



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

Inspection Report

Inspection of Nuclear Safety
At The Ashtabula Environmental
Management Project

DOE/IG-0576

November 2002

U.S. DEPARTMENT OF ENERGY
Washington, DC 20585

November 26, 2002



MEMORANDUM FOR THE SECRETARY

FROM: Gregory H. Friedman /s/
Inspector General

SUBJECT: INFORMATION: Report on "Inspection of Nuclear Safety
at the Ashtabula Environmental Management Project"

BACKGROUND

The Office of Inspector General, U.S. Department of Energy (DOE), conducted an inspection to review issues related to nuclear safety at the Department's Ashtabula Environmental Management Project (Ashtabula) in Ashtabula, Ohio. The Ashtabula Site is owned by the RMI Titanium Company (RMI) and is comprised of two facilities, the Extrusion Plant and the Metals Plant. Radioactive processing activities at the Extrusion Plant are regulated under a nuclear license issued by the Ohio Department of Health. The license only covers the Extrusion Plant and not the Metals Plant.

The objectives of this inspection were to determine:

- In the absence of a nuclear license covering the Metals Plant, was radiological work conducted in accordance with DOE nuclear safety procedures; and
- Whether RMI commercial work conducted with DOE equipment occurred without a proper license and without proper nuclear safety procedures in place.

RESULTS OF INSPECTION

We concluded that radiological work at the Metals Plant and commercial work with DOE equipment was not covered by a license or DOE nuclear safety procedures. A nuclear license or procedures implementing DOE regulations is necessary and required to promote nuclear safety. At Ashtabula, the question of which safety requirement should have been in place, either a nuclear license or DOE regulations, was unclear because RMI owns the Ashtabula Site. The attached inspection report raised this issue to the appropriate officials for resolution. They subsequently provided clarification of the jurisdictional issues.

We recommended that the:

- Office of General Counsel determine the applicability of DOE regulations at the Ashtabula Site;
- Office of Price-Anderson Enforcement determine whether DOE regulations have been violated at the site; and
- Ohio Field Office address issues relating to compliance with nuclear safety regulations and the use of DOE equipment to perform radiological work.

MANAGEMENT REACTION

Management comments were responsive to the recommendations. The Office of General Counsel determined that DOE nuclear safety requirements did not apply to contractual activities at the Ashtabula Site and that these activities are under the jurisdiction of the Ohio Department of Health. Based on the Office of General Counsel's determination, the Office of Price-Anderson Enforcement concluded that it would be at variance with DOE's Price-Anderson regulations to assert Price-Anderson enforcement jurisdiction at the Metals Plant. The Ohio Field Office concurred with our recommendations and stated that DOE intends to recover all related costs that may have been incurred by RMI while using DOE property. The Ohio Field Office is also working with the State of Ohio to ensure nuclear safety compliance at Ashtabula.

Attachment

cc: Deputy Secretary
Assistant Secretary for Environment, Safety and Health
Assistant Secretary for Environmental Management
General Counsel
Director, Office of Price-Anderson Enforcement
Manager, Ohio Field Office

INSPECTION OF NUCLEAR SAFETY AT THE ASHTABULA ENVIRONMENTAL MANAGEMENT PROJECT

TABLE OF CONTENTS

OVERVIEW

Introduction and Objective..... 1

Observations and Conclusions..... 2

DETAILS OF FINDINGS..... 3

RADIOLOGICAL ACTIVITIES..... 3

Molten Salt Oxidation Unit..... 3

Other Contaminated Items..... 3

Commercial Testing of Potentially
Contaminated Soil..... 4

Storage of Contaminated Equipment..... 4

RECOMMENDATIONS..... 5

MANAGEMENT/INSPECTOR COMMENTS..... 6

APPENDICES

A. Scope and Methodology..... 7

B. Prior Reports..... 8

Overview

INTRODUCTION AND OBJECTIVE

The Office of Inspector General, U.S. Department of Energy (DOE), identified issues relating to nuclear safety during a recent inspection of personal property management at DOE's Ashtabula Environmental Management Project, located at the Ashtabula Site in Ashtabula, Ohio. The Ashtabula Site is owned by the RMI Titanium Company (RMI) and is comprised of two facilities, the Extrusion Plant and the Metals Plant. The two plants are located on opposite sides of a public highway running through the site.

Between 1962 and 1988, DOE processed depleted and slightly enriched uranium at the Ashtabula Site's Extrusion Plant. DOE is consequently funding decontamination and decommissioning activities at the Extrusion Plant. Due to the nature of the prior radioactive processing activities at the Extrusion Plant, the clean-up of the plant is regulated under a nuclear license issued by the Ohio Department of Health. This license only covers the Extrusion Plant and not the Metals Plant.

Work performed at the Metals Plant is not covered by either a state or Federal nuclear license. Although DOE has periodically leased space from RMI at the Metals Plant for storage, neither DOE program offices nor commercial sponsors have supported radioactive processing work at the Metals Plant. During Office of Inspector General activities performed at the Ashtabula Site, however, it was determined that radioactive processing work has, in fact, occurred at the Metals Plant. It was also determined some of the work performed at the Ashtabula Site involved the use of DOE equipment by RMI to perform commercial work without DOE permission.¹

The purpose of this inspection, therefore, was to determine:

- In the absence of a nuclear license covering the Metals Plant, was radiological work conducted in accordance with DOE nuclear safety procedures; and

¹ In Inspection Report Number DOE/IG-0530, "Management of Personal Property at the Ashtabula Environmental Management Project," issued in November 2001, we noted that RMI was advertising Government equipment for commercial disposal of potentially contaminated waste, and was also using Government laboratory equipment to analyze samples for radioactivity under commercial contracts. This report is available on the DOE Office of Inspector General Website at <http://www.ig.doe.gov>.

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- Whether RMI commercial work conducted with DOE equipment occurred without a proper license and without proper nuclear safety procedures in place.

OBSERVATIONS AND CONCLUSIONS

We concluded that radiological work at the Metals Plant and commercial work with DOE equipment was not covered by a license or DOE nuclear safety procedures. A nuclear license or procedures implementing DOE regulations is necessary and required to promote nuclear safety. At Ashtabula, the question of which safety requirement should have been in place, either a nuclear license or DOE regulations, is unclear because RMI owns the Ashtabula Site.

Therefore, we recommend that the Office of General Counsel determine the applicability of DOE regulations at the Ashtabula Site. We further recommend that the Office of Price-Anderson Enforcement, which enforces DOE nuclear safety regulations, determine whether DOE regulations have been violated at the site. Finally, we recommend that the Manager, Ohio Field Office address issues relating to compliance with nuclear safety regulations and the use of DOE equipment to perform radiological work.

Details of Findings

RADIOLOGICAL ACTIVITIES

We identified DOE radiological work performed at the Ashtabula Site that was not covered by a nuclear license and did not have approved DOE nuclear safety procedures. We were informed by the DOE Assistant General Counsel for Civilian Nuclear Programs that, based upon the Atomic Energy Act of 1954, that DOE has an obligation to ensure the safety and health of the public and its workers. He said that if a DOE activity requires regulation and a nuclear license does not apply, then DOE regulations should be applied and enforced. DOE nuclear safety procedures are implemented based on DOE regulations, for example, Title 10, Code of Federal Regulations (CFR), Part 830, “Nuclear Safety Management,” and Title 10 CFR Part 835, “Occupational Radiation Protection.”

Examples of radiological work performed at the Ashtabula Site that are not covered by either a nuclear license or approved DOE nuclear safety procedures are discussed below.

Molten Salt Oxidation Unit

In September 1997, a “scrap” mixed waste treatment device called a molten salt oxidation unit was received at the Ashtabula Site from a private company and thought to be uncontaminated. The unit was stored at the Metals Plant and later found to be contaminated with Cesium.

DOE funding was allocated to decontaminate the molten salt oxidation unit. An Ohio Field Office, Office of Compliance and Support “issue paper” dated November 10, 1998, stated that the then DOE Ashtabula Project Director declared the warehouse in the Metals Plant where the molten salt oxidation unit was housed “as DOE property” and “as such, DOE Orders . . . have authority over any work performed.” Further, the then DOE Ashtabula Project Director also requested that the then Manager of the Ohio Field Office grant permission to proceed with the molten salt oxidation unit work “under the authority of the Department of Energy.” Although the Manager reportedly concurred with the request, DOE nuclear safety regulations were never properly implemented or procedures established at the Metals Plant. The current DOE Ashtabula Project Director confirmed that DOE’s nuclear safety regulations have never been implemented at Ashtabula.

Other Contaminated Items

The issue paper referred to above also raised other concerns regarding radiological work at the Ashtabula Site. The Office of Compliance and Support had become concerned upon learning of

three additional situations in which the then DOE Ashtabula Project Director had requested DOE work be carried out on radioactively contaminated items which were, or were potentially, “outside the scope” of the nuclear materials license issued by the State of Ohio. This work involved the receipt of “intermodal containers” and “rail material” during mid-1998.

With respect to DOE regulations and their relationship to nuclear licenses, the Assistant General Counsel for Civilian Nuclear Programs issued Ruling 1995-1 (Section B.3), which stated that in the absence of a license, DOE’s nuclear safety regulations at Title 10 CFR Parts 830 and 835 apply to DOE activities. However, as mentioned earlier, DOE’s nuclear safety regulations were never implemented at Ashtabula.

**Commercial Testing
of Potentially
Contaminated Soil**

We also identified that radiological work conducted with DOE equipment at the Extrusion Plant, the “licensed area” of the Ashtabula Site, was completed outside the scope of the license in place at that time. This work involved RMI completing analyses of contaminated off-site soil samples received from private companies. We were told by an official with the Ohio Department of Health, Bureau of Radiation Protection, that an amendment to the RMI license dated August 24, 2000, authorized RMI to receive and analyze radioactive samples. However, he stated that prior to this amendment, RMI had not been authorized to conduct these types of activities. Records obtained from RMI indicated that radioactive analyses of off-site soil samples occurred as early as February 1999, more than a year prior to authorization by the Ohio Department of Health. These analyses were conducted using DOE equipment without a nuclear license or DOE nuclear safety procedures in place to assure radiological safety.

**Storage of
Contaminated
Equipment**

In January 1999, a DOE waste water treatment plant contaminated with radioactive material that was not covered under the Ashtabula nuclear license was received at the Ashtabula Site and stored at the Metals Plant. The then DOE Director agreed with RMI to “. . . pursue DOE Authority to store the WWTP [waste water treatment plant] at the Metals Plant” However, a program to comply with DOE regulations was never established and DOE nuclear safety procedures never developed.

Title 10 CFR Part 820, “Procedural Rules for DOE Nuclear Activities,” would normally apply to decontamination and storage activities like those described above at the Ashtabula Site. These activities may have been contrary to Title 10 CFR 820, the stated purpose of which is to “. . . promote and protect the radiological health and safety of the public and workers at DOE facilities by . . . ensuring compliance by DOE contractors with applicable DOE Nuclear Safety Requirements.” However, the Ashtabula situation is unclear because RMI owns the site. Therefore, we concluded that the Office of General Counsel should determine the applicability of DOE regulations. We further concluded that the Office of Price-Anderson Enforcement, which enforces DOE nuclear safety regulations, should determine whether DOE regulations have been violated at the Ashtabula Site.

RECOMMENDATIONS

We recommend that the Office of General Counsel:

1. Determine whether DOE nuclear safety regulations are applicable at the Ashtabula Site and take appropriate action.

We recommend that the Director, Office of Price-Anderson Enforcement:

2. Determine if Title 10 CFR Part 820 applies to the radiological activities conducted at the Metals Plant of the Ashtabula Site and, if so, take appropriate action.

We recommend that the Manager, Ohio Field Office:

3. Take appropriate action regarding the issue of analyzing potentially contaminated soil samples with DOE equipment and without prior authorization by the Ohio Department of Health.
4. Take actions necessary to prohibit DOE funding or DOE equipment being used for radiological work in areas where neither DOE nuclear safety regulations nor a nuclear materials license is applicable.

**MANAGEMENT
COMMENTS**

The extensive comments received from management are not included verbatim but are summarized below.

With respect to recommendation 1, the Office of General Counsel (GC) determined that DOE nuclear safety requirements in Title 10, CFR Parts 830 and 835 did not cover contractual activities at the Ashtabula Site. Regarding recommendation 2, the Office of Price-Anderson Enforcement determined that Subpart D of 10 CFR 820 places the responsibility for formulating and issuing interpretations concerning DOE's nuclear safety rules with GC. Since GC determined that DOE nuclear safety requirements are not applicable at the Ashtabula Site, the Office of Price-Anderson Enforcement concluded that it would be at variance with DOE's Price-Anderson regulations to assert Price-Anderson enforcement jurisdiction at the Metals Plant and is therefore taking no enforcement action.

With respect to recommendations 3 and 4, the Ohio Field Office stated that DOE had directed RMI to cease the use of DOE property for any soil analysis actions. DOE intends to recover all related costs that may have been incurred, including reimbursement for the use of DOE property. Further, the Ohio Field Office stated that the contracting officer formally directed RMI to cease and desist any unauthorized use of DOE equipment. The contractor was placed on notice that prior written consent of an authorized representative of the Department would be needed for any future use of government equipment outside the scope of the Ashtabula Environmental Management Project contract.

**INSPECTOR
COMMENTS**

Management's comments are responsive to the recommendations.

Appendix A

SCOPE AND METHODOLOGY

The fieldwork portion of this inspection involved the Ohio Field Office, the Ashtabula Environmental Management Project, and DOE Headquarters.

This inspection was conducted in accordance with the Quality Standards for Inspections issued by the President's Council on Integrity and Efficiency. As part of our inspection we interviewed officials at the Department's Office of General Counsel, the Office of Price-Anderson Enforcement, the Ohio Field Office, and the Ashtabula Environmental Management Project. We also consulted with the Ohio Department of Health, Bureau of Radiation Protection. We reviewed pertinent records and documents pertaining to the Ashtabula Environmental Management Project's nuclear safety program. Further, we reviewed related reports by the Office of Inspector General.

Appendix B

PRIOR REPORTS

In addition to this inspection, we previously issued:

- Letter Report INS-L-01-05, on "Environment, Safety & Health Issues at the Ashtabula Environmental Management Project;"
- Report DOE/IG-0530 on "Inspection of the Management of Personal Property at the Ashtabula Environmental Management Project;"
- Audit Report DOE/IG-0541 on "Remediation and Closure of the Ashtabula Environmental Management Project;" and
- Audit Report DOE/IG-0542 on "Soil Washing at the Ashtabula Environmental Management Project."

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