



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
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July 12, 2016

Joseph Smetanka, Managing Director  
Hematite Decommissioning Project  
Westinghouse Electric Company  
1000 Westinghouse Drive  
Cranberry Township, PA 16066

Subject: REVIEW OF AMENDMENT 1 TO THE WESTINGHOUSE HEMATITE  
DECOMMISSIONING FUNDING PLAN

On April 28, 2016, Westinghouse Electric Company (WEC) submitted an amendment to its decommissioning funding plan (DFP) consisting of an updated decommissioning cost estimate (DCE) for the Hematite Decommissioning Project located in Festus, Missouri, license SNM-33. The amendment updates the DFP dated July 10, 2009 (ML091950063), which was approved by the NRC in a Safety Evaluation Report dated October 2011 (ML111661970) and contained a DCE of \$113,216,590. The Hematite site has been in the decommissioning process since 2001, and the DCE in the current submission addresses all remaining costs to be incurred from May 1, 2016, through expected license termination on March 31, 2017. The updated cost estimate indicates a total remaining cost, including 25 percent contingency, of \$5,915,183 (a decrease of \$107,301,407 relative to the July 2009 DFP).

The revised DCE was evaluated according to 10 CFR 70.25 and NUREG-1757, Volume 3, Revision 1, "Consolidated NMSS Decommissioning Guidance – Financial Assurance, Recordkeeping, and Timeliness." The DCE properly incorporates the following specific attributes:

- Assumes a third party contractor performs the work,
- Includes an adequate contingency factor (25%), and
- Does not take credit for salvage value.

However, based on the review, the licensee is requested to modify the submission in the following ways:

- (1) Revise or justify the cost estimates in Table 1 (10 CFR 70.25(e)(1)(i)(A));
- (2) Revise or justify staffing costs in Table 2 (10 CFR 70.25(e)(1)(i)(A) and Section A.3 of Appendix A of NUREG 1757, Volume 3, Rev. 1);
- (3) Provide sufficient detail and document key assumptions in Table 3 (10 CFR 70.25(e)(1)(ii) and Section A.3 of Appendix A of NUREG 1757, Volume 3, Rev. 1);
- (4) Revise or justify direct project support costs in Table 5 (10 CFR 70.25(e)(1)(i)(A) and Section A.3 of Appendix A of NUREG 1757, Volume 3, Rev. 1);
- (5) Justify "other" costs in Table 7 (10 CFR 70.25(e)(1)(i)(A) and Section A.3 of Appendix A of NUREG 1757, Volume 3, Rev. 1);

- (6) Provide sufficient detail and document key assumptions in Table 8 (10 CFR 70.25(e)(1)(ii) and Section A.3 of Appendix A of NUREG 1757, Volume 3, Rev. 1); and,
- (7) Provide additional information on the disposal cost of inventoried non-waste material (10 CFR 70.25(e)(1)).

These modifications are discussed below.

**(1) Revise or justify the cost estimates in Table 1 (10 CFR 70.25(e)(1)(i)(A))**

The provisions in 10 CFR 70.25(e)(1)(i)(A) state that the DCE must reflect the “cost...to perform all decommissioning activities.”

Table 1 of the DCE provides the total decommissioning costs remaining as of May 1, 2016. Tables 2 through 10 provide the underlying detail for the total costs in Table 1. In comparing cost estimates across these tables, the following discrepancies were found:

- The total “Equipment/Supply Costs” in Table 1 equals \$409,136. According to the amended DCE, this estimate should capture the Direct Project Support costs from Table 5 and the Equipment costs from Table 6. The total costs in Table 5 equals \$351,000 and the total costs in Table 6 equals \$135,722. Therefore, the total estimated costs from Tables 5 and 6 equals \$486,722. To ensure that adequate funding is available for decommissioning, NRC requests WEC revise Table 1 to incorporate all Equipment/Supply Costs.
- Table 1 shows that costs associated with several decommissioning activities are no longer included in the amended DCE. The amendment explains that the licensee has completed the radiological remediation of the site, and the only remaining decommissioning activities include final waste shipments, final status surveys, and backfill and final site restoration. The amended DCE, however, does not explain the \$4.8 million reduction in “Subcontractor Costs” (relative to the July 2009 DFP). To ensure that adequate funding is available for decommissioning, NRC requests WEC justify this reduction in costs reflected in Table 1.

**(2) Revise or justify staffing costs in Table 2 (10 CFR 70.25(e)(1)(i)(A) and Section A.3 of Appendix A of NUREG 1757, Volume 3, Rev. 1)**

The provisions in 10 CFR 70.25(e)(1)(i)(A) state that the DCE must reflect the “cost...to perform all decommissioning activities.” Section A.3.1 of Appendix A of NUREG-1757, Volume 3, Rev. 1 states that cost estimates should contain “a substantial level of detail,” and Section A.3.1.2 of Appendix A of NUREG-1757, Volume 3, Rev. 1 states that, “Estimated costs must be based on reasonable and documented assumptions.”

Table 2 of the amended DCE lists contract employees expected to support the remainder of the decommissioning process. The table includes costs for “Business Operations” (e.g., IT support, finance/business operations) for May and June 2016, but not for the remainder of the decommissioning timeframe. The amended DCE does not explain why business operations costs will no longer be incurred during July 2016 – March 2017.

To ensure that adequate funding is available for decommissioning, NRC requests WEC revise the staffing costs in Table 2 to incorporate business operations costs throughout decommissioning or justify why these costs cease after June 2016.

**(3) Provide sufficient detail and document key assumptions in Table 3 (10 CFR 70.25(e)(1)(ii) and Section A.3 of Appendix A of NUREG 1757, Volume 3, Rev. 1)**

The requirements in 10 CFR 70.25(e)(1) state that the licensee must submit for review and approval “a detailed cost estimate for decommissioning,” and 10 CFR 70.25(e)(1)(ii) states that the DFP must provide “identification of and justification for using the key assumptions contained in the DCE.” Section A.3.1 of Appendix A of NUREG-1757, Volume 3, Rev. 1 states that cost estimates should contain “a substantial level of detail,” and Section A.3.1.2 of Appendix A of NUREG-1757, Volume 3, Rev. 1 states that, “Estimated costs must be based on reasonable and documented assumptions.”

Table 3 of the DCE provides the remaining disposal volumes and associated costs. For the materials that will be shipped to entities other than U.S. Ecology Inc. (referred to as non-USEI volumes), two different rates are shown for the vendor PermaFix (i.e., \$5,000 per 55 gallon drum versus \$7,500 per 55 gallon drum). In addition, for all non-USEI volumes, the amended DCE does not state that the disclosed rates cover packaging, shipping, and disposal. In contrast, for the USEI volumes, the DCE says “The contractual rate of \$0.097/lb includes packaging, rail transportation, and disposal at the USEI Idaho disposal facility.”

To ensure that adequate funding is available for decommissioning, NRC requests WEC provide additional detail and documentation to support the disposal unit costs and confirm that the non-USEI costs in Table 3 cover packaging, shipping, and disposal of the volumes.

**(4) Revise or justify direct project support costs in Table 5 (10 CFR 70.25(e)(1)(i)(A) and Section A.3 of Appendix A of NUREG 1757, Volume 3, Rev. 1)**

The provisions in 10 CFR 70.25(e)(1)(i)(A) state that the DCE must reflect the “cost...to perform all decommissioning activities.” Section A.3.1 of Appendix A of NUREG-1757, Volume 3, Rev. 1 states that cost estimates should contain “a substantial level of detail,” and Section A.3.1.2 of Appendix A of NUREG-1757, Volume 3, Rev. 1 states that, “Estimated costs must be based on reasonable and documented assumptions.”

Table 5 of the DCE provides the remaining Direct Project Support costs for miscellaneous decommissioning costs, such as repairs, maintenance, consumables, utilities, taxes, et cetera. The table shows legal costs accruing in May 2016 only, even though license termination is not expected until March 2017. Because a determination on the license will not be made until March 2017, the staff would expect legal costs in the remaining months of decommissioning.

To ensure that adequate funding is available for decommissioning, NRC requests WEC revise the legal costs in Table 5 to incorporate additional costs through license termination or justify why these costs cease after May 2016.

**(5) Justify “other” costs in Table 7 (10 CFR 70.25(e)(1)(i)(A) and Section A.3 of Appendix A of NUREG 1757, Volume 3, Rev. 1)**

The provisions in 10 CFR 70.25(e)(1)(i)(A) state that the DCE must reflect the “cost...to perform all decommissioning activities.” Section A.3.1 of Appendix A of NUREG-1757, Volume 3, Rev. 1 states that cost estimates should contain “a substantial level of detail,” and Section A.3.1.2 of Appendix A of NUREG-1757, Volume 3, Rev. 1 states that, “Estimated costs must be based on reasonable and documented assumptions.”

Table 7 lists costs associated with the close-out of recently terminated FSS services with PermaFix LLC (\$221,000), an upcoming settlement agreement with Laclede Gas Company (\$200,000), and an additional \$250,000 for any other unanticipated costs (which is in addition to the 25 percent contingency). The amended DCE does not provide any basis for the PermaFix contract close-out or the settlement agreement cost estimates.

To ensure that adequate funding is available for decommissioning, NRC requests WEC provide additional detail and documentation to justify the PermaFix contract close-out and settlement agreement cost estimates.

**(6) Provide sufficient detail and document key assumptions in Table 8 (10 CFR 70.25(e)(1)(ii) and Section A.3 of Appendix A of NUREG 1757, Volume 3, Rev. 1)**

The requirements in 10 CFR 70.25(e)(1) state that the licensee must submit for review and approval “a detailed cost estimate for decommissioning,” and 10 CFR 70.25(e)(1)(ii) states that the DFP must provide “identification of and justification for using the key assumptions contained in the DCE.” Section A.3.1 of Appendix A of NUREG-1757, Volume 3, Rev. 1 states that cost estimates should contain “a substantial level of detail,” and Section A.3.1.2 of Appendix A of NUREG-1757, Volume 3, Rev. 1 states that, “Estimated costs must be based on reasonable and documented assumptions.”

Table 8 of the DCE provides the total costs associated with sampling and analysis. The amended DCE explains that the unit rates reflect actual contractual rates. However, Table 8 does not disclose these unit costs. Some of the rates were derived by dividing subtotal costs by number of samples, but noted significant variations in rates across the table.

To ensure that adequate funding is available for decommissioning, NRC requests WEC provide additional detail and documentation to support the sampling and analysis unit costs.

**(7) Provide additional information on the disposal cost of inventoried non-waste material (10 CFR 70.25(e)(1))**

The provisions in 10 CFR 70.25(e)(1)(i)(A) state that the DCE must reflect the “cost...to perform all decommissioning activities.” In addition, the requirements in 10 CFR 70.25(e)(1)(ii) state that a DFP must identify and justify “the key assumptions contained in the DCE.”

The amended DCE does not discuss or include costs associated with the disposition of inventory (e.g., special nuclear material) at the facility at the time of decommissioning.

To ensure that adequate funding is available for decommissioning, NRC requests the licensee explain what non-waste inventory is present at the facility and how the DCE accounts for the costs of disposition of this inventory (or what mechanism is in place for loading and transporting this material to an end destination).

Other Issue

To allow NRC to confirm cost estimate calculations, the NRC requests WEC provide the source Excel spreadsheet file used to build-up the amended DCE.

If you have any questions regarding this letter, or the enclosed RAIs document, please contact Mr. James Smith of my staff at (301) 415-6103, or via e-mail to

[James.Smith@nrc.gov](mailto:James.Smith@nrc.gov).

Sincerely,

*/RA/*

Mathew R. Meyer, Acting Branch Chief  
Materials Decommissioning Branch  
Division of Decommissioning, Uranium Recovery,  
and Waste Programs  
Office of Nuclear Material Safety  
and Safeguards

Docket No. 070-00036  
License No. SUB-00036

To ensure that adequate funding is available for decommissioning, NRC requests the licensee explain what non-waste inventory is present at the facility and how the DCE accounts for the costs of disposition of this inventory (or what mechanism is in place for loading and transporting this material to an end destination).

Other Issue

To allow NRC to confirm cost estimate calculations, the NRC requests WEC provide the source Excel spreadsheet file used to build-up the amended DCE.

If you have any questions regarding this letter, or the enclosed RAIs document, please contact Mr. James Smith of my staff at (301) 415-6103, or via e-mail to [James.Smith@nrc.gov](mailto:James.Smith@nrc.gov).

Sincerely,

*/RA/*

Mathew R. Meyer, Acting Branch Chief  
 Materials Decommissioning Branch  
 Division of Decommissioning, Uranium Recovery,  
 and Waste Programs  
 Office of Nuclear Material Safety  
 and Safeguards

Docket No. 070-00036  
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