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

February 2, 1995

MEMORANDUM TO: Docket File 40-9027

FROM: Robert C. Hogg, Project Manager
Division of Waste Management

SUBJECT: TRIP REPORT FOR CABOT READING CONFIRMATORY SURVEY, PHASE 2

On Monday, January 30, and Tuesday, January 31, 1995, I participated with ORISE in a confirmatory survey of the main processing building and surrounding areas at the Cabot Corporation, Reading site. It was determined that NRC and ORISE would conduct the confirmatory survey with NRC taking responsibility for confirmatory surveys of the building structure and ORISE for the ground surfaces both indoor and out. ORISE survey technicians, lead by Mr. James Payne, conducted the confirmatory survey, during the two day visit. I participated to ensure regulatory compliance with the release criteria as committed to in the licensee's decommissioning plan. The contractor performing decommissioning for Cabot supplied the survey data and analysis at the beginning of the visit. RI management and staff, and PADER inspectors, also visited the site while ORISE performed the survey.

The Cabot Corporation was authorized to conduct decommissioning, in accordance with its approved site decommissioning plan (SDP), by license amendment dated December 15, 1994. The SDP identified natural uranium and thorium as the contaminants at the site. The floor and ground surfaces were remediated by the licensee's contractor. About 80 cubic yards of contaminated floor surface were removed during the remediation of the indoor surfaces. This amount of waste was not expected by the licensee and is outside the scope of the waste discussed in the SDP. The waste material has been relocated to the Boyertown facility and the licensee has commited to describing the temporary storage of the material under the Boyertown license, separately.

NES/IES the contractor performing the site decontamination activities conducted both alpha and beta/gamma surveys of the building structure as discussed in the SDP. NES/IES, however, errantly assumed that the beta/gamma measurements would be compared with a limit of 5000 dpm/100cm^2(dpm). In making this assumption, they determined that an MDA of approximately 900 dpm would be sufficient for beta/gamma measurements. For determination of compliance with the regulatory limits, this value is sufficient. For classification of the affected area per the criteria identified in the SDP the value is insufficient. However, since the licensee was performing alpha measurements (in addition to the beta/gamma measurements) and the MDA for the alpha measurements was approximately 150 d[illegible] the licensee is able to demonstrate their classification in accordance with the SDP by virtue of the alpha measurements. To deem this approach unacceptable would result in reclassification of the entire site as an affected area based on the beta/gamma MDA. For this site, the classification of the entire building as an affected area is inappropriate.

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Due to the high MDA for the beta surveying technique used by the licensee's contractor, the licensee could not with confidence certify the indoor floor surfaces as clean. As a result, the licensee removed a large quantity of "Tar-Mac" from the indoor area. This quantity of waste (approximately 80 cubic yards) significantly more than described in the SDP and was also transferred to the Cabot, Boyertown facility for temporary storage.

The licensee provided final survey data and analysis for NRC review during the ORISE confirmatory survey visit (attached). I reviewed the final survey data during my site visit and determined that the floor and ground surfaces were sufficiently described to conduct our confirmatory survey.

The confirmatory survey conducted by ORISE was hindered by concurrent activity and interference from the high energy accelerator facility located near the site. Specifically, exposure rate measurements could not be made for periods of time while the accelerator was being used. As a result of the interference, I suggested that the ORISE survey frequency be revised to allow the ORISE team to complete their survey with sufficient coverage of both the indoor and outdoor areas. Discussion with the ORISE team leader indicated that the original survey frequency was very high and that, even without the interference from the accelerator, there was some doubt in his mind that they could collect all the anticipated survey data in the two-day time frame. As a result, we agreed to reduce the confimatory survey frequency by about one third to one half. The original frequency was equivalent to the survey frequency required for the licensee's final survey. The ORISE team leader indicated that the extent of the ORISE scanning survey which was performed prior to the above discussion was greater than the 10 percent called for in the survey plan and provided additional support for reducing the frequency of the direct survey points.

The indoor survey identified a few locations exceeding the guidelines ORISE documented the findings and informed the licensee. The licensee remediated each of the identified areas and ORISE resurveyed the locations and documented their findings. I questioned the ORISE team leader about the acceptability of the frequency of these identified areas. He indicated that his survey was biased based on his scanning survey and that the frequency was not inconsistent with that seen at other sites during confirmatory survey work. He concluded that on this basis the frequency was acceptable.

I will be coordinating the ORISE findings with the RI findings to provide an expedited determination of acceptability and a formal report for the docket.

Attachment: As stated.

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