



UNITED STATES  
**NUCLEAR REGULATORY COMMISSION**  
REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

February 8, 2005

Docket No. 04009027

License No. SMC-1562

Timothy Knapp  
Radiation Safety Officer  
Cabot Corporation  
P.O. Box 1608 County Line Road  
Boyertown, PA 19512

SUBJECT: INSPECTION 04009027/2004001, CABOT CORPORATION, CABOT READING  
SITE, READING, PA

Dear Mr. Knapp:

During the period from December 14, 2004 through January 27, 2005, Robert Prince of this office conducted a safety inspection at the Cabot Reading Site, in Reading, Pennsylvania, of activities authorized by the above listed NRC license. The inspection was limited to a review of radiological access controls and radiation surveys. The findings of the inspection are detailed in the attached inspection report and were discussed with you and John Eves at the conclusion of the inspection period. No violations were noted during this inspection period.

In accordance with 10 CFR 2.790, a copy of this letter will be placed in the NRC Public Document Room and will be accessible from the NRC Web site at <http://www.nrc.gov/reading-rm.html>.

Your cooperation with us is appreciated.

Sincerely,

*/RA/*

Ronald R. Bellamy, Chief  
Decommissioning Branch  
Division of Nuclear Materials Safety

Enclosure: NRC Inspection Report No. 04009027/2004001

cc: Wayne Reiber, Manager, Environmental Assessment  
and Remediation, Cabot Corporation  
Commonwealth of Pa  
Bryan Werner, Health Physicist, Commonwealth of PA

T. Knapp  
Cabot Corporation

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**SISP Review Complete: Rbellamy 2/7/05**

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U.S. NUCLEAR REGULATORY COMMISSION  
REGION I

INSPECTION REPORT

Inspection No. 04009027/2004001

Docket No. 04009027

License No. SMC-1562

Licensee: Cabot Corporation

Location: Timothy Knapp  
Radiation Safety Officer  
Cabot Corporation  
P.O. Box 1608 County Line Road  
Boyertown, PA 19512

Inspection Dates: December 14, 2004 to January 27, 2005

Inspector: Robert Prince, Health Physicist, Region I  
Decommissioning Branch  
Division of Nuclear Materials Safety

Approved By: Ronald Bellamy, Chief  
Decommissioning Branch  
Division of Nuclear Materials Safety

## **EXECUTIVE SUMMARY**

Cabot Corporation  
NRC Inspection Report No. 04009027/2004001

The Cabot Corporation has a possession-only license for a slag pile located at their Reading, Pennsylvania, site. The slag originated from precious metal extraction and contains naturally occurring thorium and uranium. The slag pile extends approximately 160 feet along a steep embankment adjacent to a railroad track and the Schuylkill River. Access to the slag pile is controlled with chain link fencing and locked gates.

The licensee implemented appropriate corrective actions to ensure that radioactive material postings remain visible along the perimeter fence. Actions taken to erect a new portion of fence line to address damages sustained due to demolition of adjacent warehouses were effectively implemented.

Radiation surveys were performed properly and in accordance with license conditions. The radiological status of the slag site was adequately monitored by the licensee to ensure public health and safety.

## REPORT DETAILS

The Cabot Corporation has a possession-only license for a slag pile located at their Reading, Pennsylvania, site. Currently, the site is in decommissioning status, the slag pile is located within a posted fenced boundary, and there are no routine work activities either in progress or planned at the slag pile site.

### **I. Radiological Access Controls**

#### a. Inspection Scope (83750)

The inspector reviewed radiological access controls for the slag pile including radiological postings, use of locked gates and fencing, and a visual inspection of the slag pile.

#### b. Observations and Findings

Access to the slag pile area is controlled by hurricane fencing and locked gates. The area is posted with radioactive material signs located along the fence at multiple locations. Work associated with the demolition of abandoned warehouses located above the embankment and adjacent to the fenced debris area is in progress. The major demolition work is complete with all the warehouses dismantled at this time. Demolition work consists of grading type operations and movement of soil and miscellaneous debris piles. Demolition activities resulted in damage to the north fence line when large boulders were pushed down the embankment hitting the fence. The licensee erected a new fence line, located approximately 20 feet inside the original fence that was damaged. The inspector reviewed surveys performed by the licensee to ensure that radiation levels in the area that was originally contained within the north fence line were acceptable. Surveys performed on January 18, 2005 in the triangular area between the old and new fenced areas indicated essentially background radiation levels of 3 to 4 microrem/hour. Visual observations of the area by the licensee did not reveal the presence of any pieces of slag within this area.

The inspector performed a visual inspection of the perimeter fence line. The inspector noted that radioactive material signs were posted at multiple locations on both the east and west fence lines. These two sides face open areas and represent the most accessible approach to the slag pile. A thick growth of vegetation is present on the embankment on both the north and south sides making access from these directions difficult. The inspector noted that postings on the north and south sides were limited. The licensee provided confirmation on January 26, 2005 that several additional signs stating "caution radioactive material" were posted along the north and south fence lines. These additional postings ensure that individuals are adequately informed of the presence of radioactive material within the fenced area. In addition, the licensee confirmed that vegetation that could potentially obstruct warning signs was cleared from both sides of the fence line. The licensee stated that vegetation growth would be assessed on a quarterly basis to ensure that radioactive material postings remain visible.

The inspector also noted that the south side perimeter fence line had been extended to include areas that were discovered to contain pieces of slag identified during a previous inspection. No safety concerns were noted.

Enclosure

c. Conclusions

The licensee implemented appropriate corrective actions to ensure that radioactive material postings remain visible along the perimeter fence. Actions taken to erect a new portion of fence line to address damages sustained were effectively implemented.

**II. Radiation Surveys**

a. Inspection Scope

The inspector performed radiation surveys along the outer perimeter of the slag pile fence and in selected areas outside of the fenced area and reviewed licensee radiological survey records for 2004.

b. Observations and Findings

The inspector used a Ludlum Model 12S microR meter to perform radiation surveys. Measurements were made at a distance of 1 meter above the ground along all four sides of the boundary area. In addition, radiation readings were obtained on contact to the ground in selected locations. Licensee radiation survey records for 2004 were reviewed. The licensee is required to perform quarterly radiation surveys along all boundaries of the site. Licensee surveys were performed utilizing appropriate survey equipment, were adequately documented, and performed in accordance with license condition requirements. Inspection surveys confirmed licensee results were in accordance with license condition requirements. No anomalous readings or safety concerns were noted.

c. Conclusions

Radiation surveys were performed properly and in accordance with license conditions. The radiological status of the slag site was adequately monitored by the licensee to ensure public health and safety.

**III. Exit Meeting**

On January 27, 2005, the inspector presented a summary of inspection findings to Mr. Tim Knapp, Radiation Safety Officer, and Mr. John Eves by telephone. Licensee representatives acknowledged the inspection findings.

**PARTIAL LIST OF PERSONS CONTACTED**

Licensee

Tim Knapp, Radiation Safety Officer  
John Eves, Safety, Health and Environmental Specialist

State of Pennsylvania

Jeffrey Whitehead, Radiation Health Physicist  
Robert Maiers, Chief, Division of Decommissioning Facilities

**INSPECTION PROCEDURES USED**

IP 87104: Decommissioning Inspection Procedure for Materials Licensees, 07/29/02  
IP 83750: Occupational Radiation Exposure, 03/15/94