



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

October 23, 1995

MEMORANDUM TO: Robert A. Nelson, Chief  
Low-Level Waste and Regulatory  
Issues Section  
Low-Level Waste and Decommissioning  
Projects Branch  
Division of Waste Management  
Office of Nuclear Material Safety  
and Safeguards

FROM: Judith M. Greenwald, Project Manager *JMG*  
Low-Level Waste and Regulatory  
Issues Section  
Low-Level Waste and Decommissioning  
Projects Branch  
Division of Waste Management  
Office of Nuclear Material Safety  
and Safeguards

SUBJECT: MEETING WITH CABOT PERFORMANCE MATERIALS CONCERNING THE  
REVERE SITE DECOMMISSIONING PLAN AND THE PROPOSED RISK  
ASSESSMENT

On September 28, 1995, U.S. Nuclear Regulatory Commission staff met with representatives of Cabot Performance Materials. The meeting was held for Cabot to provide additional details to the NRC staff regarding the Revere Site Decommissioning Plan and the proposed risk assessment. The attached report summarizes the discussions held and the actions assigned at this meeting.

Docket No.: 40-9027  
License No.: SMC-1562

Attachment: As stated

cc w/att: Meeting Attendees

CONTACT: Judith M. Greenwald, NMSS/DWM  
415-6635

*cll*

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[ORIGINAL SIGNED BY]

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DATE	10/19/95	H	10/19/95	H	10/23/95		10/23/95		1	/95

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## MEETING REPORT

Date: September 28, 1995

Time: 10:00 AM - 12:00 PM

Place: U.S. Nuclear Regulatory Commission  
Two White Flint North  
11545 Rockville Pike  
Rockville, MD 20852  
Room T-2C4

Purpose: The purpose of the meeting was for the licensee to provide additional details to the NRC staff regarding the Revere site decommissioning plan (SDP) and the risk assessment (RA) being proposed and to evaluate the approach to decommissioning described in the SDP.

Attendees: See attached.

### Discussion:

1. Mr. Nelson opened the meeting with a discussion of meeting procedures.
2. Mr. Nelson reported that Robert Hogg, current NRC Project Manager for the Reading and Revere sites, will be leaving the Division of Waste Management (DWM) and joining the Division of Fuel Cycle Safety and Safeguards. Judi Greenwald will be assuming project management responsibilities for the sites in DWM effective October 13, 1995.
3. Mr. Campitelli reviewed the purpose of the meeting and introduced Mr. Reisenweaver who was to describe the RA methodology in more detail. The stated purpose of this discussion was to obtain NRC approval of the proposed approach.
4. Mr. Reisenweaver stated that the purpose of the RA was to determine the dose due to the residual radioactivity at the Revere site. A scenario would be examined in which the slag would be relocated at a single area on site. The RESRAD computer code would be used to examine potential dose impacts. The dose guidelines considered by the licensee in the assessment would be 15 mrem/yr, 25 mrem/yr, and 100 mrem/yr. The evaluation would use 20 year time dependency factors. The scenarios considered would reflect the need, if any, for, or use of, ground covers, institutional controls, and financial requirements.

The RESRAD computer code was discussed briefly. The dose uptake models reflected in RESRAD are inhalation, direct external exposure, and ingestion. NES/IES staff indicated that the direct exposure pathway was expected to be the significant pathway due to the nature of the waste material. Mr. Reisenweaver suggested that the slag had been shown to be non-leaching and

Attachment

non-respirable.

The source term for the analysis would be based on the characterization data provided in the Revere Site Characterization Reports. The scenarios that Cabot proposed to evaluate were the industrial site scenario and a trespass/recreation scenario.

Cabot stated that the evaluation would consider possible use of engineered barriers and their mitigative impact.

Finally, Cabot would update the SDP upon completion of the RA.

Cabot noted that the SDP states that any remediated areas, after the removal and relocation of contaminated material, would meet the SDMP Action Plan release criteria (10 pCi/g of thorium and 10  $\mu$ rem/hr or 2 times the background exposure rate). These criteria will be applied using the guidance in NUREG/CR-5849, "Manual for Conducting Radiological surveys in Support of License Termination," for the areas from which material will be relocated, if relocation of material is necessary.

5. Several concerns were raised by NRC staff in response to this information. First, NRC staff suggested that relocation of material may worsen the RA findings because of increased concentration of slag in the "relocated disposal cell." Cabot responded that no sorting of material would occur in the relocation process. Therefore, no increase in concentration would occur. A decision on relocation would be based on the potential benefits of institutional or engineered controls. NRC staff questioned Cabot's expectations in the situations requiring such controls and stated that situations involving restricted-use release, under the current regulations and guidance, are being considered under site specific environmental impact statements (EIS). The licensee indicated that the RA would be used to determine whether Cabot would propose restricted-use release or could achieve release for unrestricted use.

NRC staff also described the potential remediation/analysis options which would be available under the new decommissioning rulemaking, if the rule were to be finalized as it was proposed. Under this paradigm, the licensee might be able to propose a restricted-use release of the site without the need for NRC to perform an EIS (depending upon the results of a site-specific environmental review), but meeting other significant requirements, such as convening a site specific advisory board. Cabot and NRC noted the indeterminate condition of the rulemaking. Cabot also requested an update regarding the analysis of EIS findings for slag containing uranium and thorium on a site specific basis. NRC described the current EIS activities that are on-going and explained that if, as a result of the EIS findings which have not yet been completed, the staff determines that a generic EIS would be appropriate, this activity will be undertaken at that time. NRC stated that the two regulatory activities, the rulemaking and the need for the generic EIS, while related are not dependent upon one another.

[Post Meeting Note: Based on the discussion concerning the possible

development of a generic EIS, Cabot understood NRC staff to have stated that Cabot and NRC could talk about delaying action at Revere until the generic EIS is complete, after the Revere RA is complete. Further, Cabot understood NRC staff to have stated that the same flexibility would apply to the Reading site. The NRC staff position on this issue was clarified in a letter to Cabot dated October 11, 1995.]

In summary, the licensee indicated that it is currently initiating decommissioning in accordance with the current regulations and the guidance in the SDMP Action Plan. The licensee will be attempting to demonstrate with the RA that there is no need for an EIS or restricted release at this site. Additional decisions will be made after the RA is completed.

6. Several questions were raised regarding the scenarios to be considered in the RA. NRC questioned what justification would be provided if the agricultural scenario is not considered. NRC staff also questioned if an off-site use of material scenario will be considered. Cabot questioned the appropriateness of the scenarios suggested for the future use of this site. NRC staff stated that the consideration of a scenario should reflect the real limitations for the use of a site. Consequently, NRC would consider appropriately the justifications provided by the licensee for not modeling or evaluating the dose consequence in any particular scenario. However, consideration of such scenarios should not be ruled out without explanation or justification. NRC staff identified Policy and Guidance Directive (PG) 8-08, "Scenarios for Assessing Potential Doses Associated with Residual Radioactivity," which describes the scenarios NRC staff will consider when evaluating dose assessments. Cabot requested copies of correspondence between NRC and Cintichem relating to the use of PG 8-08, particularly regarding limitations to use of an industrial scenario.

7. NRC staff requested that Cabot state its position regarding concentration averaging. Staff stated that the current guidance on concentration averaging may not be appropriate as the guidance is directed at packaging and classification for low-level waste. NRC commented that RESRAD would use an average concentration as an input parameter and, because of the diffuse nature of the slag in the soil, a mechanism for determining the average concentration would be needed. Cabot stated that it has found several factors that would influence the estimate of a concentration for the purpose of RA. The slag is not all contaminated, some slag was produced from ore not containing source material, and only about 5% of the total volume of the contaminated zone is slag.

8. Cabot described in the SDP the relocation of slag to a single "disposal" area, as discussed earlier. Several comments were made about the concept and impact of creating such an area. NRC staff and Cabot agreed that because no sorting of the slag would occur, RESRAD calculations, based on either the material in its current location or in a relocated cell, would lead to the same or similar results. Further, NRC staff and Cabot agreed that relocation may cause additional dilution of the material resulting in a decreased average concentration of the thorium contaminant. Given that the relocation of material may occur, the staff asked Cabot to describe the monitoring and survey plans for this area. Cabot indicated that it would provide this

information in a revision to the SDP to be generated after the RA has been conducted. This would allow Cabot to determine the need or preference to relocate slag.

9. Several questions were raised regarding the time period of analysis. The licensee's contractor stated that 20 year time dependency factors would be used in the analysis. NRC questioned what these time dependency factors represent. Cabot stated that these factors represent the factors to be used in the RESRAD model. Further questioning by staff focussed on examining dose impacts for 1000 years. NRC staff described the current assessment methodology and again cited the guidance in PG 8-08.

10. The licensee stated that the slag does not leach. The staff questioned the defensibility of this argument. NRC cited various tests that are described in NUREG/CR-6232, "Assessing the Environmental Availability of Uranium in Soil and Sediments." The licensee's contractor indicated that it had contacted the labs listed in the NUREG and only one had indicated that it was capable of conducting the testing in accordance with the guidance.

11. The Decommissioning Funding Plan for the Revere site was discussed. Cabot said that they would provide a financial instrument (e.g., a letter of credit) in the amount currently estimated in the SDP, (i.e., \$400,000). NRC indicated that, based on the information available at this time, this approach would be acceptable. NRC will evaluate the cost estimate as part of its review of the SDP. Cabot will also reexamine the cost estimate in light of the risk assessment. If the cost estimate changes, the amount of funding will be modified accordingly.

12. A schedule for conducting the RA was also discussed. The licensee stated that it would have to regenerate its schedule to reflect the more extensive RA activity.

13. NRC staff did not object to the Cabot RA approach described in the SDP, as modified based on the discussions during the meeting. (See action items 2, 3, 5, 7, and 10.)

#### Action Items:

1. NRC will prepare detailed meeting minutes. Draft - 10/5/95; final 10/13/95.
2. Cabot will describe, in the revised SDP, a justification for its position on the average concentration of contaminants to be used in the model. The due date for this action item will be provided in the RA schedule (see 7, below).
3. Cabot will consider the scenarios described in PG 8-08 and the off-site use of material scenario. Cabot will provide, in the revised SDP, a justification for any scenarios in the guidance (plus the off site scenario) that are not modeled or evaluated in the RA. The due date for this action item will be provided in the RA schedule (see 7, below).
4. NRC will provide, to Cabot, copies of PG 8-08 and the Cintichem

correspondence by October 6, 1995.

5. The licensee will justify, in the revised SDP, the time considerations used in the scenarios developed for the RA. The due date for this action item will be provided in the RA schedule (see 7, below).

6. NRC staff committed to reevaluate the lab listing in NUREG/CR-6232 and determine a need for a revision to the guidance. NRC will review this list by October 13, 1995.

7. Cabot committed to revising the SDP after the RA has been completed. By October 31, 1995, Cabot will submit a new schedule for completing the RA and providing a revised SDP.

8. If the revised SDP contemplates completing of decommissioning more than 2 years after NRC approval of the SDP (e.g., because of a delay until after NRC completion of its generic EIS), Cabot will request an appropriate exemption from the timeliness rule.

9. Cabot committed to provide NRC a change page for page 2-1 of the SDP. The due date for this item is October 13, 1995.

10. Cabot will submit a financial assurance instrument by November 24, 1995.

Colt Mtg 9/28/95

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