

March 18, 2013

Mr. Dennis Richardson, Licensing Manager
Hematite Decommissioning Project
Westinghouse Electric Company
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SUBJECT: THE U.S. NUCLEAR REGULATORY COMMISSION'S ASSESSMENT OF WESTINGHOUSE HEMATITE UNREVIEWED SAFETY QUESTION INVOLVING THE SHIPMENT OF RADIOLOGICALLY CONTAMINATED WASTE CONTAINING VOLATILE ORGANIC COMPOUNDS FOR THE TREATMENT OF THE ORGANICS AT U.S. ECOLOGY

Dear Mr. Richardson:

The U.S. Nuclear Regulatory Commission (NRC) is writing to inform Westinghouse Electric Company, LLC (WEC) that the NRC staff has concluded that if WEC wishes to ship material which is both radiologically and chemically contaminated to US Ecology Idaho (USEI) and wishes to treat the material to remove the chemical contamination, then, for the reasons discussed below, the parties would need to submit a new alternative disposal request under 10 CFR 20.2002 covering such material.

In May 2009, WEC submitted a request to the NRC for alternate disposal of soil and debris from its Hematite Facility located near Hematite, Missouri (ADAMS Accession No. ML112550157). ADAMS refers to the NRC's Agencywide Documents Access and Management System.

The NRC approved this request with the issuance of Hematite Amendment No. 58 on October 27, 2011 (ADAMS Accession Nos. ML111441087, ML112560105, and ML112560193). Amendment No. 58 authorized disposal of the Hematite soil and debris at the USEI facility located near Grand View, Idaho. Since this soil and debris included special nuclear material (SNM), WEC included as part of its May 2009 request a nuclear criticality safety assessment (NCSA), "*NCSA of the US Ecology Idaho (USEI) Site for the Land Fill Disposal of Decommissioning Waste from the Hematite Site,*" NSA-TR-09-14, Revision 0 (ADAMS Accession No. ML091410143). In Section 2.2.1 of the NCSA, WEC stated, "[t]he Hematite waste received at the USEI site will not be treated and will be consigned directly to a waste cell." Since WEC had committed to maintain the SNM concentration at or below an average concentration of 0.1 g U-235/liter in the rail shipments from the Hematite facility, this commitment would permit the shipment of this decommissioning waste without nuclear criticality safety (NCS) controls. While at the USEI facility, NCS will be maintained because of the 0.1 g U-235/liter concentration of the material in the rail cars and because the material was only going to be buried in a waste cell. No other actions were going to be performed on the material. In this regard, WEC had concluded in NSA-TR-09-14, Rev. 0, and the staff had agreed in the SER associated with Amendment 58, that the waste would remain subcritical at USEI because there was no credible means to concentrate the SNM in a way that a critical mass could be formed in the waste cell.

On January 19, 2012, WEC submitted another 10 CFR 20.2002 alternate disposal request for the Hematite site which involved the proposed disposal of building slabs, asphalt, piping and miscellaneous equipment. In the course of reviewing the January 2012 request, the NRC discovered that it was WEC's intention to transport soil and debris which were both radiologically and chemically contaminated to USEI and have USEI stabilize the material prior to the material being buried.

On June 5, 2012, the NRC notified WEC via email that the proposed treatment of this decommissioning waste at USEI was inconsistent with WEC's commitment in Section 2.2.1 of NSA-TR-09-14, Rev. 0, and undermined the staff's conclusion with respect to NCS at USEI as described in the October 2011 SER associated with Hematite Amendment 58. The NRC considered treatment at the USEI facility to be a potential unreviewed safety question for the following reasons. First, WEC's May 2009 request and the NRC's SER approving WEC's request were based upon material which was only radiologically contaminated and not both radiologically and chemically contaminated. Second, WEC's request and the NRC's SER had not assumed treatment of the waste at USEI prior to its disposal there. And finally, WEC had not performed a nuclear criticality safety assessment (NCSA) for treatment of such material at USEI and for burial of such material at USEI.

WEC immediately instituted a "Stop Work Order" with respect to waste which would be shipped to USEI and which required removal of chemical contaminants prior to burial. Prior to the "Stop Work Order," WEC had not shipped any waste to USEI which required removal of chemical contaminants prior to disposal. All such waste which required removal was still at the Hematite site. WEC's order did not apply to waste which could be consigned directly to a USEI waste cell without treatment, and the order was made effective until NSA-TR-09-14 was revised to incorporate a NCSA which addressed treatment of the decommissioning waste at USEI and until the NRC had reviewed and approved the NCSA and the disposal of such waste at USEI.

WEC has raised the question whether, once the revision to NSA-TR-09-14 has been reviewed and approved, such material may be treated and buried at USEI in accordance with the issuance of Amendment 58 and the approval of the § 20.2002 alternate disposal requests. The staff has concluded that the answer to that question is that it could not. The basis for the staff's conclusion is that the original § 20.2002 request did not include material which was both radiologically and chemically contaminated, nor did it address the treatment and burial of such material at USEI. Therefore, this potential situation was not noted in the *Federal Register* Notice indicating WEC's request and the availability for the public to request a hearing regarding WEC's request, nor was it discussed at the NRC's public meeting which discussed WEC's request. In addition, the Idaho Department of Environmental Quality's (IDEQ) review was of material which was not chemically and radiologically contaminated and which would be treated at USEI.

Because of the above, the staff has concluded that if WEC wishes to ship material which is both radiologically and chemically contaminated to USEI, then a new § 20.2002 alternate disposal request needs to be made.

D. Richardson

3

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice for Domestic Licensing Proceedings and Issuance of Orders," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of ADAMS. ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

Please contact me if you have any questions concerning the above. I can be reached at (301) 415-5928, or via email at John.Hayes@nrc.gov.

Sincerely

/RA/

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Docket No.: 70-36
License No.: SNM-33

cc: Westinghouse – Hematite Service List

D. Richardson

3

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