

Hematite Decommissioning Plan  
Health Physics  
Request for Additional Information

**Hematite Decommissioning Plan Chapter 8 – Planned Decommissioning Activities**

1. (HDP-8-Q1) Comment: Section 8.2, Site Preparation, of the Hematite Decommissioning Plan (DP) indicates that spent limestone from within the impacted area will be utilized in the construction of a railcar loading pad. This limestone may contain  $^{99}\text{Tc}$  and could potentially spread contaminated material to a non-impacted area if it were utilized for the loading pad.

Path Forward: Please clarify whether spent limestone having residual radioactivity from onsite was used as fill for the rail car loading pad.

2. (HDP-8-Q2) Comment: Section 8.2 of the DP indicates that a Water Treatment System will be installed in Building 230. However, there are no details on the System.

Basis: In accordance with 10 CFR Part 20.1101(b) and as recommended in Section 17.4.1 of NUREG 1757 Vol. 1, Rev. 2, "Environmental ALARA Evaluation Program", the licensee needs to provide a description of the procedures, engineering controls, and process controls to maintain doses as low as reasonably achievable (ALARA).

Path Forward: Provide a detailed description of the water treatment system components, designed volume capacity and decontamination factors. Provide information on how Westinghouse will ensure effluent releases are maintained ALARA and below liquid release limits.

3. (HDP-8-Q3) Comment: Section 8.3.1, Structures to Be Demolished, of the DP provides no information as to when floor slabs and foundations will be decontaminated or how contamination will be controlled during soil remediation activities or the impact of heavy equipment on the surface contamination of slabs and foundations.

Path Forward: Provide information as to when floor slabs and foundations will be decontaminated, how contamination will be controlled during soil remediation activities and the impact of heavy equipment on the surface contamination of slabs and foundations.

4. (HDP-8-Q4) Comment: Section 8.4.1, Sanitary Wastewater Treatment Plant (SWTP) and Storm Drain System (SDS), of the DP states that "...drain piping that cannot be accessed for survey may require removal based on an evaluation of historical information, and the information obtained from similar drain components during decommissioning. If this information is incomplete or inadequate to form a reasonable basis that the drain and surrounding soil meet the DCGL, then the drain will be removed and surrounding soil evaluated by radiological surveys and sampling." The statement, as written, appears to indicate that the DCGL evaluation may be based on historical information rather than an actual survey. Contaminated piping would be considered a

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Class 1 survey area, and would require a complete survey. Additional details are needed on how drain piping will be surveyed and evaluated to meet the DCGL.

Basis: Guidance provided in MARSSIM (NUREG-1575) states that 100% scans should be performed on Class 1 areas.

Path Forward: Provide a description of how potentially contaminated buried piping and surrounding soil will be surveyed and evaluated in Class 1 areas.

5. (HDP-8-Q5) Comment: DP Section 8.5.3.2.1 indicates that soil remediation in the vicinity of the natural gas pipe line could present significant hazards to the workers and the potential for disrupting local utility service. The DP indicated that Westinghouse may propose an independent dose assessment for achieving the remediation goal in this area if, at the time of remediation, additional excavation to achieve the desired DCGLs may introduce an unacceptable risk to the workers, environment or the public. The NRC will not approve an alternative plan that does not meet the unrestricted release criteria.

Path Forward: Westinghouse should engage the natural gas company and develop an approach for the safe excavation of the soils so that the unrestricted dose release criterion is met.

6. (HDP-8-Q6) Comment: Section 8.6, Surface Water and Groundwater, of the DP, references the Historical Site Assessment (HSA) and the Hematite Radiological Characterization Report (HRCR) as the basis for the determination that the surface water and ground water require no remediation. However, the sections of the two reports which form the basis for this conclusion are not identified in Section 8.6.

Path Forward: Identify those sections of the HSA and the HRCR which provide basis that there is no need to remediate of surface water and ground water.

7. (HDP-8-Q7) Comment: Section 8.6.3, Radiation Protection and Safety Controls, of the DP appears inappropriately titled since its subject material focuses on Environmental Health and Safety Controls.

Path Forward: Indicate whether Section 8.6.3 is appropriately titled.

8. (HDP-8-Q8) Comment: Section 8.7, Final Status Survey (FSS), of the DP indicates that crusting agents or binders may be applied as part of the excavation process.

Path Forward: Provide technical basis for the impacts on the FSS when crusting agents or binders are applied.

9. (HDP-8-Q9) Comment: Chapter 8 of the DP does not appear to contain a commitment by WEC to conduct decommissioning activities in accordance with approved written procedures.

Basis: The expectation for this commitment is given in NUREG-1757, Vol. 1, Rev. 2, Appendix D, Section VIII on "Planned Decommissioning Activities." More specifically, it is noted in Sections VIII.a. (Contaminated Structures), VIII.b. (Contaminated Systems and Equipment), VIII.c. (Soil), and VIII.d. (Surface and Ground Water).

Path Forward: Provide a commitment to conduct decommissioning activities in accordance with written, approved procedures.

10. (HDP-8-Q10) Comment: Chapter 8.0, Planned Decommissioning Activities, of the DP provides the scope of the remaining decommissioning activities. However, it appears that the rail spur and loading pad, soil treatment facility, water treatment system and equipment and soil staging areas and temporary haul roads are not discussed in any detail in the document.

Path Forward: Provide, in Chapter 8, a discussion of the utilization of rail spur and loading pad, soil treatment facility, water treatment system and equipment and soil staging areas and the temporary haul roads during decommissioning activities or reference those sections of the DP where they are described.

11. (HDP-8-Q11) Comment: The second bullet of Chapter 8.0 seems to imply that Table 8-2 provides a listing of structures which will remain upon license termination. Actually Table 8-2 is a listing of all site structures and only three of the buildings listed and possibly a fourth will remain upon license termination.

Path Forward: Please clarify the second bullet of Chapter 8.0 and how Table 8-2 relates to the structures that will remain following decommissioning.

12. (HDP-8-Q12) Comment: Table 8-1 provides a listing of significant Hematite Decommissioning Project plans. Many of the Plans listed in the Table are referenced frequently in the DP as containing the basis for Westinghouse conclusions or actions associated with the decommissioning. However, since some of these Plans have not been provided the staff does not know what actions or conclusions Westinghouse is referring to.

Path Forward: Provide a copy of the Plans or, if such Plans are not provided, include in the DP the information contained in the Plans which forms the basis for the point made in the DP.

13. (HDP-8-Q13) Comment: In Section 8.1.1, Integrated Safety Analysis, it is stated that an evaluation of the decommissioning activities was completed and showed that the maximum exposed member of the public would not receive a dose which would exceed 1 rem as a result of the release of radioactive materials. A dose acceptance criteria of 1 rem is inconsistent with Part 20 requirements for the exposure of members of the public and ALARA.

Basis: Subpart D of 10 CFR Part 20 establishes dose limits for individual members of the public. According to 10 CFR 20.1301 the total effective dose equivalent to individual members of the public from the licensed operation does not exceed 0.1 rem in a year, exclusive of the dose contributions from background radiation. The limit is not 1 rem.

Path Forward: Provide the justification for concluding that 1 rem is an appropriate dose criterion for exposure of members of the public.

14. (HDP-8-Q14) Comment: DP Section 8.1.2 describes how nuclear criticality safety (NCS)-exempt material will be handled. It is unclear what the threshold is for the “NCS-exempt” determination.

Basis: NUREG 1757, Vol. 1, states that a description of NCS requirements should be provided.

Path Forward: Please describe “NCS-exempt material” in more specific terms (i.e. what is the mass and/or concentration limit) and the technical basis.

### **Hematite Decommissioning Plan Chapter 9 – Project Management and Organization**

1. (HDP-9-Q1) Comment: DP Section 9.2.1 Procedures, does not provide a description of the responsibility and authority of each unit to ensure that decommissioning activities are conducted in a safe manner and in accordance with approved written procedures.

Basis: Checklist item number 4 of NUREG 1757, Vol. 1, Appendix D, Section IX.a indicates that the licensee should provide, “A description of the responsibility and authority of each unit to ensure that decommissioning activities are conducted in a safe manner and in accordance with approved written procedures.”

Path Forward: Provide in Section 9.2.1 a description of the responsibility and authority of each unit to ensure that decommissioning activities are conducted in a safe manner and in accordance with approved written procedures.

2. (HDP-9-Q2) Comment: Section 9.2.3 states that, “RWPs are further discussed in detail in Chapter 10.” However, Chapter 10 does not discuss Radiation Work Permits (RWPs).

Path Forward: Provide in Chapter 10 a discussion of Westinghouse’s use of RWPs at Hematite during decommissioning.

3. (HDP-9-Q3) Comment: The Hematite Decommissioning Plan (HDP) provides a Radiation Safety Officer (RSO) job description consistent with NUREG 1757. However, the HDP designates the job title as Radiation Protection Manager and not as the RSO. The descriptions of key HDP managers in HDP Section 9.3 are inconsistent with industry standards and NRC guidance. For example, HDP Section 9.3.5 states that the Radiation Protection Manager will have a minimum of one year of work in applied health physics, industrial hygiene or similar work.

Basis: NRC guidance in Regulatory Guide 1.8 endorses ANSI/ANS 3.1-1993 and ANSI/ASME NQA-1-1983 which is endorsed by the WEC QA Program. ANSI states that the Radiation Protection Manager is required to have 5 years of experience, and RG 1.8 adds that 3 years of experience should be at a level requiring policy planning and decision making related to the programmatic aspects of the radiation program as a whole.

Path Forward: Please clarify whether the qualifications of the key HDP management positions are consistent with industry standards ANSI/ANS 3.1-1993 and ANSI/ASME NQA-1-1983.

4. (HDP-9-Q4) Comment: DP Section 9.3.5 describes the radiation protection responsibilities; however, the Section is silent as to the Radiation Protection Manager's ability to stop work.

Basis: NUREG 1757 specifically states that the RSO should have the authority and access to all areas involved in the decommissioning or radioactive material usage at the site and the specific authority and responsibility to stop any operations that, in the RSO's opinion, are not considered being conducted safely.

Path Forward: Clarify the stop work authority and responsibilities of the Radiation Protection Manager.

5. (HDP-9-Q5) Comment: DP Section 9.1.2 describes the Hematite Decommissioning Project's Stop Work Policy. However, there is no discussion on who possesses the authority for restart.

Path Forward: Provide a description of the process for authorizing restart and who possesses the authority to issue a restart order.

6. (HDP-9-Q6) Comment: DP Section 9.3.2 states that the Project Oversight Committee (POC) Chairman designates subcommittees, recommends the committee members, and that, as a minimum, Radiation Protection, Licensing and Operations shall have representatives. It is unclear how the committee can provide effective oversight given that the membership is composed of HDP project personnel and many may have line management responsibilities for implementing the programs that are being reviewed by the POC.

Basis: In Section 17.2.3 of NUREG –1757, Vol. 1, Rev.2 "Decommissioning Management Positions and Qualifications" it is recommended that the information supplied by the licensee should be sufficient to allow the staff to fully understand the responsibilities and minimum qualifications required for each of the management and safety-related positions within the licensee's decommissioning project organization. The licensee is expected to provide description of the duties and responsibilities of each management position in the decommissioning organization and the reporting responsibility of the position.

Path Forward: Please clarify how the POC will be able to maintain independent oversight and not interfere with the line management responsibility to assure work is safely planned, directed and performed. Update Figure 9-1 to show the relationship between the Radiation Protection, Licensing and Operations organizations to the POC chairman.

7. (HDP-9-Q7) Comment: DP Section 9.3.6 states that Decommissioning Committees will be responsible for providing direction, guidance and overview to ensure compliance. It is not clear how committees will provide direction as this is typically the responsibility of line managers.

Basis: In Section 17.2.3 of NUREG – 757, Vol. 1, Rev.2 “Decommissioning Management Positions and Qualifications” it is recommended the licensee to provide a description of all decommissioning and safety committees, including the membership of the committees, the duties and responsibilities of each committee, and the authority of each committee.

Path Forward: Clarify how committees will provide direction and how this responsibility is differentiated from the responsibility provided line management.

8. (HDP-9-Q8) Comment: DP Section 9.3.3 states that the Operations functional area manager will meet minimum qualifications including NCS training. Section 10.9.1.2.1 of the DP describes two levels of NCS training: entry and advanced. It is unclear what level of training the Operations Functional Area Manager will be required to complete.

Path Forward: Provide clarification as to the specific NCS training that the Operations Functional Area Manager is required to complete.

9. (HDP-9-Q9) Comment: DP Section 9.3.4 states that the Licensing functional area manager will meet minimum qualifications including competency in NCS.

Basis: NUREG 1757, Vol. 1, states that a description of management responsibilities and technical qualifications of safety personnel should be provided.

Path Forward: Please clarify what is meant by “competency in NCS.”