

November 6, 2009

CAL 3-08-005

Mr. E. Kurt Hackmann, Director
Hematite Decommissioning Project
Westinghouse Electric Company
Nuclear Fuels
3300 State Road P
Festus, MO 63028

SUBJECT: NRC INSPECTION REPORT 070-00036/09-02(DNMS) - WESTINGHOUSE
ELECTRIC COMPANY (HEMATITE)

Dear Mr. Hackmann:

This refers to the U.S. Nuclear Regulatory Commission (NRC) inspection conducted between October 7-9, 2009, at the Westinghouse Hematite decommissioning facility (Inspection Report No. 070-00036/09-02(DNMS), enclosed). The purpose of the inspection was to determine whether decommissioning activities were conducted safely and in accordance with NRC requirements. Specifically, the inspection focused on management organization and controls, radiation protection, corrective action, and environmental ground water sampling. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel. The enclosed report presents the results of this inspection, which were discussed with you during an exit meeting on October 9, 2009.

Based on the results of this inspection, no violations were identified.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosures and your response will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC website at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible,

E. Hackmann

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your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction.

Sincerely,

/RA by George M. McCann acting for/

Christine A. Lipa, Chief
Materials Control, ISFSI,
and Decommissioning Branch

Docket No. 070-00036
License No. SNM-00033

Enclosure:
Inspection Report 070-00036/09-02(DNMS)

cc w/encl: C. Eaton, Community Involvement
Coordinator, The Joachim Watershed
Community Advisory Group
E. Gilstrap, Project Manager, MDNR
J. McHugh, Office of The Honorable Russ Carnahan
P. Lamping, Jefferson County Council Board
of Executives
C. Banks, Jefferson County Council Board
of Executives
E. Kemp, Jefferson County Council Board
of Executives
M. Templeton, Director, MDNR
D. Buntin, Director, Intergovernmental Cooperation, MDNR

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No.: 070-00036

License No.: SNM-00033

Report No.: 070-00036/09-02(DNMS)

Licensee: Westinghouse Electric Company, LLC

Facility: Former Hematite Fuel Manufacturing Facility

Location: 3300 State Road P
Festus, Missouri

Dates: October 7-9, 2009

Inspectors: William Snell, Senior Health Physicist, Region III
Jeremy Tapp, Health Physicist, Region III
Matthew Meyer, Hydrogeologist, FSME

Approved by: Christine Lipa, Chief
Materials Control, ISFSI, and Decommissioning
Branch, DNMS, RIII

Enclosure

EXECUTIVE SUMMARY

Westinghouse Electric Company, LLC HEMATITE FUEL MANUFACTURING FACILITY NRC Inspection Report 070-00036/09-02(DNMS)

This inspection evaluated the Westinghouse Electric Company's (WEC) performance related to decommissioning of the Hematite facility, including environmental monitoring, radiation protection, and corrective actions. The inspection also included a review of actions taken per Confirmatory Action Letter 3-08-005.

Environmental Monitoring

Licensee personnel were competent and proficient in the collection of environmental water samples. However, three issues were identified during the collection of water samples that involved an inconsistency between two procedures regarding the decontamination of non-dedicated equipment between sampling locations, ambiguous verbiage in a procedure in regard to purging a well prior to sampling and, the sampling of wells in order of least contaminated to most contaminated. The above issues have been entered into the licensee's Corrective Action Program for follow-up. These issues are being treated as an unresolved inspection Item (URI 070-00036/09-02-01) pending completion of further NRC review. (Section 1.0)

Radiation Protection Program

No concerns were identified with soil sampling and surveys conducted by the licensee in regard to a future replacement of a culvert under the road in front of the site property. (Section 2.0)

Report Details

1.0 Environmental Monitoring (88045)

a. Inspection Scope

The inspectors observed workers collecting groundwater samples to ensure sampling techniques were in accordance with applicable procedures. The sampling performed on October 8, 2009 concluded the third quarter sampling of the source wells situated in the clay overburden aquitard and the sand and gravel aquifer. A total of eight wells (DM-02, GW-T, GW-D, GW-U, BD-04, WS-07, WS-17B and WS-16) were sampled during the inspection by Westinghouse staff and splits were obtained by the NRC inspectors. The eight split samples collected by the inspectors were sent to the NRC's contract laboratory, the Oak Ridge Institute for Science and Education (ORISE), for analysis for technetium-99, gross alpha, gross beta and isotopic uranium. The ORISE results will be compared to the results provided by Test America, an independent laboratory used by Westinghouse, and provided in a future inspection report. The comparison of results will verify the adequacy and accuracy of the groundwater sample analyses performed by Test America.

The inspectors reviewed the following procedures prior to the sampling activities, HDP-PR-EM-011, Low Flow Well Sampling, Rev. 0 and HDP-PR-EM-012, Water Quality Field Measurements, Rev.0.

The inspectors reviewed the Minimum Detectable Concentration levels (MDCs) used by the licensee from the analysis of groundwater samples.

b. Observations and Findings

Licensee personnel were observed to be competent and proficient in the collection of water samples. However, the inspectors identified three issues during the collection of groundwater samples and review of the procedures being used for sampling of groundwater; 1) an inconsistency between the two procedures used to decontaminate non-dedicated equipment between sampling locations; 2) ambiguous verbiage was found in procedure HDP-PR-EM-011, in regard to purging of the well prior to sampling and; 3) wells were not sampled in order of least contaminated to most contaminated. Each of these issues is described below and was discussed with the licensee. The licensee entered these issues into an Issue Report (#09-282-WO13) prior to the end of the inspection for follow-up. The licensee's execution of procedure, HDP-PR-EM-011, in regard to sampling of wells in order of least impacted to most impacted and failure to follow procedures for decontamination of non-dedicated equipment between sampling locations, which can result in the cross contamination of groundwater samples, remains under further NRC review. The full scope and adequacy of the licensee's execution of procedure, HDP-PR-EM-011, is considered an Unresolved Item (URI 070-00036/09-02-01) pending completion of the NRC's review.

- Procedure HDP-PR-EM-011, step 8.3.2 describes the process for decontaminating non dedicated sampling equipment. The decontamination process for procedure HDP-PR-EM-011 calls for purging/sampling equipment to be placed in a mixture of Alconox® and tap water to prevent cross contamination of subsequent wells. After the sampling of the first well, DM-02, the inspectors

noticed that decontamination of the water level indicator was not performed. The Westinghouse staff was questioned about the decontamination process of the water level indicator and the staff informed the inspectors that procedure HDP-PR-EM-012 was being followed and does not require the use of Alconox® for decontamination of non-dedicated equipment between wells. The inconsistency between the two procedures for decontamination of equipment could result in cross contamination.

- Procedure HDP-PR-EM-011, steps 8.1.10 and 8.1.11 were found to be ambiguous during the review of the procedure. The procedure may not clearly inform the reader whether to sample the well after three well volumes have been purged or after water quality parameters have stabilized. This issue was discussed with the licensee.
- Section 7.0 of procedure HDP-PR-EM-011 indicates that the order in which the wells are purged and sampled shall be from least impacted to most impacted (within each monitoring well group) if non-dedicated sampling equipment is used. The use of a water level indicator during sampling would mean that the wells should be sampled from least to most impacted since the water level indicator is a non-dedicated piece of equipment used in each well. Sampling in this fashion reduces the possibility of cross contamination and helps to assure that samples are representative of the sample location.

The full scope and adequacy of the licensee's execution of procedure, HDP-PR-EM-011, is considered an Unresolved Item (URI 070-00036/09-02-01) pending completion of the NRC's review.

c. Conclusion

Licensee personnel were competent and proficient in the collection of environmental water samples. However, three issues were identified during the collection of water samples that involved an inconsistency between two procedures regarding the decontamination of non-dedicated equipment between sampling locations, ambiguous verbiage in a procedure in regard to purging a well prior to sampling and, the sampling of wells in order of most contaminated to least contaminated. The above issues have been entered into the licensee's Corrective Action Program for follow-up. These issues are being treated as an unresolved inspection Item pending completion of further NRC review. (Section 1.0)

2.0 Radiation Protection Program (83822, 88035)

a. Inspection Scope

The inspectors reviewed the results of surveys conducted by the licensee related to the upcoming replacement of a culvert under the road in front of the site property.

b. Observations and Findings

Due to plans by the Missouri Department of Transportation (MDOT) to replace the culvert under the road in front of the site property, the licensee performed surface scans and soil sampling of the site property on both sides of the road in the vicinity of the

culvert to verify the area had no radiological contamination. The inspectors identified no concerns with the scope and content of the sampling and surveys, and the survey results confirmed that the area was not radiologically contaminated. The NRC will also conduct independent confirmatory surveys of this area prior to the road construction work by MDOT.

c. Conclusions

No concerns were identified with soil sampling and surveys conducted by the licensee in regard to a future replacement of a culvert under the road in front of the site property.

3.0 Review of Licensee Commitments per Confirmatory Action Letter No. 03-08-005

On November 19, 2008, the licensee submitted a 24-hour report to the NRC (Event Notification Report 44668) regarding the identification of residual U-235 contamination in the Process Buildings, with a follow-up report provided on November 21, 2008. In response to the report, on December 15, 2008, the NRC issued Confirmatory Action Letter (CAL) No. 03-08-005 that identified specific actions that the licensee intended to implement. The implementation of the licensee's commitments as described in the CAL were evaluated by the NRC during onsite inspections in January 2009, and documented in Inspection Report 070-00036/08-02(DNMS), dated July 23, 2009. In addition, an addendum to the CAL was issued by NRC letter, dated July 9, 2009. The July 9 revision was issued following the NRC's June 22, 2009, approval of an exemption for the licensee to access the Process Buildings without a criticality monitoring system.

The inspectors reviewed the licensee's characterization activities regarding the Process Building and determined the work was being conducted consistent with the December 15, 2008 CAL and July 23, 2009 addendum. No cutting or moving of piping or equipment had taken place other than to drill out a lock on a file cabinet for which there was no longer a key, and to bend back a steel cover panel on a conveyor to improve access. Both actions were discussed with and understood by the inspectors prior to being conducted. The licensee also removed two radium-226 sources (approximately one microCurie each) that had been located in two out-of-service criticality monitors and added the sources to the licensee's site source inventory. The relocation of the sources was discussed with and understood by the inspectors prior to the activity. No concerns were identified with the licensee's adherence to the CAL.

4.0 Violation 07000036/2008-02-01 Failure to Provide a Timely 24-hour Report (Closed)

The licensee failed to report, within 24 hours of its discovery on November 11, 2008, the presence of special nuclear material in a quantity greater than 700 grams in Process Building piping without the concurrent maintenance of a nuclear criticality accident monitoring system or other redundant equipment to perform the required safety function.

The inspectors reviewed the licensee's corrective actions implemented in response to the violation, including; the licensee's formal written response to the violation, dated September 22, 2009, procedure HDP-PR-LI-001, *Regulatory Reporting*, issued March 2, 2009, and Issue Reports 08-325-W001 and 08-324-W004. Procedure HDP-PR-LI-001 defines the regulatory reporting requirements and was implemented to ensure that

issues are evaluated against the reporting requirements and that proper actions are taken. The licensee's corrective actions appeared to be adequate to prevent recurrence of this violation. This item is closed.

5.0 Exit Meeting Summary

The NRC inspectors presented the inspection results to members of the facility management team following the onsite inspection on October 9, 2009. The licensee acknowledged the results presented.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Westinghouse Electric Company

E. Kurt Hackmann, Director, Hematite Decommissioning Project
G. Rood, Radiation Safety Officer
K. Harris, Manager, Environmental Engineering

INSPECTION PROCEDURES USED

IP 83822 Radiation Protection
IP 88035 Radioactive Waste Management
IP 88045 Effluent Control and Environmental Protection

LIST OF ACRONYMS USED

ADAMS Agencywide Documents Access and Management System
CAL Confirmatory Action Letter
DNMS Division of Nuclear Materials Safety
HDP Hematite Decommissioning Project
MDC Minimum Detectable Concentration
MDOT Missouri Department of Transportation
NRC U.S. Nuclear Regulatory Commission
ORISE Oak Ridge Institute for Science and Education
pCi/l picocuries per liter
WEC Westinghouse Electric Company

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

Type Summary

URI 07000036/2009-02-01 URI Discrepancies in water sampling collection procedures.

Closed

VIO 07000036/2008-02-01 VIO Failed to provide a timely 24-hour report following discovery of unexpected residual U-235 in Process Buildings.

Discussed

CAL 3-08-005