March 10, 2006

Mr. Michael Cook, Director
Office of Superfund Remediation
and Technology Innovation
U.S. Environmental Protection Agency
M.S. 5210G
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

SUBJECT: NOTIFICATION OF THE DECOMMISSIONING OF CABOT PERFORMANCE MATERIALS SITE IN READING, PENNSYLVANIA

Dear Mr. Cook:

This letter notifies you of the decommissioning oversight actions that the U.S. Nuclear Regulatory Commission (NRC) has taken and intends to take for the Cabot Performance Materials site in Reading, Pennsylvania.

On October 9, 2002, the NRC and the U.S. Environmental Protection Agency (EPA) entered into a memorandum of understanding (MOU) on "Consultation and Finality on Decommissioning and Decontamination of Contaminated Sites." The MOU provides that, unless an NRC-licensed site exceeds any of three criteria in the MOU, EPA will defer to NRC decisions on decommissioning without NRC consultation with EPA.

For sites that trigger the criteria in the MOU, NRC will consult with EPA at two points in the decommissioning process: (1) before NRC approves the license termination plan or decommissioning plan (DP), (what NRC terms Level 1 consultation), and (2) after the final status survey is completed (what NRC terms Level 2 consultation).

The Cabot Performance Materials site will require an MOU consultation. The licensee submitted a proposed DP[1], which the NRC accepted for review on September 9, 2005. The DP contains an effective average soil concentration for thorium-232 (Th-232), based on site characterization data. The measured Th-232 data exceeds the value of 5.0 pCi/g listed in Table 1 of the MOU, one of the triggers for consultation. While the proposed DP does not contemplate remediation, it does specify the addition of a rip-rap erosion barrier built in accordance with NUREG-1623, "Design of Erosion Protection for Long-Term Stabilization." The design thickness of the rip-rap is expected to be 2-3 feet, which will prevent erosion of the existing soil and debris material covering the slag.

Since no remediation is contemplated in the proposed DP, the average subsurface soil concentrations will not be changed during decommissioning activities. Therefore, this

[1] "Cabot Performance Materials, Site Decommissioning Plan," Revision 3, June 2005, Docket No. 40-9027. The DP is available in NRC's electronic reading room at http://www.nrc.gov/reading-rm.html (ML051330369 and ML053560277).

consultation will satisfy both Level 1 and Level 2 consultation requirements.

The NRC is currently reviewing the proposed DP for the Cabot Performance Materials site and expects to finish the review in the near future. Attachment 1 to this letter provides a summary of the licensee's submittal and the status of NRC staff review. The attachment includes references to documents that are in the NRC Agencywide Document Access and Management System (ADAMS) for your staff's information. Following your staff's review of Attachment 1 and other relevant information, as specified in Section V.D.1 of the MOU, please send us your views on the Cabot Performance Materials site within 90 days of receiving this notification.

If you have any questions about this notification, please contact Mr. Daniel Gillen, the Deputy Director of the Decommissioning Directorate in the Division of Waste Management and Environmental Protection at 301-415-7295.

Sincerely,

/RA/

Jack R. Strosnider, Director
Office of Nuclear Material Safety
and Safeguards

Enclosure:
Summary of Cabot Performance Materials
and NRC Staff Review

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Summary of Cabot Performance Materials and NRC Staff Review

Overview

The Cabot Reading site, licensed by the Cabot Performance Materials and owned by the City of Reading, Pennsylvania, was used from 1967 to 1968 to extract tantalum and niobium metals from Malaysian tin slag under Atomic Energy Commission license. The source tin slag contained low concentrations of uranium and thorium, which further concentrated during refinery operations at the Reading Site. Residual slag from the extraction smelting was placed, in accordance with the license, on a slope adjacent the processing facility, atop non-radiological slag from previous refinery operations. The site has been associated with refinery operations and metals processing for over 100 years. The current site consists of approximately 2/3 of an acre, and also contains uranium and thorium contaminated decommissioning debris from the 1976 decontamination of the storage site for the imported tin slag site in Baltimore, Maryland, the 1994 to 1995 decontamination of the main processing building at the Reading Site, and clean soil and sand fill material.

Slag Contamination

Although the Cabot Reading Site could have been eligible for remediation in accordance with the concentration-based criteria in NRC's 1992 Site Decommissioning Management Plan (SDMP) Action Plan (57 FR 13389), the licensee has chosen to comply with the License Termination Rule (LTR) in 10 CFR 20 Subpart E, dose-based decommissioning criteria.

Site characterization in 1996 consisted of 17 bore holes to bedrock, 25 surface samples, and 42 gamma scans. The data result in averaging the soil concentrations over the top two feet, over the observable depth of contamination (approximately 16 feet), and based on the surface gamma scans.

Based on the borehole sampling, the average total uranium and thorium concentration is approximately 25 picocuries per gram (pCi/g) in the top two feet of soil, and approximately 75 pCi/g over 16 feet. For thorium 228 and 232, the average concentrations are approximately 7.5 pCi/g in the top two feet, and 22.5 pCi/g each over 16 feet. Average concentrations calculated based on the gamma scanning data are similar, approximately 16.5 pCi/g each for thorium 228 and 232, with a total uranium and thorium concentration of approximately 56 pCi/g.

The data are summarized in the data table below. Average thorium-232 concentrations exceed the Memorandum of Understanding (MOU) criteria.

Figure 1.

Cabot Reading Radionuclides of interest				
(all in pCi/g)	**16' avg**	**2' avg**	**gamma-based**	**EPA MOU***
Th-228	22.5	7.5	16.5	25
Th-232	22.5	7.5	16.5	5
U-234	15	5	11.5	3,310
U-238	15	5	11.5	179
Total	75	25	56	

Enclosure

*Industrial/Commercial land use scenario

Groundwater Contamination
The proposed Cabot Reading Decommissioning Plan (DP) contained results of groundwater investigations conducted at the site, and slag leach testing. No contaminated ground or surface water has been identified at the site. While under license, Cabot maintains a commitment to periodically monitor storm water runoff at the site.

External Review
Additionally, in 2003, the U.S. Department of Health and Human Services Agency for Toxic Substances and Disease Registry (ATSDR) conducted an exposure investigation at the site[2]. The investigation stated, in part: "...the data indicate that the site may be suitable for unrestricted release."

Review of Decommissioning Plan[3] and Radiological Assessment[4]
The proposed DP and accompanying Radiological Assessment include the addition of a robust erosion barrier, to prevent the slag from being uncovered by erosion from precipitation or flooding of the adjacent river. The erosion barrier is not required to meet NRC's license termination dose requirements under current site conditions.

NRC staff are reviewing the licensee's proposed DP, and preparing an Environmental Assessment and Safety Evaluation Report. At this time, supplemental information from the licensee is pending. The supplement is expected to include data to justify some of the DP's dose scenario parameters. If the supplement's parameter justifications are adequate, the assessments would likely meet NRC's license termination criteria for unrestricted release.

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[2]Exposure Investigation, American Chain and Cable Cabot Corporation, Reading, Berks County, Pennsylvania, May 6, 2003. This document is available in NRC's electronic reading room at http://www.nrc.gov/reading-rm.html (ML060520500).

[3]"Cabot Performance Materials, Site Decommissioning Plan," Revision 3, June 2005, Docket No. 40-9027. The DP is available in NRC's electronic reading room at http://www.nrc.gov/reading-rm.html (ML051330369 and ML053560277)

[4]"Cabot Performance Materials, Radiological Assessment," Revision 3, June 2005, Docket 40-9027. This document is available in NRC's electronic reading room at http://www.nrc.gov/reading-rm.html (ML053570015)