



Westinghouse Electric Company LLC  
Hematite Decommissioning Project  
3300 State Road P  
Festus, MO 63028  
USA

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001

Direct tel: 314-810-3355  
e-mail: fusselgm@westinghouse.com  
Our ref: HEM-16-46  
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Subject: Hematite Decommissioning Project - Reply to a Notice of Violation Issued November 27, 2015 (License No. SNM-00033, Docket No. 070-00036)

References: 1) NRC (R. Orlikowski) letter to Westinghouse (G. Fussell), dated November 27, 2015, "NRC Inspection Report 07000036/2015003(DNMS) Westinghouse Electric Company (Hematite) and Notice of Violation" (ML15334A404)  
2) Westinghouse (G. Fussell) letter to NRC (Document Control Desk), dated December 23, 2015, "Hematite Decommissioning Project – Reply to a Notice of Violation Issued November 27, 2015" (ML15357A074)  
3) NRC (M. Kunowski) letter to Westinghouse (G. Fussell), dated January 19, 2016, "Westinghouse Electric Company (Hematite) Acknowledgement of Disputed Violation of NRC Inspection Report 07000036/2015003(DNMS)" (ML16020A093)  
4) NRC (D. Roberts) letter to Westinghouse (G. Fussell), dated March 22, 2016, "Response to Disputed Notice of Violation Westinghouse Electric Company (Hematite) NRC Inspection Report 07000036/20150003(DNMS)" (ML16082A107)

Pursuant to the provisions of 10 CFR 2.201 and Reference 1, this letter submits the Westinghouse Electric Company LLC (Westinghouse) reply to the Notice of Violation that was transmitted by Reference 1.

By Reference 2 Westinghouse submitted a reply to the November 27, 2015, Notice of Violation in which Westinghouse contested violations 1, 2, and 3 and accepted violation 4. By Reference 3 the NRC acknowledged that Westinghouse was disputing violations 1, 2, and 3. Regarding violation 4 the NRC conveyed that it had reviewed the corrective actions, which NRC stated appear to be adequate, and that it had no further questions at that time.

In Reference 4 the NRC provided that it had completed its evaluation of the Westinghouse response to the Notice of Violation provided in Reference 2 and concluded that violations 1, 2, and 3 occurred as stated in the Notice of Violation.

Please contact Kenneth Pallagi of my staff at 314-810-3353 should you have questions or need any additional information.

Sincerely,

A handwritten signature in black ink, appearing to read "Gay M. Fussell", with a large circular flourish at the end.

Gay M. Fussell  
Director, Hematite Decommissioning Project

Attachment: 1) Westinghouse Response to Notice of Violation Issued by NRC on  
November 27, 2015, Violations 1, 2, and 3

cc: J. W. Smetanka, Westinghouse  
J. R. Tappert, NMSS DUWP  
M. A. Norato, NRC/DUWP/MDP  
J. A. Smith, NRC/ DUWP/MDP  
C. D. Pederson, NRC Region III  
D. J. Roberts, NRC Region III  
J. B. Giessner, NRC Region III/DNMS  
M. A. Kunowski, NRC Region III/DNMS/MCID

## **Attachment 1**

### **Westinghouse Hematite Decommissioning Project Response to Notice of Violation Issued by NRC on November 27, 2015 Violations 1, 2, and 3**

**Westinghouse Electric Company LLC, Hematite Decommissioning Project**

**Docket No. 070-00036**

## **WESTINGHOUSE RESPONSE TO NOTICE OF VIOLATION ISSUED BY NRC ON NOVEMBER 27, 2015**

During an U.S. Nuclear Regulatory Commission (NRC) inspection conducted between June 25, and October 15, 2015, four violations of NRC requirements were identified. In accordance with the NRC Enforcement Policy, the violations are listed below:

### **VIOLATION 1.**

Condition 9 of License SNM-33 states, in part, that the authorized usage of licensed material is described in the August 12, 2009, Decommissioning Plan (DP) and associated supporting documents noted in Hematite DP Safety Evaluation Report (ML112101630).

Section 13.0 titled "Quality Assurance Program" in the August 12, 2009, DP and associated supporting documents noted in the Hematite DP SER (ML112101630) states, in part, that the Hematite facility specific Quality Assurance (QA) plan for decommissioning is detailed in the Westinghouse Electric Company (WEC) document number HDP-PO-QA-001, Project Quality Plan (PQP). All work related to the Hematite facility decommissioning is required to comply with the PQP. The PQP and its implementing procedures establish the requirements that personnel are required to take for quality related activities.

Procedure HDP-PO-QA-001, Section 12, "Instructions, Procedures and Drawings," states, in part, activities affecting quality are prescribed by and performed in accordance with documented policies, procedures, plans, and/or drawings of a type appropriate to the circumstance.

Section 8.2.3 of HDP-PR-HP-602 Revision 3 references Work Package HDP-WP-ENG-803 titled "Isolation and Control Measures."

Section 4.1 of HDP-WP-ENG-803 states, in part, that BMP's (Best Management Practices) concerning storm water and surface water management are detailed in HDP-WP-OPS-503 "Construction Storm Water Management."

Section 3.0 "Structural BMP's" of Appendix B "Best Management Practices" of HDP-WP-OPS-503 states, in part, that storm water and surface water will be prevented from entering excavated areas: by maintaining or improving existing grade surrounding the excavation; installing diversionary berms and dikes around the areas of the excavation; installing silt fencing or equivalent filtering control; and constructing temporary barriers to slow flow velocity.

Contrary to the above on or about August 30, 2015, the licensee failed to prevent storm water from entering excavated area LSA 02-01. Specifically, storm water transported 15 radiologically contaminated items from LSA 05-04 to LSA 02-01.

This is a Severity Level IV violation.

Westinghouse originally contested this violation. The NRC concluded the violation occurred as stated in Response to Disputed Notice of Violation, as follows (in part):

*“Regarding the controls at the site for rainfall runoff, while the Environmental Report is not absolute about storm water flowing out of contaminated LSAs, a number of site procedures are currently worded as absolute-as we stated in the Notice of Violation, you are required to follow these procedures as written. The movement of the 15 radiologically contaminated items as a result of the heavy rain that occurred on August 30, 2015, and subsequent damage to a storm water contamination control structure near the same LSA from a heavy rainfall on September 10, 2015, demonstrate that controls specified in site procedures were not adequate to prevent storm water moving through contaminated areas. In your letter dated December 23, 2015, contesting this violation, you described some actions you had taken related to this violation. These actions, however, do not fully address the inadequate procedures.”*

## **1. REASON FOR THE VIOLATION**

The reason for the violation is the failure to install/construct an adequate Best Management Practice (diversionary berm, dike, silt fencing or equivalent filtering control) around the area of the excavation in adjacent LSA 05-04 from which the 15 radiologically contaminated items originated. An adequate BMP would have contained the 15 radiologically contaminated items within LSA 05-04.

A contributing factor was a severe weather event on or about August 30, 2015, which was not predicated on any weather forecast medium. This precluded the implementation of the Storm Event Contingency Plan as provided in HDP-WP-OPS-503, Construction Stormwater Management.

## **2. CORRECTIVE ACTION TAKEN AND RESULTS ACHIEVED**

### Violation 1 Corrective Action 1

Immediately upon notification by the on-site NRC inspector on September 3, 2015, that ORAU had identified 15 radiologically contaminated items in LSA 05-04 while performing FSS confirmatory surveys in that LSA, Westinghouse performed a gamma walk over survey to confirm the presence of the contaminated items and determined that the items had been transported from LSA 05-04 to LSA 02-01 by rapidly rising storm water.

Later on that same day, the radiologically contaminated items identified in LSA 02-01 were removed for waste disposal, in accordance with site procedures, with the exception of the largest piece, which was retained for analysis and eventually transferred to the possession of the NRC for future evaluation by ORAU. The surface area where the radiologically contaminated items were identified was then scraped using a large excavator to remove both the items and the

surrounding soil. Scraping of this area by the excavator also allowed for further investigation to determine if additional radiologically contaminated items could potentially be located subsurface. No other radiologically contaminated items were identified during the September 3, 2015, gamma walkover survey or during subsequent surveys of that area. The remediation resulted in two dump truck loads of soil along with the items being removed from the affected area in LSA 02-01 being transferred to Waste Holding Area Bin #9. This material was subsequently loaded into a rail car and shipped to USEI on September 9, 2015, for disposal.

Although not a component of this corrective action, but as a matter of public record, the NRC contractor, ORAU, was present on-site from September 1, 2015, through September 3, 2015, performing independent confirmatory survey activities in LSA 02-01, LSA 02-02 and LSA 02-03. The results of the confirmatory survey activities are documented in *the Final Interim Report – Independent Confirmatory Survey Summary and results for Survey Units LSAs 02-01, 02-02, and 02-03 for the Hematite Decommissioning Project, Festus, Missouri* (ML16078A258)

On September 4, 2015, a follow up gamma walk over survey was performed as a post remediation activity by HDP Health Physics and was subsequently followed by a confirmatory Final Status Survey by the FSS Contractor of the affected area. As the NRC Region III Inspector was still on-site, Westinghouse requested that the NRC Region III Inspector perform a gamma walk over survey prior to departure from the site. The Region III Inspector honored the request to perform a gamma walk over survey of the affected area. The results of the survey are in the possession of NRC Region III.

On September 8, 2015, (following the 3-day Labor Day Holiday weekend when work activities were not in progress) HDP performed a 100% visual inspection and gamma walk over survey (extent of condition) of the Site Pond, and no additional or similar items were identified. All observed gamma readings were consistent with the gamma walk over survey results previously collected, indicating the identification of the contaminated items was confined to the northeast section of LSA 02-01.

The visual inspection and radiological survey were then expanded to the survey units designated LSA 05-04, LSA 04-02, and LSA 04-03 that are directly east, up-gradient of, and adjacent to the Site Pond survey units LSA 02-01 and LSA 02-02. Remediation and final status survey as of this time were not complete in LSA 05-04, LSA 04-02, and LSA 04-03. As expected, in survey unit LSA 05-04 (as remediation had yet to be completed) the visual inspection identified similar in nature, but different items, in that they were much smaller and lighter items. None of the items identified in LSA 05-04 indicated the presence of radioactive material as determined by the radiological survey.

On September 9, 2015, additional remediation in LSA 05-04 was performed to ensure adequate removal of any similar material that may exist subsurface to the current excavation elevation. Radiological surveys and visual inspections during the remediation of LSA 05-04 did not identify any additional material subsurface in the area.

On September 10, 2015, after the completion of the prior day's remediation in LSA 05-04, a gamma walk over survey was performed in the LSA 05-04 area where the remediation had been conducted. All observed radiological survey measurements were consistent with background, and no additional material was observed by visual inspection.

Later on September 10, 2015, another localized and heavy rain event occurred where 1.75 inches of rain fell on the site in approximately 15 minutes. This caused flash flooding that led to damage and washout of BMP's surrounding the north end of the Site Pond in LSA 02-01. The NRC Region III Inspector was onsite at the time and observed the area.

After the rain event had passed, as required by site procedures, visual inspection of the Site Pond LSA 02-01 survey unit was performed and indicated that the BMP's had been damaged and additionally, gravel from the adjacent area of LSA 05-04 had been washed into LSA 02-01. On September 11, 2015, the gamma walkover survey portion of the inspection was conducted in LSA 02-01 with no radiologically contaminated items identified.

The result of Corrective Action 1 for Violation 1 ensured that no other radiologically contaminated items from LSA 05-04 entered or were present in downstream survey units LSA 02-01, LSA 02-02, and LSA 02-03.

#### Violation 1 Corrective Action 2

In regards to the possibility of radioactively contaminated items being transported by storm water in other areas of the site where FSS has been completed, Westinghouse implemented a revision to HDP-WP-ENG-802, *Backfill & Site Restoration* as a corrective action. A new paragraph was added to step 4.4, Authorization to Proceed, as follows: *"The RSO will ensure that a confirmatory gamma walk over survey of the subject LSA has been completed no more than 72 hours prior to the commencement of backfill operations. The results of the survey will be compared to the original FSS and placed in the document file for the FSS unit. If survey results are observed to be significantly different than the original FSS (by greater than 3 sigma above the mean) then backfill will not occur and FSS will be repeated."*

As Corrective Action 2 for Violation 1, the additional step in the work package ensures that a gamma walkover survey is performed just prior to backfill of a survey unit to identify if any radioactively contaminated items may have been transferred into a survey unit in which FSS has been completed. This action precludes unknowingly covering or making inaccessible radioactively contaminated items by backfill soil. Other survey units that have not been excavated and/or do not require backfill will remain open and accessible for inspection. This corrective action has been consistently applied since the implementation of the revision to HDP-WP-ENG-802, *Backfill & Site Restoration*. No additional radioactively contaminated items have been identified in any survey unit of the site post FSS.

#### Violation 1 Corrective Action 3

In regards to implementing a corrective action to address *"that controls specified in site procedures were not adequate to prevent storm water moving through contaminated areas"* which is based upon the NRC conclusion that the violation occurred as stated in the Notice of Violation, Westinghouse would anticipate performing an additional assessment of the event,



reviewing any precursors to the event, as well as assessing any applicable contributing factors. Based upon the results of the assessment Westinghouse would then revise the affected procedure, in this instance HDP-WP-OPS-503, *Construction Stormwater Management*, subsequently conduct training of site personnel on the revision, and provide to site personnel the expected performance outcomes.

At this juncture of the Hematite Decommissioning Project, the radiological remediation of the site has been completed as described in the Decommissioning Plan; therefore, the completion of radiological remediation serves as an appropriate and all-encompassing corrective action to this violation. The fact that the radiological remediation of the site is complete and is no longer at risk for transporting radioactively contaminated items from one location to another, this alleviates the need to revise site procedures to address the adequacy of preventing storm water moving through contaminated areas. Revising procedures that are no longer applicable, as the regulatory intent of the task (radiological remediation as provided in the Decommissioning Plan and the need to control storm water) has been completed, provide no substantive benefit to the health and safety of the work force or the general public.

The result of completion of the radiological remediation of the site is that there is no longer a risk of stormwater transporting radioactively contaminated items from a survey unit in which remediation has not been completed into a survey unit in which FSS has been completed.

#### Violation 1 Corrective Action 4

As provided in the original response to the Notice of Violation in the “Corrective Steps that Will be Taken” section, Westinghouse initiated and has completed Westinghouse Corrective Action Prevention and Learning (CAPAL) Issue #100348380. The Apparent Cause Analysis conducted for the CAPAL was performed by a trained and qualified individual independent from the Westinghouse HDP staff which had provided the original response (Reference 2) to the Notice of Violation.

The barrier analysis concluded that 1) the isolation and control barrier was “Not sufficient to handle greater than design basis event”; and 2) that the “Visual inspection of LSA 02-01 after rainfall event was inadequate in that the material transferred into the area was not visually discernable from surrounding soil and thereby was not identified.”

Based upon the results of the barrier analysis Westinghouse would anticipate performing a re-evaluation of the design basis of isolation and control barriers and a re-evaluation of the visual inspection process and criteria. Westinghouse would then subsequently revise the affected procedures, conduct training of site personnel to the revisions, and provide to site personnel the expected performance outcomes.

At this juncture of the Hematite Decommissioning Project, the radiological remediation of the site has been completed as described in the Decommissioning Plan; therefore, the completion of radiological remediation serves as an appropriate and all-encompassing corrective action to this violation. The fact that the radiological remediation of the site is complete and therefore there is no longer a risk for the transport of radioactively contaminated items, this alleviates the need to revise site procedures to address the adequacy of preventing storm water moving through



contaminated areas. Revising procedures that are no longer applicable, as the regulatory intent of the task (radiological remediation as provided in the Decommissioning Plan and the need to control storm water or inspect for non-discernable waste) has been completed, provide no substantive benefit to the health and safety of the work force or the general public.

The result of completion of the radiological remediation of the site is that there is no longer a risk of stormwater transporting radioactively contaminated items from a survey unit in which remediation has not been completed into a survey unit in which FSS has been completed.

### **3. CORRECTIVE STEPS THAT WILL BE TAKEN**

As radiological remediation of the site is complete Westinghouse concludes no other corrective steps are required.

### **4. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED**

In regards to the notice of violation “*that controls specified in site procedures were not adequate to prevent storm water moving through contaminated areas*”, completion of radiological remediation of all land survey areas on April 11, 2016, ensures that the site has achieved full compliance on that date.

## **VIOLATION 2.**

Condition 9 of License SNM-33 states, in part, that the authorized usage of licensed material is described in the August 12, 2009, Decommissioning Plan (DP) and associated supporting documents noted in Hematite DP Safety Evaluation Report (ML112101630).

Section 13.0 titled "Quality Assurance Program" in the August 12, 2009, DP and associated supporting documents noted in the Hematite DP SER (ML112101630) states, in part, that the Hematite facility specific Quality Assurance (QA) plan for decommissioning is detailed in the Westinghouse Electric Company (WEC) document number HDP-PO-QA-001, Project Quality Plan (PQP). All work related to the Hematite facility decommissioning is required to comply with the PQP. The PQP and its implementing procedures establish the requirements that personnel are required to take for quality related activities.

Procedure HDP-PO-QA-001, Section 12, "Instructions, Procedures and Drawings," states, in part, that each organization performing activities covered by the QA Program shall establish adequate procedures implementing the requirements of the PQP (Project Quality Plan) that apply to its work.

Contrary to the above, the licensee failed to establish adequate procedures implementing the requirements of this PQP (Project Quality Plan) that apply to its work. Specifically, HDP-PO-FSS-700 did not address licensee actions if a rain event occurred and water and/or sediment could have entered previously Final Status Surveyed area. On or about August 30, 2015, a rain event occurred and moved 15 radiologically contaminated items into LSA 02-01, a previously Final Status Surveyed area.

This is a Severity Level IV violation.

Westinghouse originally contested this violation. The NRC concluded the violation occurred as stated in the Response to Disputed Notice of Violation, as follows (in part):

*"In your letter dated December 23, 2015, contesting this violation, you indicated that an existing procedure (work package) HDP-WP-ENG-802, "Backfill & Site Restoration," has been changed to require a gamma survey be performed of a remediated and uncontaminated area prior to backfill. This change, however, does not provide for timely survey, and control, of an area that potentially has been re-contaminated through heavy surface water flow as a result of a rain storm."*

### **1. REASON FOR THE VIOLATION**

The reason for the violation is an inadequate procedure for implementing actions after a rain event. Specifically, HDP-PO-FSS-700 did not address actions if a rain event occurred and water and/or sediment could have entered a previously Final Status Surveyed area.

## 2. CORRECTIVE ACTION TAKEN AND RESULTS ACHIEVED

As provided in the original response to the Notice of Violation in the “Corrective Steps that Will be Taken” section, Westinghouse initiated and has completed Westinghouse Corrective Action Prevention and Learning (CAPAL) Issue #100348381. The Apparent Cause Analysis conducted for the CAPAL was performed by a trained and qualified individual independent from the Westinghouse HDP staff which had provided the original response to the Notice of Violation (Reference 2).

The barrier analysis completed for this CAPAL concluded that 1) the isolation and control barrier was “Not sufficient to handle greater than design basis event”; 2) that the “Visual inspection of LSA 02-01 after rainfall event was inadequate in that the material transferred into the area was not visually discernable from surrounding soil and thereby was not identified.”; and 3) It was not clear to the NRC that this procedure was the proper procedure to deal with a rain event beyond design basis instead of HDP-PO-FSS-700”.

In regards to items 1 and 2 of the barrier analysis conducted in CAPAL #100348381 the corrective actions have been addressed in the response to Violation 1 as provided above.

### Violation 2 Corrective Action 1

Revision 6 to HDP-PO-FSS-700, *Final Status Survey Program* has been implemented. A new section 15.0 entitled “Surveillance Following FSS” has been implemented. The new section 15.0 text is as follows:

*Following the completion of a FSS, continued surveillance of FSS completed survey units to identify and minimize the potential to re-contaminate is required. Possible events that could cause re-contamination of a survey unit include but are not limited to:*

- *Surface water transport of contaminated radioactive waste or debris from a survey unit in which remediation has not been completed.*
- *Surface water transport of contaminated sediment or soil from a survey unit in which remediation has not been completed.*
- *Errant excavator or bulldozer operation that transfers radioactive waste or debris from a survey unit in which remediation has not been completed.*
- *Failure of isolation and control structures in survey units in which remediation has not been completed.*
- *Failure of a radioactive waste container and subsequent spill into a survey unit in which FSS has been completed.*

*In the case of such events, the Project Director/RSO will ensure appropriate actions to respond to and mitigate the event are carried out in accordance with existing site procedures and that timely radiological survey of the affected survey unit is performed. A description of the event and the results of the radiological survey shall be included in the “Surveillance Following FSS” section of the survey area release record.*

*To provide assurance that radioactive contaminated material does not reside in a survey unit and is inadvertently covered with backfill soil, Health Physics will ensure that a confirmatory*

*gamma walk over survey of the subject LSA/survey unit has been completed no more than 72 hours prior to the commencement of backfill operations. The results of the survey will be compared to the original FSS and placed in the document file for the FSS unit. If survey results are observed to be significantly different than the original FSS (by greater than 3 sigma above the mean) then backfill will not occur, an investigation will be performed to determine the cause of the deviation, and a new FSS as approved by the RSO will be conducted.*

The result of this corrective action is to address not only the probable consequence of a rain event, but also of other events that could result in re-contamination of a survey unit. The corrective action provides instruction to follow existing site procedures to mitigate and control the event as well as conduct a timely radiological survey. To provide defense in depth to the issue of unidentified radioactively contaminated items remaining in a LSA/survey unit, the corrective action requires radiological survey of LSA/survey units within 72 hours prior to backfill. This radiological survey is intended to demonstrate the continued acceptability of the LSA/survey unit for unrestricted release as part of license termination. The corrective action also provides for the documentation of any event that may have radiologically impacted a survey unit in which FSS has been completed.

### **3. CORRECTIVE STEPS THAT WILL BE TAKEN**

Westinghouse concludes no other corrective steps are required.

### **4. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED**

Full compliance was achieved on April 7, 2016, with the issuance of Revision 6 of HDP-PO-FSS-700, Final Status Survey Program.

### **VIOLATION 3.**

Condition 9 of License SNM-33 states, in part, that the authorized usage of licensed material is described in the August 12, 2009, Decommissioning Plan (DP) and associated supporting documents noted in Hematite DP Safety Evaluation Report (ML112101630).

Section 14.4.4.1.6.2 titled "Sub-surface Soil" in the August 12, 2009, DP and associated supporting documents noted in the Hematite DP SER (ML112101630) states, in part, the Final Status Survey (FSS) will consist of Gamma Walkover Survey's (GWS) of 100 percent of the excavated surfaces to be included in the survey unit, or portion of a survey unit.

Contrary to the above on May 29, 2015, the licensee did not perform a 100 percent GWS of LSA 10-01 and 10-02 of the excavated surfaces that were included in the survey unit, as documented in HEM-15-52, dated May 29, 2015.

This is a Severity Level IV violation.

Westinghouse originally contested this violation. The NRC concluded the violation occurred as stated in Response to Disputed Notice of Violation, as follows:

*"For Violation No. 3, failure to survey 100 percent (gamma walkover) of LSA 10-01 and 10-02, you contended that you met the intent of the Decommissioning Plan and industry guidance. In our review, we determined as with Violation No. 1 that you did not follow the required site procedures. We mentioned to you in one of the routine publicly-noticed telephone conferences (on October 29, 2015-ADAMS Accession Number ML15307A152) that you need to provide justification when 100 percent survey coverage is not achieved. In your letter dated December 23, 2015, contesting this violation, you indicated that you would provide a detailed discussion in survey area release records of why a 100 percent survey may not have been achieved. You also indicated that procedures had been revised to provide for modifications to survey methods and equipment that could potentially reduce the amount of areas not subject to 100 percent survey. To complete corrective actions for this violation, you need to provide an explanation of why a 100 percent survey was not completed, and you need to complete an evaluation that demonstrates the entire area is acceptable for unrestricted use, in accordance with the radiological criteria of 10 CFR 20.1402, given that less than 100 percent of an area was surveyed."*

#### **1. REASON FOR THE VIOLATION**

As stated above, the reason for the violation is that the site staff has not yet provided a detailed discussion in survey area release records of why a 100 percent survey may not have been achieved.

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## **2. CORRECTIVE ACTION TAKEN AND RESULTS ACHIEVED**

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### Violation 3 Corrective Action 1

As provided in the original response to the Notice of Violation in the “Corrective Steps that Will be Taken” section, Westinghouse initiated and has completed Westinghouse Corrective Action Prevention and Learning (CAPAL) Issue #100348372. The Apparent Cause Analysis conducted for the CAPAL was performed by a trained and qualified individual independent from the Westinghouse HDP staff which had provided the original response to the Notice of Violation (Reference 2).

The barrier analysis completed for this CAPAL concluded that clear communication techniques failed as a result of having separate discussions with two separate entities (NRC headquarters and Region III) to address the issue regarding 100 percent Gamma Walkover Survey. Two corrective actions were implemented for CAPAL Issue #100348372.

The first corrective action for CAPAL Issue #100348372, which preceded the November 27, 2015, issuance of the violation by the NRC, was to update procedure HDP-PR-FSS-701, Final Status Survey Plan Development by adding the following clarification:

*“If a 100% scan of the exposed soil surface is not achievable, then contact the RSO for guidance. Alternate methods of evaluating the area must be employed (e.g. additional sampling, scanning using extension poles, or other methods approved by the FSS Plan).”*

The DQO process established by the Westinghouse FSS program dictates that prior to making any deviations from the approved FSS plan the RSO is to be informed. The RSO then assesses the deviation(s) and the FSS plan is revised accordingly to incorporate any new guidance determined to be necessary to ensure demonstration with the release criteria is achieved. This process is important as it is difficult to predict all future situations where field conditions may prevent 100% GWS coverage; however, it is possible for Westinghouse to assess each situation as it arises and incorporate the necessary actions (e.g. additional sampling, scanning using extension poles, evaluations, or other methods as approved through the DQO process) into the appropriate FSS Plan. Furthermore these assessments will be incorporated into the survey area release record for the respective LSA where 100% GWS coverage was not attainable.

Revision 10 to HDP-PR-FSS-701 which contained the clarification was implemented on November 19, 2015. The result of the corrective action is clarification of required actions if 100% GWS of the exposed soil surface is not achievable for a Class 1 survey unit.

The second corrective action for CAPAL Issue #100348372 was to submit Westinghouse letter HEM-15-131, *Reply to a Notice of Violation Issued November 27, 2015*, to the NRC to concisely communicate and document the Westinghouse’ position in regard to the issue of 100% GWS as communicated to and by NRC Region III and to and by NRC Headquarters. The result of this corrective action was a letter from NRC Region III dated March 22, 2016, *Response to Disputed Notice of Violation Westinghouse Electric Company (Hematite) NRC Inspection Report 07000036/2015003(DNMS)*.

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### 3. CORRECTIVE STEPS THAT WILL BE TAKEN

#### Violation 3 Corrective Action 2

As provided in the NRC response to Westinghouse: *“To complete corrective actions for this violation, you need to provide an explanation of why a 100 percent survey was not completed, and you need to complete an evaluation that demonstrates the entire area is acceptable for unrestricted use, in accordance with the radiological criteria of 10 CFR 20.1402, given that less than 100 percent of an area was surveyed.”*

As previously agreed to during the October 29, 2015, conference call with NRC Headquarters, Westinghouse will provide a detailed explanation in the survey area release record for LSA 10-01 and LSA 10-02 as to why a 100 % GWS was not able to be completed in LSA 10-01 and LSA 10-02.

As agreed to in the October 29, 2015, conference call with NRC Headquarters, to demonstrate that survey units LSA 10-01 and LSA 10-02 are acceptable for unrestricted use, in accordance with the radiological criteria of 10 CFR 20.1402, Westinghouse will utilize the prescribed regulatory process to submit a survey area release record for LSA 10-01 and LSA 10-02 that contains the detailed explanation. Westinghouse in coordination with NRC Headquarters is utilizing a schedule matrix to track completion dates for Final Status Survey documents and reviews. The projected date of submittal of the survey area release record for LSA 10-01 and LSA 10-02 is on or before 8-12-2016.

#### Violation 3 Corrective Action 3

As provided in the NRC response to Westinghouse: *To complete corrective actions for this violation, you need to provide an explanation of why a 100 percent survey was not completed, and you need to complete an evaluation that demonstrates the entire area is acceptable for unrestricted use, in accordance with the radiological criteria of 10 CFR 20.1402, given that less than 100 percent of an area was surveyed.*

Westinghouse will provide an evaluation that demonstrates the entire area (LSA 10-01 and LSA 10-02) is acceptable for unrestricted use in accordance with the radiological criteria of 10 CFR 20.1402. To demonstrate that survey units LSA 10-01 and LSA 10-02 are acceptable for unrestricted use, in accordance with the radiological criteria of 10 CFR 20.1402, Westinghouse will utilize the prescribed regulatory process to submit a survey area release record for LSA 10-01 and LSA 10-02 that contains the evaluation that demonstrates that the radiological status of survey units meet the criteria of 10 CR 20.1402 for unrestricted use. Westinghouse in coordination with NRC Headquarters is utilizing a schedule matrix to track completion dates for Final Status Survey documents and reviews. The projected date of submittal of the survey area release record for LSA 10-01 and LSA 10-02 is on or before 8-12-2016.

### 4. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

To achieve full compliance Westinghouse must demonstrate that LSA 10-01 and LSA 10-02 are acceptable for unrestricted use in accordance with 10 CFR 20.1402.



10 CFR 20.1402 states “A site will be considered acceptable for unrestricted use if the residual radioactivity that is distinguishable from background radiation results in a TEDE to an average member of the critical group that does not exceed 25 mrem (0.25 mSv) per year, including that from groundwater sources of drinking water, and the residual radioactivity has been reduced to levels that are as low as reasonably achievable (ALARA). Determination of the levels which are ALARA must take into account consideration of any detriments, such as deaths from transportation accidents, expected to potentially result from decontamination and waste disposal.”

Westinghouse has submitted to the NRC letter HEM-16-15, *Westinghouse Hematite Decommissioning Project - Request for NRC Review of Final Status Survey Final Report Volume 6, Chapter 1, Groundwater Overview*. This document contains a summary of the groundwater monitoring that was conducted for the Hematite Decommissioning Project, including the regulatory bases for the monitoring, the objectives of the monitoring, the data collected, and the analysis of the sample results, to demonstrate that Westinghouse has met its commitments to the NRC in supporting the unrestricted release of the site at License termination in regards to groundwater. This document also contains a description of the post remediation monitoring of groundwater wells. The radiological data from the sample analysis of the groundwater monitoring wells is used to determine the dose contribution of groundwater to the TEDE which cannot exceed 25 mrem per year.

As such, full compliance will be achieved upon completion of the requisite post remediation groundwater monitoring period, at which time the dose associated with groundwater component will be incorporated into the total dose calculation for survey units LSA 10-01 and LSA 10-02, thus demonstrating LSA 10-01 and LSA 10-02 are acceptable for unrestricted use.

A summary of the total dose for survey units LSA 10-01 and LSA 10-02, as well as all other land survey area survey units will be submitted to the NRC in the Final Status Survey Final Report (FSSFR) Volume 7. Westinghouse in coordination with NRC Headquarters is utilizing a schedule matrix to track completion dates for Final Status Survey documents and reviews. The projected date of submittal of the FSSFR Volume 7 is on or before 5-3-2017.