

May 27, 2010

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

SUBJECT: NRC INSPECTION REPORT 070-00036/10-03(DNMS) – WESTINGHOUSE
ELECTRIC COMPANY (HEMATITE)

Dear Mr. Hackmann:

On May 5-7, 2010, the U.S. Nuclear Regulatory Commission (NRC) conducted an inspection at the Westinghouse Hematite decommissioning facility (Inspection Report No. 070-00036/10-03(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 the work activities involving the removal of former process equipment, pipes, and related wastes, the work plan to install a French Drain and modify the evaporation ponds, and the liquid effluent releases. Within these areas, the inspection consisted of a selected examination of procedures and representative records, and interviews with personnel. The enclosed report presents the results of this inspection, which were discussed with your staff during an exit meeting on May 7, 2010.

Based on the results of the 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 enclosure will be available electronically for public inspection in the NRC Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

E. Hackmann

-2-

We will gladly discuss any questions you may have regarding this inspection. If you have questions, please feel free to contact Jeremy Tapp of my staff at (630) 829-9862.

Sincerely,

/RA/

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

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

Enclosure:
Inspection Report 070-00036/10-03(DNMS)

cc w/encl: Hematite Distribution Service List

E. Hackmann

-2-

We will gladly discuss any questions you may have regarding this inspection. If you have questions, please feel free to contact Jeremy Tapp of my staff at (630) 829-9862.

Sincerely,

/RA/

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

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

Enclosure:
Inspection Report 070-00036/10-03(DNMS)

cc w/encl: Hematite Distribution Service List

DISTRIBUTION w/encls:

Jenny Weil
Keith McConnell
Chad Glenn
John Hayes
Cynthia Pederson
Allan Barker

Harral Logaras
Steven Reynolds
Patrick Loudon
Carole Ariano
Mike McCann
Peter Lee

*See previous concurrence

DOCUMENT NAME: G:\Work in progress\IR - HematiteInspRpt10-03 rev1.doc

Publicly Available Non-Publicly Available Sensitive Non-Sensitive

To receive a copy of this document, indicate in the concurrence box "C" = Copy without attach/encl "E" = Copy with attach/encl "N" = No copy

OFFICE	RIII:DNMS		RIII:DNMS				
NAME	JETapp:jc*		CALipa				
DATE	05/25/10		05/27/10				

OFFICIAL RECORD COPY

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No.: 070-00036

License No.: SNM-00033

Report No.: 070-00036/10-03(DNMS)

Licensee: Westinghouse Electric Company, LLC

Facility: Former Hematite Fuel
Manufacturing Facility

Location: 3300 State Road P
Festus, Missouri

Dates: May 5-7, 2010

Inspectors: Mike McCann, Senior Health Physicist
Peter Lee, Health Physicist
Jeremy Tapp, Health Physicist

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

Enclosure

EXECUTIVE SUMMARY

Westinghouse Electric Company, LLC Hematite Fuel Manufacturing Facility NRC Inspection Report 070-00036/10-03(DNMS)

This routine decommissioning inspection evaluated the Westinghouse Electric Company's (WEC) on-going decommissioning activities at WEC's Hematite facility, Festus, Missouri. The inspectors evaluated the licensee's work activities regarding removal of former process equipment, pipes, and related wastes, the installation of a French drain and modification of two on-site evaporation ponds, and liquid effluent releases from the site ponds.

Radiation Protection Program

The licensee's work activities in the Process Building were being performed consistent with the applicable work package and associated procedures. No concerns were identified with the documentation and conduct of work activities associated with removal of former process equipment, pipes, and related wastes. (Section 1.0)

Radioactive Waste Treatment, and Effluent and Environmental Monitoring

The inspectors concluded that the licensee effectively implemented radiological effluent control programs and processes. (Section 2.0)

Installation of a French Drain and Modification of Site Ponds

The inspectors concluded that the licensee's work activities to install a drainage system (French Drain) and the modification of the two site evaporation ponds were compliant with the licensee's Source Material License. (Section 3.0)

Report Details

1.0 Radiation Protection Program (83822)

a. Inspection Scope

The inspectors reviewed the licensee's work activities involving the removal of former process equipment, pipes, and related wastes.

b. Observations and Findings

The Process Building contains approximately 21 High Efficiency Particulate Air (HEPA) filter housings that require additional decontamination and fixative application in preparation for Process Building demolition, when approved. Loose powder has been identified in some of these housings. The licensee plans to vacuum the visible, loose powder in these housings with a HEPA vacuum. This activity will be followed by application of a sprayable fixative to lock down any remaining contamination that was not removed. In the remaining housings, only additional fixative needs to be applied due to the small amount of residual contamination. After the fixative is allowed to dry for approximately 24 hours, the interior of the HEPA filter housings will be surveyed to assess the quantity of remaining fixed contamination.

The inspectors reviewed Work Package WP-2009-030, Work Plan for Additional Building Remediation Prior to Building Demolition, Revision 0, associated with the work described above. Also reviewed as part of the work package were: Radiation Work Permit (RWP) Nos. RP-10-S010 and RP-10-S011, both issued April 15, 2010, and the Pre-Job ALARA Evaluation. Additionally, the inspectors reviewed HDP-PR-HP-421, Operation and Control of Portable HEPA Units within the Process Building and Non-Decommissioning Plan Related Activities, Revision 1, to verify the licensee was controlling the portable HEPA units as required. The inspectors toured the Process Building and observed the licensee perform activities associated with the application of fixative on a HEPA filter housing.

Due to the potential for airborne radioactivity, the licensee restricted and controlled access to the area where work was being performed. The inspectors verified the licensee personnel working in this area were wearing the appropriate respiratory protection. Specifically, the workers were using correctly sized respiratory protection that they had been fit tested to wear. The inspectors also verified for two individuals, that their medical authorizations to wear respirators had not expired. In addition, the inspectors evaluated the air sampling equipment in the Process Building. Air sampling was being performed on each individual working in the controlled area with a lapel sampler and with continuous air samplers immediately adjacent to the work being performed in the controlled area, just outside the work area controlled boundary, and just outside the Process Building entrance.

The inspectors performed radiation surveys at the access point to the Process Buildings and noted no readings of concern. In addition, the inspectors observed the licensee personnel working in the Process Buildings donning the appropriate personal protective equipment, meeting the requirements of the applicable RWP.

c. Conclusions

The licensee's work activities in the Process Building were being performed consistent with the applicable work package and associated procedures. No concerns were identified with the documentation and conduct of work activities associated with removal of former process equipment, pipes, and related wastes.

2.0 Radioactive Waste Treatment, and Effluent and Environmental Monitoring (84750)

a. Inspection Scope

The inspectors reviewed the effluent monitoring reports and analytical sampling data for 2009, including the discharge from Evaporation Pond-1 (EP-1), to determine if it was consistent with the regulations.

b. Observations and Findings

Hematite site liquid effluent releases are comprised of releases from the site dam (Outfall # 2) and sanitary sewer (Outfall #1). The liquid discharged from Outfall #2 is from the site pond and underlying spring. Outfall #3, storm water drain, discharges to the site pond.

During December 2009, the licensee discharged 90,250 gallons of water from the Evaporation Pond. Based on the isotopic sampling results, there were about 35 grams of approximately 4 percent enriched uranium being released through Outfall #1.

Based on the liquid effluent data from July through December 2009, the amount of uranium released from Outfall #1, Outfall #2, and Outfall #3 were about 80 grams, 850 grams, and 90 grams, respectively. Since only 90 grams of uranium were being discharged into the site pond from Outfall # 3, most of the uranium released from Outfall # 2 was from the contaminated site pond. The amount of the uranium released from Outfall #2 is mainly proportional to the volume of the water being discharged into the site pond from the spring. A review of effluent release data from July 2002 through December 2009 indicated that the uranium discharged was mainly from the contaminated site pond and the differences between discharges stated in the Effluent Monitoring Reports were mainly due to the volume of the spring water discharged to the site pond. Therefore, the liquid effluent release is mainly from the contaminated drainage, sewer pipes, and site pond due to previous plant operation. It is not due to current activities except the relatively small amount of uranium discharged from EP-1.

A review of air sample analyses from the effluent release during 2009 indicated that there was no measurable quantity of uranium.

The effluent monitoring data indicated that release concentrations were consistent with limits specified in 10 CFR Part 20, Appendix B, Table 2.

c. Conclusions

The inspectors concluded that the licensee effectively implemented radiological effluent control programs and processes.

3.0 Installation of a French Drain and Modification of Evaporation Ponds 1 and 2

a. Inspection Scope

The inspectors evaluated the licensee's activities relating to the installation of a French Drain System, and the subsequent modification of EP-1 and Evaporation Pond-2 (EP-2). The inspectors interviewed WEC engineering and safety personnel regarding development and approval of site planning, authorization, and control documents. The inspectors toured the proposed drainage area and observed the work on the two site evaporation ponds. The inspectors also performed limited radiological surveys over portions of the proposed drainage line path, which will start at the site rail spur loading pad and will empty into EP-1. The inspectors also reviewed licensee soil and radiological survey records.

The inspectors reviewed and evaluated the following WEC documents: 1) "Evaporation Pond Modification," Westinghouse Decommissioning Project, Work Package WP-2009-037, Rev. 1, 2) WEC Work Request WP-2009-037, "Evaporation Pond Modification," 3) Radiation Work Permit RP-10-500, "Installation of a sump and lining in the Evaporation Ponds," February 5, 2010, 4) Procedure: HDP-PR-HP-025, "Radiological Monitoring Hematite Decommissioning Project," 5) Activity Hazard Analysis (AHA) , "Evaporation Pond Modification" (WP-2009-037), March 5, 2010, 6) WEC Memorandum, HEM-09-MEMO-124 "Modification of the Evaporation Ponds at the Westinghouse Hematite Site," November 9, 2009, 7) WEC Memorandum HEM-09-MEMO-113 (criticality safety assessment of the rail spur installation project), and 8) Procedure Site Work Planning Package, HDP-RP-DO-023, dated April 27, 2009.

b. Observations and Findings

The licensee initiated work activities to collect and divert non-impacted surface water. These activities involve the installation of a French Drain and the modification of the two on-site evaporation ponds EP-1 and EP-2. The licensee had completed site mapping activities relating to the laying of a French Drain from the site rail spur loading pad to EP-1. The licensee had lined EP-2 and backfilled it with clean soil. WEC's plan calls for the installation of a non-permeable liner inside EP-1. After modification is complete, the pond will be used as a site sump to collect water from the French Drain.

The inspectors were informed by licensee management, and noted in the licensee's project planning documentation for EP-1 work, that the primary purpose for the work is to provide a facility to collect ground and surface water run-off from the rail spur load-out pad. The licensee indicated that the modified EP-1 will not be used for any other purpose than collection, sampling, and discharge of surface and ground water, and will not be used for collection and treatment of water associated with the remediation of the burial pits and contaminated soil areas. The liquid waste from these areas will be processed through a dedicated water collection and treatment system, which was under construction during this inspection.

The staff at WEC also provided information regarding water level readings from on-site monitoring wells near EP-1 and EP-2. This information was compared to the EP-1 base depth, and the potential for intrusion of groundwater. The licensee noted that historical water level measurements in the wells were several feet lower than the pond base depth,

with the exception of one well screened solely within the soil/clay overburden that had higher water level readings but was pumped dry during sampling with no groundwater infiltration. The licensee also believed that the non-permeable liner that will be placed in EP-1 will prevent infiltration of surface water.

The licensee's activities during EP-1 modification work will involve the removal of only vegetation and surface soils along the channel that will be created to facilitate installation of the drain line. The licensee will remove some vegetation from EP-1, as necessary, for installation of the pond liner/barrier, but no soil removal or intrusion into EP-1 is to be allowed. The inspectors noted that the work done to back-fill EP-2 was smoothly graded with no indications of site soil disturbances by earth moving equipment or trucks, and was covered and seeded to prevent blowing and erosion.

The inspectors confirmed during a site tour and an independent inspector's radiation survey, that the licensee's statements and representations indicating that the rail spur load-out pad is outside the environs of the documented burial pit area and that the work did not impact any production buildings, foundations or other buried wastes, were consistent with the licensee's reports. The inspectors noted during the review of licensee planning documents, that the licensee had evaluated the proposed work to ensure that the project was within the scope of its license authorization, and had received appropriate management and quality review and approval.

The licensee indicated that the proposed drain line had little potential to encounter any significant uranium contamination or buried waste during removal of soil for installation of the drain line. Further, the licensee's soil removal controls and limitations specified in operational planning and control documents will ensure that restriction and oversight of the removal and survey activities will be performed in a manner to ensure that criticality will not be an issue.

The inspectors' general survey measurements performed in the area of the proposed drain line and EP-1 were consistent with previous licensee surveys, and side-by-side measurements made with a WEC Health Physics staff member. The inspectors noted that the survey measurement specified in the licensee's criticality evaluation was clearly discernable, and that the soil removal process limitations and controls appeared reasonable.

c. Conclusions

The inspectors concluded that the licensee's work activities to install a drainage system (French Drain) and the modification of EP-1 and EP-2 were compliant with the licensee's Source Material License.

4.0 Exit Meeting Summary

The NRC inspectors presented inspection results to members of the facility management team following the on-site inspection on May 7, 2010. 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
R. Reynolds, Manager, Quality Assurance
C. Finkenbine, HP Operations Supervisor
K. Harris, Environmental, Health & Safety Manager
C. Crawford, Engineer
M. Michelson, Licensing

INSPECTION PROCEDURES USED

IP 83822 Radiation Protection
IP 84750 Radioactive Waste Treatment, and Effluent and Environmental Monitoring

ITEMS OPENED, CLOSED, AND DISCUSSED

Closed

None

Opened

None

Discussed

None

LIST OF ACRONYMS USED

ADAMS	Agencywide Documents Access and Management System
DNMS	Division of Nuclear Materials Safety
EP-1	Evaporation Pond-1
EP-2	Evaporation Pond-2
HEPA	High Efficiency Particulate Air
NRC	U.S. Nuclear Regulatory Commission
RWP	Radiation Work Permit
WEC	Westinghouse Electric Company

Westinghouse - Hematite Service List
cc:

Alex S. Polonsky
Morgan Lewis, Esq.
Morgan, Lewis & Kocjus LLP
1111 Pennsylvania Avenue, NW
Washington, DC 20004

R. Budd Haemer
Shaw Pittman, LLP
2300 N Street, NW
Washington, DC 20037-1128

Clarissa Eaton
Community Involvement Coordinator
The Joachim Watershed Community
Advisory Group at Hematite, Missouri
Festus, MO 63028

Ramona J. Huckstep
Community Relations Coordinator
Missouri Department of Natural Resources
Hazardous Waste Program
State of Missouri
P.O. Box 176
Jefferson City, MO 65103-0176

Kent Bradford, Chairman
Hematite Project Oversight Comm.
Western Zirconium
10000 West 900 South
Ogden, UT 84404-9760

Eric Gilstrap
Environmental Engineer
Department of Natural Resources
Federal Facilities Section
State of Missouri
917 N. Highway 67, Suite 104
Florissant, MO 63031

Kathleen M. Waltz
The Honorable Russ Carnahan
517 Bailey Road
Crystal City, MO 63019

Aaron Schmidt, Chief
Federal Facilities Section
Department of Natural Resources
State of Missouri
P.O. Box 176
Jefferson City, MO 65103-0176

Glenda Miller, Director
Division of Community and Public Health
Missouri Department of Health & Senior
Services
930 Wildwood
P.O. Box 570
Jefferson City, MO 65102-0570

Dennis Diehl
Jefferson County Department of Public
Health
405 Main Street
P.O. Box 437
Hillsboro, MO 63050

Patrick Lamping
Jefferson County Council Board of
Executives
P.O. Box 100
Hillsboro, MO 63050

Chuck Banks
Jefferson County Council Board of
Executives
P.O. Box 100
Hillsboro, MO 63050

Edward L. Kemp
Jefferson County Council Board of
Executives
P.O. Box 100
Hillsboro, MO 63050

Daniel Schuette, Director
Division of Environmental Quality
Department of Natural Resources
State of Missouri
P.O. Box 176
Jefferson City, MO 65102

Honorable Mark N. Templeton
Director
Department of Natural Resources
State of Missouri
P.O. Box 176
Jefferson City, MO 65103-0176

Branden Doster
Operating Facilities Unit Chief
Federal Facilities Section
Department of Natural Resources
State of Missouri
P.O. Box 176
Jefferson City, MO 65102-0176

Michele M. Gutman
Westinghouse Electric Company LLC
4350 Northern Pike
Monroeville, PA 15146-2886

Terry Draper
Festus City Administrator
Festus City Hall
711 West Main
Festus, MO 63028

Wm. Earl Cook, Sr
Mayor, Festus City
Festus City Hall
711 West Main
Festus, MO 63028