcement program is to encourage early identification and reporting of nuclear safety deficiencies and violations of DOE nuclear safety requirements by the DOE contractors themselves, rather than by DOE. PAAA enforcement is part of DOE's overall safety management program, which focuses on "line management responsibility for safety, comprehensive requirements, competence commensurate with responsibilities, independent oversight, and enforcement." In addition to extending indemnification to DOE operating contractors for consequences of a nuclear incident, the PAAA also, in effect, requires DOE to establish an internal self-regulatory process.

DOE's regulatory basis for its enforcement program is published in 10 Code of Federal Regulations (CFR) Part 820, "Procedural Rules for DOE Nuclear Activities." Enforcement actions may include the issuance of Notices of Violations and, where appropriate, civil monetary penalties of up to \$110,000 per violation per day. Two substantive rules are enforceable: the DOE PAAA Quality Assurance Rule and the DOE PAAA Occupational Radiation Protection Rule.

## DOE PAAA Quality Assurance Rule

10 CFR Part 830, "Nuclear Safety Management," governs the conduct of DOE management and operating contractors and other persons at DOE nuclear facilities. Part 830.120, "Quality assurance requirements," requires contractors to develop, implement, and maintain a Quality Assurance Program and states that work shall be performed to established technical standards and administrative controls using approved instructions, procedures or other appropriate means.

10 CFR Part 835, "Occupational Radiation

---

**DOE PAAA  
Occupational  
Radiation Protection  
Rule**

Protection,” establishes radiation protection standards, limits, and program requirements for protecting individuals from ionizing radiation resulting from the conduct of DOE activities. Part 835.101, “Radiation protection programs,” states that an activity shall be conducted in compliance with a documented radiation protection program as approved by DOE.

DOE expects contractors to implement appropriate steps to assure their activities comply with nuclear safety requirements, and to self-identify noncompliances that meet DOE’s reporting thresholds. The EH Office of Enforcement and Investigation’s nuclear safety compliance reporting process consists of two components: the DOE Noncompliance Tracking System and the local contractors’ noncompliance tracking systems. The preferred path is for the contractor to self-report potential noncompliances. Therefore, if a DOE element or another external entity identifies a noncompliance condition, the preferred process is for that entity to notify the contractor so that the contractor could self-report the noncompliance. DOE has established thresholds for noncompliances and expects the noncompliances to be reported to DOE via the Noncompliance Tracking System. The local contractor’s system tracks noncompliances that are below the threshold for reporting in the Noncompliance Tracking System. Issues reported into the contractor’s system are subject to review by DOE and should be periodically reviewed by the contractor to identify trends.

**Inspection Objective**

The objective of our inspection was to determine whether potential noncompliances with nuclear safety rules at the Department’s Oak Ridge site were being identified, and self-reported as such by the DOE contractor. According to an EH accident investigation report, the failure by Lockheed Martin Energy Systems (LMES) personnel to implement existing procedures contributed to a welder fatality, which occurred at the Department’s Oak Ridge East Tennessee Technology Park (ETTP), formerly the K-25 Site. We looked at whether the noncompliances by LMES personnel with existing procedures for the welder’s activities were recognized as potential noncompliances with DOE nuclear safety rules, and reported by LMES. According to officials in the EH Office of Enforcement and Investigation, there was a direct nexus between the procedures for the welder’s activities, which were conducted in a “High Contamination Area” in a nuclear facility, and the DOE PAAA nuclear safety rules.

At the time of our review, the ETTP was managed for the

---

Department by LMES, which was required to adhere to the nuclear safety rules.

On February 13, 1997, a welder at the Department's Oak Ridge site was fatally burned as a result of a welding accident. In April 1997, the EH Assistant Secretary issued an accident investigation report on the fatality entitled: "Type A Accident Investigation Board Report on the February 13, 1997, Welding/Cutting Fatality at the K-33 Building, K-25 Site Oak Ridge, Tennessee." The EH Accident Investigation Report focused on the industrial safety aspects of the welder fatality. According to the EH Accident Investigation Report, the facts surrounding the accident included a variety of safety management system breakdowns in work planning, hazard evaluation, communication, and establishment and implementation of adequate work controls. Also, it was the view of Oak Ridge management that the accident was the result of a serious breakdown of industrial safety controls. However, we determined that several of the safety management system breakdowns also resulted in potential violations of DOE PAAA nuclear safety rules. These potential violations are the focus of our inspection report.

## **OBSERVATIONS AND CONCLUSIONS**

We concluded that additional actions are required by the Department to ensure that DOE contractors are taking appropriate steps to implement the Department's goal of early identification and self-reporting of nuclear safety deficiencies and violations of DOE nuclear safety requirements. We identified four examples of potential noncompliances with nuclear safety rules, which involved the failure by LMES personnel to follow established procedures for the welder's activities on the day of the accident. None of the violations of established procedures by LMES personnel were recognized as potential noncompliances with the DOE rules that were established to implement the PAAA, and, therefore, none were self-reported by the contractor in either the Department's Noncompliance Tracking System or the contractor's noncompliance tracking system. Neither the EH Accident Investigation Board nor LMES officials recognized that the violations of established procedures that contributed to the welder fatality were potential noncompliances with DOE PAAA implementing rules. This led us to conclude that additional actions are needed to ensure the implementation of the Department's goal of early identification and self-reporting of violations of nuclear safety rules.

In its report on the February 13, 1997, welder fatality at the K-25 Site, an EH Accident Investigation Board identified procedural violations by LMES personnel related to the welder's activities. We

## **IDENTIFICATION AND REPORTING OF DOE RULE NONCOMPLIANCES**

---

### **Potential DOE PAAA Rule Noncompliances Not Identified or Reported**

found no evidence, however, that the EH Accident Investigation Board recognized that the procedural violations were potential noncompliances with the DOE rules established to implement PAAA. Likewise, we found no evidence that LMES officials recognized that the procedural violations were potential noncompliances. Therefore, LMES did not self-report the procedural violations as potential noncompliances in the DOE Noncompliance Tracking System or the LMES noncompliance tracking system. We learned that LMES officials had contacted the EH Office of Enforcement and Investigation to determine if the accident had any PAAA implications. However, our review of pertinent documents shows that the basis for the LMES contact was solely due to the accident occurring in a nuclear facility, and not because the procedural violations may have been potential noncompliances with nuclear safety rules.

### **DOE PAAA Quality Assurance Rule**

According to the DOE PAAA Quality Assurance Rule, contractors shall perform work in accordance with established technical standards and administrative controls using approved instructions, procedures or other appropriate means. LMES established procedures to be followed for welding, burning and hotwork activities. However, some of these procedures were not followed. According to the EH Accident Investigation Board, the failure of these work controls contributed to the welder fatality at the K-25 Site. We believe that, under the DOE PAAA Quality Assurance Rule, these failures were potential noncompliances with DOE's nuclear safety requirements that should have been identified by both the EH Accident Investigation Board and LMES and, therefore, self-reported by LMES under DOE's PAAA enforcement program.

### **LMES Procedures Not Followed**

We identified three examples of work control failures involving LMES procedures that were not followed: a fire watch was not designated; the work site was not inspected by the Service Supervisor prior to initiation of the work; and industrial hygiene surveys were not conducted. These work control failures occurred in a "High Contamination Area" within a nuclear facility. Although the facility was not operational, the posting of the area as a "High Contamination Area" was based on the results of radiological surveys and the possibility of contamination resulting from cutting into the radiologically-contaminated process system. These examples involved the failure of LMES to follow established work controls associated with day-to-day operations, such as welding, burning, and hotwork activities. The failure resulted from certain activities not being performed in accordance with established LMES

---

operating standards and procedures. The work controls that failed would have been in effect if the welding activity had occurred in a nuclear facility or a non-nuclear facility. Therefore, the work control failures have nuclear safety implications. In the case of the welder fatality, the work controls were being applied to work in a “High Contamination Area” of a non-operational nuclear facility. Although the potential for a serious nuclear safety incident was mitigated by the facility not being operational, the work control failures contributed to an accident that resulted in the death of a welder.

The following is a brief discussion of the work control failures, i.e., failure to follow the LMES standard for welding/cutting operations, that we identified as potential noncompliances with the DOE PAAA Quality Assurance Rule.

**Fire Watch Not Designated**

The LMES standard states that fire watchers would be required for all welding/burning/hotwork (W/B/H) operations performed outside approved areas or shops and that the names of the designated fire watchers were to be listed on the W/B/H permit. We reviewed the W/B/H permit issued for the work at Building K-33, which was located at the K-25 Site, for February 13, 1997, the date of the welder fatality [See Exhibit 1]. The W/B/H permit does not list a designated fire watcher. Also, according to the EH Accident Investigation Board’s report on the welder fatality: “No fire watch was identified, nor was a fire watch present in the cell at the time of the accident, as required by LMES procedures.”

**Work Site Not Inspected**

The LMES standard states that Service Supervisors are to inspect the work site prior to the initiation of work and verify that all precautions are taken. The Service Supervisor shall sign the permit after all actions regarding the precautions have been completed and verified. The W/B/H permit for February 13, 1997, contained a list of precautions to be taken prior to the commencement of work. Our review of the W/B/H permit showed that there was no verification by the Service Supervisor that the precautions required by the Issuing Authority on the permit had been taken. In fact, the same individual signed the permit as both the “Issuing Authority” and the “Service Supervisor.” We also observed that, by signing the permit, the Service Supervisor was certifying that the work area was personally inspected and all precautions fully implemented. According to the EH Accident Investigation Board’s report, however, the Service Supervisor had not been at the welder’s work area (Building K-33, Cell 7) on February 13, 1997, prior to the

---

accident, where he would have needed to be to determine whether the precautions identified on the W/H/B permit had been fully implemented.

**Industrial Hygiene  
Surveys Not Conducted**

The LMES standard states that the Industrial Hygiene Department reviews the welding/burning/ hotwork task for chemical contamination hazards upon request of the Issuing Authority, and recommends proper protective equipment. One of the precautions checked on the W/B/H permit was for chemical hazards to be evaluated. However, there was no verification on the permit that this had been accomplished. According to the EH Accident Investigation Board's report, the Industrial Hygiene Department was not notified prior to the welding/cutting operations. Consequently, the industrial hygiene surveys, which were required by the work permits, were not conducted.

**Work Control Failures  
Were Potential DOE  
PAAA Noncompliances**

According to the Senior Investigator in the EH Office of Enforcement and Investigation, the examples we identified appear to be noncompliances with the DOE PAAA Quality Assurance Rule. Regarding the fire watch, the EH Senior Investigator said that it appears to her that the LMES procedures required a fire watch at the site of the welding operation and that the name of the fire watch must be listed on the W/B/H permit by the Service Supervisor/Contractor Representative. She said that since the permit does not list the name of a fire watch, there appears to be a DOE PAAA Quality Assurance Rule noncompliance.

Regarding inspection of the work site, the EH Senior Investigator said that it is evident to her that the Service Supervisor is required to inspect the work site prior to the initiation of work; to verify that all necessary precautions were taken; and to sign the Signature block on the W/B/H permit after all actions were completed and verified. She said that since the Service Supervisor had not been at the work area on February 13, 1997, prior to the accident, it is clear to her that this is a DOE PAAA Quality Assurance Rule noncompliance.

Regarding industrial hygiene surveys, the EH Senior Investigator said that the W/B/H permit indicates that "chemical hazards" was checked as a precaution that had to be evaluated, and that the block on the permit marked "V," for verified, was not checked. She said that the lack of an industrial hygiene survey appears to be another DOE PAAA Quality Assurance Rule noncompliance.

---

**DOE PAAA  
Occupational Radiation  
Protection Rule**

The DOE PAAA Occupational Radiation Protection Rule (10 CFR Part 835) establishes radiation protection standards, limits, and program requirements for protecting individuals from ionizing radiation resulting from the conduct of DOE activities. According to a document entitled “K-25 Site 10 CFR 835 Compliance Assessment,” dated as of May 19, 1995, the evidence for compliance at the K-25 Site with the requirements of 10 CFR Part 835 regarding protective clothing was, among other things, the K-25 Site Radiological Control Program Manual (K-25 Site Manual).

According to the K-25 Site Manual, a Radiological Work Permit (RWP) is used to control work activities involving radiological hazards and is required for any work in certain areas, to include “High Contamination Areas.” DOE “Radiological Control Manual” requirements, which are compiled in the K-25 Site Manual, state that outer personal clothing, such as work coveralls, should not be worn under protective clothing for entry to a “High Contamination Area,” or during work conditions requiring a double set of protective clothing.

The RWP for the work in Building K-33 at the time of the welder fatality identified the work area as a “High Contamination Area.” According to the RWP, the required anti-contamination (anti-C) clothing to be worn by the welder consisted of, among other things, two pairs of anti-C coveralls [See Exhibit 2]. The EH Accident Investigation Board’s report on the welder fatality stated, however, that at the time of the accident, the welder was wearing one set of underwear, one set of 100 percent cotton blue general-purpose coveralls, and two sets of 100 percent cotton yellow anti-C coveralls. According to the EH Senior Investigator, the wearing of general purpose coveralls by the welder under the two sets of anti-C coveralls appears to be a noncompliance with the DOE PAAA Occupational Radiation Protection Rule.

The EH Senior Investigator said that an Investigator from the EH Office of Operating Experience and Feedback had conducted a preliminary survey of the potential DOE PAAA noncompliances that we had identified. She reiterated that the lack of a fire watch;

---

**Potential DOE PAAA Rule Noncompliances Not Reported**

the Service Supervisor not inspecting the work site prior to the initiation of work, yet verifying that all precautions on the W/B/H permit were taken; and the industrial hygiene surveys not being conducted, all appear to be noncompliances with the DOE PAAA Quality Assurance Rule. She also said that, at a minimum, the potential noncompliance with the DOE PAAA Occupational Radiation Protection Rule, i.e., the clothing violation concerning the welder wearing three layers of clothing, should have been reported in the LMES noncompliance tracking system, and, arguably, could have been reported in the DOE Noncompliance Tracking System. She said, however, that as of December 19, 1997, no noncompliances regarding the welder fatality had been reported in the DOE Noncompliance Tracking System. Also, both the EH Senior Investigator and the EH Investigator agreed that, at a minimum, the DOE PAAA Quality Assurance Rule noncompliances should have been reported in the LMES noncompliance tracking system. However, as of May 1998, there were no noncompliances regarding the welder fatality entered into the LMES noncompliance tracking system.

**LMES Did Not Self-Report Potential Noncompliances Based On Screening Guidance**

Documentation provided by the LMES PAAA Coordinator showed that, based on LMES “screening” guidance and a discussion with the Director, EH Office of Enforcement and Investigation, LMES officials determined that the welder fatality “did not have PAAA implications.” Therefore, no potential PAAA noncompliances were identified or self-reported by LMES.

LMES officials used a noncompliance evaluation guide (screening guide) in deciding whether events deviated from nuclear safety or radiological requirements and may have constituted potential PAAA noncompliances. The guide contained a series of “YES” or “NO” questions to be answered regarding a particular event. Based on the user’s responses to certain questions, the document could assist the user to identify whether a potential PAAA noncompliance had occurred.

For example, Part A of the guide contained an overall question, “Does the deficiency being screened for Potential PAAA Noncompliance involve or relate to: . . .” Following this question were 19 “YES” or “NO” questions to help answer the overall question. Part A also contained a section entitled: “Identify the Nuclear Safety Requirements potentially violated,” which contained a “Comments” section. According to the guide, if answers to both questions 1 and 2 were “NO,” the deficiency was not a potential

---

PAAA noncompliance. If an answer to any of the 19 questions was “YES,” the event may involve a potential PAAA noncompliance.

We reviewed the document used by LMES officials to screen the welder fatality for potential DOE PAAA rule noncompliances. This document, entitled “PRICE ANDERSON AMENDMENTS ACT POTENTIAL NONCOMPLIANCE EVALUATION GUIDE,” was signed June 16, 1997, by an official in the LMES Business Unit Compliance Organization [See Exhibit 3]. LMES officials responded “YES” to question 1, which concerned whether the facility involved radioactive or fissile materials in a form or quantity that a nuclear or radiological hazard existed to employees or the general public. However, LMES officials responded “NO” to questions 10 and 13, which concerned whether nuclear or radiation safety procedures were inadequate or were violated. According to the narrative in the guide, LMES officials considered the nature of the welder accident to be “Personnel Safety - Occupational Illness/Injuries.” Also, according to the narrative, the focus was on personnel safety and not related to nuclear safety, and no issues were identified to reflect adversely on the nuclear safety aspect of the work in K-33. The narrative further indicated that informal discussions between LMES senior management and DOE Office of Enforcement and Investigation personnel “concurred” that the event did not have PAAA implications.

From the responses by LMES officials to questions in the guide, it appears that the sole basis for the determination by LMES officials that the welder fatality may have involved a potential DOE PAAA noncompliance was that the welder fatality occurred in a nuclear facility. It also appears, based on the “NO” responses to questions concerning potential violations/failure to follow procedures, that LMES officials did not recognize that the violations of procedures, e.g., the violation of the RWP regarding the layers of welder’s clothing and the failure of work controls associated with the W/B/H permit, were potential DOE PAAA noncompliances.

We discussed the noncompliance evaluation guide that was prepared by LMES for the welder fatality, with the Director, EH Office of Enforcement and Investigation. He said, after reviewing the LMES responses to the questions in the guide, that it appeared to him that LMES officials took an extremely conservative

---

**Potential DOE PAAA  
Noncompliances  
Should Have Been  
Self-Reported**

approach when completing the questions in the guide in determining whether potential violations were reportable. He identified specific questions related to the adequacy of, or failure to follow, nuclear safety procedures, that he felt had been incorrectly answered by LMES officials.

For example, regarding the LMES response of “NO” to the item in question 10 concerning “Violation/Inadequate Nuclear or Rad Safety Related Procedures,” the Director said that the LMES response to this item should have been “YES.” He said that the incident had been reported in the Occurrence Reporting and Processing System and there was an obvious violation of the RWP regarding the layers of clothing worn by the welder. He said that this is the type of potential noncompliance that he would want to see reported in the contractor’s noncompliance tracking system, at a minimum.

Regarding the LMES response of “NO” to question 13, “Any inadequate nuclear safety instructions/procedures or failure to follow nuclear safety instructions/procedures, including intentional violations,” the Director said that the LMES response to this question should have been “YES.” He said that he viewed RWP procedures, in the context of enforcement, as nuclear safety procedures because he defines nuclear safety the same as radiological safety. Therefore, in his view, a violation of the RWP would be a violation of nuclear safety procedures.

The Director said that, at a minimum, the potential PAAA noncompliances should have been reported by LMES in the LMES noncompliance tracking system.

Regarding the statement in the narrative by LMES officials that “Informal discussions between LMES senior management and DOE Office of Enforcement and Investigation personnel concurred that the event did not have PAAA implications,” the Director said that most likely he had received a call from LMES officials regarding the welder incident. He said that, to the best of his recollection, the information presented to him by LMES regarding the welder fatality probably described the incident as a fire-related, industrial-type accident at a nuclear facility. He said that he probably had responded, based on what he was told by LMES officials, that there did not appear to be any DOE PAAA noncompliances.

The Director said that during the first year of enforcement of PAAA

---

[DOE enforcement of PAAA began in January 1996], he was often contacted via telephone, given incomplete information by the caller about an incident, and asked if there were any PAAA noncompliances. He said that, at first, he did provide some guidance to the callers because he was trying to “jump start” the DOE PAAA program. He said, however, that due to contractors calling and not providing complete information, he is now very guarded when talking to callers about potential noncompliances via telephone.

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

## **RECOMMENDATIONS**

1. Ensure that, if an accident at a DOE facility where DOE PAAA rules apply involves violations of procedures (e.g., work control violations), an accident investigation board consider, based on reasonable evidence, whether the procedural violations were potential noncompliances with DOE PAAA rules.
2. Ensure that, when an accident investigation board identifies facts or circumstances that appear germane to DOE PAAA rules, the board promptly notifies the contractor’s PAAA point of contact so that the contractor can review the facts and circumstances and report any potential noncompliances, as appropriate.
3. Ensure that, when an accident investigation board identifies facts or circumstances that appear germane to DOE PAAA rules, the facts or circumstances are included in the accident investigation report.
4. Ensure that, for accidents at DOE facilities where there are work control violations and radiological issues that potentially involve DOE PAAA rules, the accident investigation reports are referred to the Office of Enforcement and Investigation for review.

- 
5. Ensure that, where there is reasonable evidence that a non-compliance with DOE PAAA nuclear safety rules has occurred, Oak Ridge contractors fulfill their contractual responsibilities for identifying and self-reporting potential DOE PAAA rule noncompliances. [Note: Independent of action by the Oak Ridge Manager, the Oak Ridge contractors also have a direct regulatory responsibility to ensure that they are in full compliance with DOE PAAA nuclear safety rules.]

**MANAGEMENT  
COMMENTS**

Management concurred with our recommendations. In comments dated December 2, 1998, to our draft report, the Acting Assistant Secretary for Environment, Safety and Health concurred with Recommendations 1-4.

Regarding Recommendation 1, he said that revised DOE O 225.1A, "Accident Investigations," and the accident investigation guide (G 225.1A-1) direct the accident investigation board chairperson to notify the Director of the Office of Enforcement and Investigation of Price-Anderson issues. This requirement will be reinforced to accident investigation board personnel through required training which heightens awareness of this responsibility.

Regarding Recommendation 2, he said that the intent of the recommendation was carried out informally in the recent accident investigations at Idaho, Fernald, and Hanford. The accident investigation guide and accident investigation training program will be modified by January 30, 1999, to reflect this recommendation.

Regarding Recommendation 3, he said that the accident investigation guide and accident investigation training program will be modified by January 30, 1999, to reflect this recommendation.

Regarding Recommendation 4, he said that the accident investigation guide will be modified by January 30, 1999, to reflect the accident investigation reports involving work control and radiological issues that potentially involve DOE PAAA rules are to be forwarded to the Office of Enforcement and Investigation.

In comments to our draft report dated December 22, 1998, the OR Chief Financial Officer concurred with Recommendation 5. She said that, in regards to nuclear safety rules, OR has directed its major contractors to comply with nuclear safety rules;

---

effectively correct noncompliance; and aggressively self-report nuclear rule noncompliance. To reinforce the importance of non-compliance self-reporting, OR stated in the direction to its contractors that: “In particular, active self-reporting will be viewed as positive safety initiative. Conversely, a lack of self-reporting . . . will be viewed as negative contract performance.”

**INSPECTOR  
COMMENTS**

We believe the corrective actions by management are responsive to our recommendations.

## Appendix

---

### Scope and Methodology

We conducted our inspection at DOE Headquarters and the Oak Ridge Operations Office during the period February 5, 1998, to March 17, 1998. We interviewed selected officials in the Office of Environment, Safety and Health (EH), as well as Lockheed Martin Energy Systems officials, as appropriate.

Also, we reviewed applicable Federal and DOE nuclear safety regulations, including the 1988 Price-Anderson Amendments Act (PAAA) and related DOE implementation rules, such as 10 CFR 830 (Quality Assurance Rule) and 10 CFR 835 (Occupational Radiation Protection Rule); documentation concerning the EH Office of Enforcement and Investigation's enforcement program; the Department's "Radiological Control Manual"; and the site radiological control manual, entitled "K-25 Site Radiological Control Program Manual," dated September 1995.

In addition, we reviewed the EH accident investigation report, entitled: "Type A Accident Investigation Board Report on the February 13, 1997, Welding/Cutting Fatality at the K-33 Building, K-25 Site Oak Ridge, Tennessee." We also reviewed documents from the EH Accident Investigation Board's official accident investigation file, including the welding/burning/hotwork permit and the radiological work permit that were in effect at the time of the welding accident.

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

## Exhibits

---

- Exhibit 1: Welding/Burning/Hotwork Permit, dated February 13, 1997.
- Exhibit 2: Radiological Work Permit #970067, dated February 7, 1997.
- Exhibit 3: “PRICE ANDERSON AMENDMENTS ACT POTENTIAL NONCOMPLIANCE EVALUATION GUIDE,” dated June 16, 1997.

*Note: Copies of the exhibits can be obtained by calling the  
OIG Reports requests line (202) 586-2744.*

IG Report No. \_\_\_\_\_

### **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 audit or 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 this 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?

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)  
U.S. Department of Energy  
Washington, D.C. 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 alternative address:

Department of Energy Human Resources and Administration Home Page  
<http://www.hr.doe.gov/ig>

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

This report can be obtained from the  
U.S. Department of Energy  
Office of Scientific and Technical Information  
P.O. Box 62  
Oak Ridge, Tennessee 37831