NUREG-1757, App. D
DECOMMISSIONING PLAN CHECKLIST

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NRC License SNM-33, Docket No. 70-36

HEMATITE, MISSOURI

January 2005

DECOMMISSIONING PLAN CHECKLIST

I. EXECUTIVE SUMMARY

- ***The name and address of the licensee or owner of the site***

  Section 1.1

- ***The location and address of the site***

  Section 1.1

- ***A brief description of the site and immediate environs***

  Sections 1.0 and 1.1

- ***A summary of the licensed activities that occurred at the site***

  Section 1.2

- ***The nature and extent of contamination at the site***

  Section 1.3

- ***The decommissioning objective proposed by the licensee (i.e., restricted or unrestricted use)***

  Section 1.4

- ***The DCGLs for the site, the corresponding doses from these DCGLs, and the method that was use to determine the DCGLs***

  Section 1.5

- ***A summary of the ALARA evaluations performed to support the decommissioning***

  Section 1.6

- ***If the licensee or responsible party requests license termination under restricted conditions, the restrictions the licensee intends to use to limit doses as required in 10 CFR Part 20.1403 or 20.1404, and a summary of institutional controls and financial assurance***

Not applicable. Licensee is not requesting license termination with restriction.

- *If the licensee requests license termination under restricted conditions or using alternate criteria, a summary of the public participation activities undertaken by the licensee to comply with 10 CFR Part 20.1403(d) or 20.1404(a)(4)*

  Not applicable. Licensee is not requesting license termination with restriction nor does it propose alternate radiological criteria.

- *The proposed initiation and completion dates of decommissioning*

  Section 1.7

- *Any post-remediation activities (such as groundwater monitoring) that the licensee proposes to undertake prior to requesting license termination*

  Section 1.8

- *A statement that the licensee is requesting that its license be amended to incorporate the decommissioning plan*

  Section 1.9

II. FACILITY OPERATING HISTORY

II.a. LICENSE NUMBER/STATUS/AUTHORIZED ACTIVITIES

- *The radionuclides and maximum activities and quantities of radionuclides authorized and used under the current license*

  Section 2.1 - Table 2-1

- *The chemical forms of the radionuclides authorized and used under the current license*

  Section 2.1 - Table 2-1

- *A detailed description of how the radionuclides are currently being used at the site*

  Section 2.1 - paragraph 2

- *The location(s) of use and storage of the various radionuclides authorized under current licenses*

  Section 2.1 - paragraph 3

- *A scale drawing or map of the building or site and environs showing the current locations of radionuclide use at the site*

  Section 3.1 - Figures 3-3 and 3-4

- *A list of amendments to the license since the last license renewal*

  Section 2.1 - Table 2-2

II.b. LICENSE HISTORY

- *The radionuclides and maximum activities of radionuclides authorized and used under all previous licenses*

  Section 2.2 - paragraph 10 and Table 2-3 (A complete history of special, source, and byproduct material authorized for use at the site is not available.)

- *The chemical forms of the radionuclides authorized and used under all previous licenses*

  Section 2.2 - Table 2-3 (A complete history of special, source, and byproduct material authorized for use at the site is not available.)

- *A detailed description of how the radionuclides were used at the site*

  Section 2.2

- *The location(s) of use and storage of the various radionuclides authorized under all previous licenses*

  Section 2.1 - paragraph 3

- *A scale drawing or map of the site, facilities and environs showing previous locations of radionuclide use at the site*

  Section 3.1 - Figures 3-3 and 3-4

II.c. PREVIOUS DECOMMISSIONING ACTIVITIES

- *A list or summary of areas at the site that were remediated in the past*

  Sections 2.3.1–2.3.4

- ***A summary of the types, forms, activities and concentrations of radionuclides that were present in previously remediated areas***

  Section 1.3 - paragraph 1, Sections 2.31–2.3.4

- ***The activities that caused the areas to be contaminated***

  Section 2.2 - paragraphs 1, 5, 6, 7, 8, and 9, Sections 2.3.1–2.3.3, Section 4.4.2

- ***The procedures used to remediate the areas and the disposition of radioactive material generated during the remediation***

  Sections 2.3.1–2.3.3

- ***A summary of the results of the final radiological evaluation of the previously remediated area including the locations and average radionuclide concentrations in the previously remediated area***

  Sections 2.3.1–2.3.3

- ***A scale drawing or map of the site, facilities and environs showing the locations of previously remedial activity***

  Section 3.1 - Figures 3-3 and 3-4

II.d. SPILLS

- ***A summary of areas at the site where spills (or uncontrolled releases) of radioactive material occurred in the past***

  Section 2.4

- ***The types, forms, activities and concentrations of radionuclides involved in the spill or uncontrolled release***

  Section 1.3 - paragraph 1, Section 2.4

- ***A scale drawing or map of the site, facilities, and environs, showing the locations of spills***

  Section 3.1 - Figure 3-4

II.e. PRIOR ON-SITE BURIALS

- *A summary of areas at the site where radioactive material has been buried in the past*

  Section 2.5

- *The types, forms, activities and concentrations of waste and radionuclides in the former burial(s)*

  Section 1.3 - paragraph 1, Section 2.5

- *A scale drawing or map of the site, facilities and environs showing the locations of former burials*

  Section 3.1 - Figure 3-3

III. FACILITY DESCRIPTION

III.a. SITE LOCATION AND DESCRIPTION

- *The size of the site in acres or square meters*

  Section 3.1 - paragraph 1

- *The State and county in which the site is located*

  Section 3.1 - paragraph 1

- *The names and distances to nearby communities, towns and cities*

  Section 3.1 - Figures 3-1 and 3-2, Section 3.2 - Table 3-1

- *A description of the contours and natural features of the site*

  Section 3.1 - paragraphs 1 and 2

- *The elevation of the site*

  Section 3.1 - paragraph 1

- *A description of property surrounding the site, including the location of all off-site wells used by nearby communities or individuals*

Section 3.1 - paragraphs 4 and 5, Figure 3-6

- ***The location of the site relative to prominent features such as rivers and lakes***

  Section 3.1 - paragraph 2, Figure 3-3

- ***A map that shows the detailed topography of the site using a contour interval***

  Section 3.1 - Figure 3-5

- ***The location of the nearest residences and all significant facilities or activities near the site***

  Section 3.1 - paragraphs 4, 5, and 6

- ***A description of the facilities (e.g., buildings, parking lots, and fixed equipment) at the site***

  Section 3.1 - paragraphs 1 and 2, Figures 3-3 and 3-4, Section 4.1

III.b. POPULATION DISTRIBUTION

- ***A summary of the current population in and around the site, by compass vectors***

  Section 3.2. - paragraphs 1 and 2, Table 3-1

- ***A summary of the projected population in and around the site by compass vectors***

  Section 3.2 - paragraph 2 (Information is provided for Jefferson County. Information is not available by compass vectors.)

III.c. CURRENT/FUTURE LAND USE

- ***A description of the current land uses in and around the site***

  Section 3.3 - paragraph 1

- ***A summary of anticipated land uses***

  Section 3.3 - paragraph 2

III.d. METEOROLOGY AND CLIMATOLOGY

- ***A description of the general climate of the region***

  Section 3.4 - paragraphs 1 and 2

- ***Seasonal and annual frequencies of severe weather phenomena***

  Section 3.4 - paragraphs 1 and 2

- ***Weather-related radionuclide transmission parameters***

  Section 3.4 - paragraphs 1 and 2 and Section 3.6 – paragraph 3

- ***Routine weather-related site deterioration parameters***

  Section 3.4 - paragraphs 1 and 2 and Section 3.6 – paragraph 3

- ***Extreme weather-related site deterioration parameters***

  Section 3.4 - paragraphs 1 and 2 and Section 3.6 – paragraph 3

- ***A description of the local (site) meteorology***

  Section 3.4 - paragraphs 1 and 2

- ***The national Ambient Air Quality Standards Category of the area in which the facility is located and, if the facility is not in a Category 1 zone, the closest and first downwind Category 1 Zone***

  This information has not been identified.

III.e. GEOLOGY AND SEISMOLOGY

- ***A detailed description of the geologic characteristics of the site and the region around the site***

  Section 3.5 - paragraphs 1–3

- ***A discussion of the tectonic history of the region, regional geomorphology, physiography, stratigraphy, and geochronology***

  Section 3.5 - paragraphs 1–4

- ***A regional tectonic map showing the site location and its proximity to tectonic structures***

  Section 3.5 – paragraph 1-4 (A regional tectonic map is not included in the DP.)

- ***A description of the structural geology of the region and its relationship to the site geologic structure***

  Section 3.5 - paragraphs 1–3

- ***A description of any crustal tilting, subsidence, karst terrain, landsliding, and erosion***

  There is no significant occurrence of these conditions at the site.

- ***A description of the surface and subsurface geologic characteristics of the site and its vicinity***

  Section 3.5 - paragraphs 1–3

- ***A description of the geomorphology of the site***

  Section 3.5 - paragraphs 1–3

- ***A description of the location, attitude, and geometry of all known or inferred faults in the site and vicinity***

  Section 3.5 – paragraph 4 and Figure 3-7

- ***A discussion of the nature and rates of deformation***

  Deformation in the vicinity of the site is negligible.

- ***A description of any man-made geologic features such as mines or quarries***

  Section 3.8 - paragraph 3

- ***A description of the seismicity of the site and region***

  Section 3.5 - paragraph 4 and Figure 3-8

- ***A complete list of all historical earthquakes that have a magnitude of 3 or more, or a modified Mercalli intensity of IV or more within 200 miles of the site***

  Section 3.5 - paragraph 4 and Figure 3-8

III.f. SURFACE WATER HYDROLOGY

- *A description of site drainage and surrounding watershed fluvial features*

  Section 3.6 - paragraphs 1 and 2

- *Water resource data, including maps, hydrographs, and stream records from other agencies (e.g., U.S. Geological Survey and U.S. Army Corps of Engineers)*

  Section 3.6 - paragraph 2

- *Topographic maps of the site that show natural drainages and man-made features*

  Figures 3-5 and 3-9

- *A description of the surface water bodies at the site and surrounding areas*

  Section 3.6 - paragraph 1

- *A description of existing and proposed water control structures and diversions (both upstream and downstream) that may influence the site*

  Section 3.6 - paragraphs 3 and 4 (Existing structures are described. There are no proposed structures and diversions.)

- *Flow-duration data that indicate minimum, maximum, and average historical observations for surface water bodies in the site areas*

  Section 3.6 - paragraphs 1 and 2

- *Aerial photography and maps of the site and adjacent drainage areas identifying features such as drainage areas, surface gradients, and areas of flooding*

  Figures 3-5 and 3-9

- *An inventory of all existing and planned surface water users, whose intakes could be adversely affected by migration of radionuclides from the site*

  Section 3.6 – paragraph 2

- *Topographic and/or aerial photographs that delineate the 100-year floodplain at the site*

Figure 3-9

- *A description of any man-made changes to the surface water hydrologic system that may influence the potential for flooding at the site*

  No man-made changes have been identified that would influence the potential for flooding at the site.

III.g. GROUNDWATER HYDROLOGY

- *A description of the saturated zone*

  Section 3.7 - paragraphs 1–4, Figure 3-7

- *Descriptions of monitoring wells*

  Section 3.7 - paragraph 7

- *Physical parameters*

  Section 3.7 - paragraphs 1–5, Figure 3-7

- *A description of groundwater flow directions and velocities*

  Section 3.7 - paragraphs 2, 3, and 5, Figure 3-7

- *A description of the unsaturated zone*

  Section 3.7 - paragraphs 1–3

- *Information on all monitor stations including location and depth*

  Section 3.7 - paragraph 7

- *A description of the numerical analyses techniques used to characterize the unsaturated and saturated zones*

  Section 3.7 - paragraph 2

- *The distribution coefficients of the radionuclides of interest at the site*

  Section 14.2.2

III.h. NATURAL RESOURCES

- *A description of the natural resources occurring at or near the site*

  Section 3.8 - paragraphs 1 and 2

- *A description of potable, agricultural, or industrial ground or surface waters*

  Section 3.8 - paragraphs 1 and 2

- *A description of economic, marginally economic, or subeconomic known or identified natural resources as defined in U.S. Geological Survey Circular 831*

  Section 3.8 - paragraphs 1 and 2

- *Mineral, fuel, and hydrocarbon resources near and surrounding the site which, if exploited, would affect the licensee's or responsible party's dose estimates*

  There are no known resources that, if exploited, would affect dose estimates.

IV. RADIOLOGICAL STATUS OF FACILITY

IV.a. CONTAMINATED STRUCTURES

This section is not applicable to the DP. Decommissioning of contaminated structures will be performed under an amendment to the site license. Section 4.1 provides a short description of each of the contaminated structures on the site.

IV.b. CONTAMINATED SYSTEMS AND EQUIPMENT

This section is not applicable to the DP. Section 4.2 indicates that all contaminated systems and equipment are being removed from contaminated building under the current site license.

IV.c. SURFACE SOIL CONTAMINATION

- *A list or description of all locations at the facility where surface soil contains residual radioactive material in excess of site background levels*

  Sections 4.3 and 4.3.1 (This item also is being addressed in the site characterization performed for the Site Remedial Investigation/Feasibility Study for surface soil areas. A report from this work, "Westinghouse Hematite Site Radiological Characterization Report," (Ref. 36) has been submitted to the NRC.)

- *A summary of the background levels used during scoping or characterization surveys*

Section 4.3.1- section on Deul's Mountain (The "Gamma Survey Data Evaluation Report" (Ref. 20), which has been provided as a separate submittal to the NRC, contains information on background levels. This item also was addressed in the site characterization performed for the Site Remedial Investigation/Feasibility Study for surface soil areas.)

- ***A summary of the radionuclides present at each location, the maximum and average radionuclide activities in pCi/gm, and, if multiple radionuclides are present, the radionuclide ratios***

  Sections 4.3.1 and 14.2.2 (Additional information will be provided in the site characterization performed for the Site Remedial Investigation/Feasibility Study for surface soil areas. A report from this work, "Westinghouse Hematite Site Radiological Characterization Report," (Ref. 36) has been submitted to the NRC.)

- ***The maximum and average radiation levels in mrem/hr at each location***

  Section 4.3.1 (The "Gamma Survey Data Evaluation Report" (Ref. 20), which has been provided as a separate submittal to the NRC, contains information on surface soil radiation levels. This item also was addressed in the site characterization performed for the Site Remedial Investigation/Feasibility Study for surface soil areas. A report from this work, "Westinghouse Hematite Site Radiological Characterization Report," (Ref. 36) has been submitted to the NRC.)

- ***A scale drawing or map of the site showing the locations of radionuclide material contamination in surface soil***

  Section 4.3.1 (The "Gamma Survey Data Evaluation Report" (Ref. 20), which has been provided as a separate submittal to the NRC, contains information on locations of surface soil contamination. This item also was addressed in the site characterization performed for the Site Remedial Investigation/Feasibility Study for surface soil areas. A report from this work, "Westinghouse Hematite Site Radiological Characterization Report," (Ref. 36) has been submitted to the NRC.)

IV.d. SUBSURFACE SOIL CONTAMINATION

- ***A list or description of all locations at the facility where subsurface soil contains residual radioactive material in excess of site background levels***

  Sections 4.4, 4.4.1, 4.4.2, and 4.4.3 (This item also was addressed in the site characterization performed for the Site Remedial Investigation/Feasibility Study for subsurface soil areas. A report from this work, "Westinghouse Hematite Site Radiological Characterization Report," (Ref. 36) has been submitted to the NRC.)

- *A summary of the background levels used during scoping or characterization surveys*

  Section 4.3.1- section on Deul's Mountain (The "Gamma Survey Data Evaluation Report" (Ref. 20), which has been provided as a separate submittal to the NRC, contains information on background levels. This item also was addressed in the site characterization performed for the Site Remedial Investigation/Feasibility Study for subsurface soil areas.)

- *A summary of the radionuclides present at each location, the maximum and average radionuclide activities in pCi/gm, and, if multiple radionuclides are present, the radionuclide ratios*

  Sections 2.3.1 and 14.2.2 (This item also was addressed in the site characterization performed for the Site Remedial Investigation/Feasibility Study for subsurface soil areas. A report from this work, "Westinghouse Hematite Site Radiological Characterization Report," (Ref. 36) has been submitted to the NRC.)

- *The depth of the subsurface soil contamination at each location*

  Sections 2.3.1 and 14.2.2 (This item also was addressed in the site characterization performed for the Site Remedial Investigation/Feasibility Study for subsurface soil areas. A report from this work, "Westinghouse Hematite Site Radiological Characterization Report," (Ref. 36) has been submitted to the NRC.)

- *A scale drawing or map of the site showing the locations of subsurface soil contamination*

  Figures 3.3 and 3.4 (This item also was addressed in the site characterization performed for the Site Remedial Investigation/Feasibility Study for subsurface soil areas. A report from this work, "Westinghouse Hematite Site Radiological Characterization Report," (Ref. 36) has been submitted to the NRC.)

IV.e. SURFACE WATER

- *A list or description and map of all surface water bodies at the facility that contain residual radioactive material in excess of site background levels*

  Section 4.5 - paragraphs 1 and 2, Figure 3-3

- *A summary of the background levels used during scoping or characterization surveys*

  This item was addressed in the site characterization performed for the Site Remedial Investigation/Feasibility Study for surface water areas. A report from this work, "Westinghouse Hematite Site Radiological Characterization Report," (Ref. 36) has been submitted to the NRC.)

- *A summary of the radionuclides present in each surface water body and the maximum and average radionuclide activities in becquerel per liter (Bq/L) (picocuries per liter (pCi/L))*

  This item was addressed in the site characterization performed for the Site Remedial Investigation/Feasibility Study for surface water areas. A report from this work, "Westinghouse Hematite Site Radiological Characterization Report," (Ref. 36) has been submitted to the NRC.

IV.f. GROUNDWATER

- *A summary of the aquifer(s) at the facility that contain residual radioactive material in excess of site background levels*

  Section 4.6 - paragraph 1

- *A summary of the background levels used during scoping or characterization surveys*

  This item was addressed in the site characterization performed for the Site Remedial Investigation/Feasibility Study for groundwater. A report from this work, "Westinghouse Hematite Site Radiological Characterization Report," (Ref. 36) has been submitted to the NRC.

- *A summary of the radionuclides present in each aquifer and the maximum and average radionuclide activities in becquerel per liter (Bq/L) (picocuries per liter (pCi/L))*

  Section 4.6 and Section 1.3 – paragraph 3 (This item also will be addressed in the site characterization performed for the Site Remedial Investigation/Feasibility Study for groundwater.

V. DOSE MODELING

V.a. UNRESTRICTED RELEASE USING SITE-SPECIFIC INFORMATION

- *Source term information including nuclides of interest, configuration of the source, areal variability of the source*

  Section 5.1.2 provides an overview. Detailed information can be found in Westinghouse's report on "Derivation of Site-Specific DCGLs for Westinghouse Electric Co. Hematite Facility" (Ref. 4), which has been provided as a separate submittal to the NRC.

- ***Description of the exposure scenario including a description of the critical group***

  Section 5.1.2 provides an overview. Detailed information can be found in Westinghouse's report on "Derivation of Site-Specific DCGLs for Westinghouse Electric Co. Hematite Facility" (Ref. 4), which has been provided as a separate submittal to the NRC.

- ***Description of the conceptual model of the site including the source term, physical features important to modeling the transport pathways, and the critical group***

  Section 5.1.2 provides an overview. Detailed information can be found in Westinghouse's report on "Derivation of Site-Specific DCGLs for Westinghouse Electric Co. Hematite Facility" (Ref. 4), which has been provided as a separate submittal to the NRC.

- ***Identification/description of the mathematical model used (e.g., hand calculations, DandD Screen vl.0, RESRAD v5.81)***

  Section 5.1.2 provides an overview. Detailed information can be found in Westinghouse's report on "Derivation of Site-Specific DCGLs for Westinghouse Electric Co. Hematite Facility" (Ref. 4), which has been provided as a separate submittal to the NRC.

- ***Description of the parameters used in the analysis***

  Section 5.1.2 provides an overview. Detailed information can be found in Westinghouse's report on "Derivation of Site-Specific DCGLs for Westinghouse Electric Co. Hematite Facility" (Ref. 4), which has been provided as a separate submittal to the NRC.

- ***Discussion about the effect of uncertainty on the results.***

  Section 5.1.2 provides an overview. Detailed information can be found in Westinghouse's report on "Derivation of Site-Specific DCGLs for Westinghouse Electric Co. Hematite Facility" (Ref. 4), which has been provided as a separate submittal to the NRC.

- ***Input and output files or printouts, if a computer program was used***

  Section 5.1.2 provides an overview. Detailed information can be found in Westinghouse's report on "Derivation of Site-Specific DCGLs for Westinghouse Electric Co. Hematite Facility" (Ref. 4), which has been provided as a separate submittal to the NRC.

VI. ENVIRONMENTAL INFORMATION

- ***Environmental information described in NUREG-1748***

  Section 6.0 (The Remedial Investigation/Feasibility Study Work Plan implemented in 2004 includes plans to investigate and evaluate the effects decommissioning might have on wetlands and surface water, threatened and endangered species, and cultural resources.

VII. ALARA ANALYSIS

- ***A description of how the licensee or responsible party will achieve a decommissioning goal below the dose limit***

  Section 7 (An example analysis is provided to estimate whether remediation to satisfy DCGLs proposed in Section 5 would also be as low as reasonably achievable (ALARA). A commitment is made to finalize the analysis when information from the Remedial Investigation/Feasibility Study and related NCP process is available.)

- ***A quantitative cost-benefit analysis***

  Sections 7.2 and 7.3 (An example cost/benefit analysis, which demonstrates the methodology that will be used for the final analysis, is provided.)

- ***A description of how costs were estimated***

  Section 7.3 (An example cost analysis, which demonstrates the methodology that will be used for the final analysis, is provided.)

- ***A demonstration that the doses to the average member of the critical group are ALARA***

  Sections 7.4 and 7.5 (An example analysis, which demonstrates the methodology that will be used for the final analysis, is provided.)

VIII. PLANNED DECOMMISSIONING ACTIVITIES

VIII.a. CONTAMINATED STRUCTURES

This section is not applicable to the DP. Decommissioning of contaminated structures will be performed under an amendment to the site license. The plan for non-contaminated structures, Phase d., will be submitted in a separate amendment request for this DP if it is decided to leave these structures in place.

VIII.b. CONTAMINATED SYSTEMS AND EQUIPMENT

This section is not applicable to the DP. Decommissioning of contaminated systems and equipment is being performed under the current site license.

VIII.c. SOIL

- ***A summary of the removal/remediation tasks planned for surface and subsurface soil at the site in the order in which they will occur including which activities will be conducted by licensee staff and which will be performed by a contractor***

  Section 8.3 (Section 8.3.1- paragraph 2 indicates that activities during the initial phase of soil remediation (Phase a., Outlying Land Areas) will be limited to performing a final status survey of the Class 3 impacted area in accordance with MARSSIM methodology. The plans for subsequent phases will be submitted in separate amendment requests for the DP.)

- ***A description of the techniques that will be employed to remove or remediate surface and subsurface soil at the site***

  Section 8.3 (Section 8.3.1- paragraph 3 indicates that no soil removal will be performed during Phase a. If any soil removal is indicated during Phase a. based on the approved DCGLs, the affected areas will be marked for remediation during Phase c. (surface soil inside the central site tract and perimeter area), following development of soil remediation alternatives under the NCP evaluation process. Techniques that will be used for soil removal will be described in an amendment request for the DP for soil remediation in Phase c.)

- ***A description of the radiation protection methods (such as PPE, or area exit monitoring) and control procedures (such as the use of HEPA vented enclosures during excavation or covering soil piles to prevent wind dispersion) that will be employed during soil removal/remediation.***

  Sections 8.3.1 and 10 (Any additional control procedures will be identified in an amendment request for the DP for soil remediation in Phase c.)

- ***A summary of the procedures already authorized under the existing license and those for which approval is being requested in the decommissioning plan***

  Section 8.3.1 - paragraph 5

- ***A commitment to conduct decommissioning activities in accordance with written, approved procedures***

  Section 8.3.1 - paragraph 6

- *A summary of any unique safety or remediation issues associated with remediating the soil*

  Section 8.3.2

- *For Part 70 licensees, a summary of how the licensee will ensure that the risks addressed in the facility's Integrated Safety Analysis will be addressed during decommissioning*

  Section 8.0 – paragraph 4

VIII.d. SURFACE AND GROUNDWATER

Section 8.4 (Plans for remediation of surface water and groundwater will be submitted in separate amendment requests for this DP. Surface water remediation will be performed in Phase c. in conjunction with surface soil remediation. Groundwater remediation will be performed in Phase e.)

VIII.e. SCHEDULES

- *A Gantt or PERT chart detailing the proposed remediation tasks in the order in which they will occur*

  Section 8.5 - Figure 8-1

- *A statement acknowledging that the dates in the schedule are contingent on NRC approval of the decommissioning plan*

  Section 8.5

- *A statement acknowledging that circumstances can change during decommissioning, and, if the licensee determines that the decommissioning cannot be completed as outlined in the schedule, the licensee or responsible party will provide an updated schedule to NRC*

  Section 8.5

- *If the decommissioning is not expected to be completed within the timeframes outlined in NRC regulations, a request for alternative schedule for completing the decommissioning*

  Section 8.5

IX. PROJECT MANAGEMENT AND ORGANIZATION

IX.a. DECOMMISSIONING MANAGEMENT ORGANIZATION

- *A description of the decommissioning organization*

  SNM-33 Section 2.1 and 2.2

- *A description of the responsibilities of each of these decommissioning project units*

  SNM-33 Section 2.1 and 2.2

- *A description of the reporting hierarchy within the decommissioning project management organization*

  SNM-33 Section 2.1, 2.2 and figure on page 2-30.

- *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*

  SNM-33 Section 2.1 and 2.2

IX.b. DECOMMISSIONING TASK MANAGEMENT

- *A description of the manner in which the decommissioning tasks are managed*

  SNM-33 Section 2.2

- *A description of how individual decommissioning tasks are evaluated and how the Radiation Work Permits (RWPs) are developed for each task*

  Section 10.6.1

- *A description of how the RWPs are reviewed and approved by the decommissioning project management organization*

  SNM-33 Section 3.1.2

- *A description of how RWPs are managed throughout the decommissioning project*

  SNM-33 Section 3.1.2 and DP Section 10.6.1

- *A description of how individuals performing the decommissioning tasks are informed of the procedures in the RWP*

  Section 10.6.1

IX.c. DECOMMISSIONING MANAGEMENT POSITIONS AND QUALIFICATIONS

- *A description of the duties and responsibilities of each management position in the decommissioning organization and the reporting responsibility of the position*

  SNM-33 Section 2.1 and 2.2

- *A description of the duties and responsibilities of each chemical, radiological, physical, and occupational safety-related position in the decommissioning organization and the reporting responsibility of each position*

  SNM-33 Section 2.1 and 2.2

- *A description of the duties and responsibilities of each engineering, quality assurance, and waste management position in the decommissioning organization and the reporting responsibilities of each position*

  SNM-33 Section 2.1 and 2.2

- *The minimum qualifications for each of the positions described above, and the qualifications of the individuals currently occupying the positions*

  SNM-33 Section 2.1 and 2.2

- *A description of all decommissioning and safety committees*

  SNM-33 Section 2.5

IX.d. Radiation Safety Officer

- *A description of the health physics and radiation safety education and experience required for individuals acting as the licensee's or responsible party's RSO*

  SNM-33 Section 2.1.3

- *A description of the responsibilities and duties of the RSO*

  SNM-33 Section 2.1.3

- *A description of the specific authority of the RSO to implement and manage the licensee's or responsible party's radiation protection program*

  SNM-33 Section 2.1.3

IX.e. TRAINING

- *A description of the radiation safety training that the licensee will provide to each employee*

  SNM-33 Section 2.6

- *A description of any daily worker "jobside" or "tailgate" training that will be provided at the beginning of each workday or job task to familiarize workers with job-specific procedures or safety requirements*

  SNM-33 Section 2.6

- *A description of the documentation that will be maintained to demonstrate that training commitments are being met*

  SNM-33 Section 2.6.6

IX.f. CONTRACTOR SUPPORT

- *A summary of decommissioning tasks that will be performed by contractors*

  SNM-33 Section 2.3

- *A description of the management interfaces that will be in place between the licensee or responsible party's management and on-site supervisors, and contractor management and on-site supervisors*

  SNM-33 Section 2.3

- *A description of the oversight responsibilities and authority that the licensee or responsible party will exercise over contractor personnel*

  SNM-33 Section 2.3

- *A description of the training that will be provided to contractor personnel by the licensee or responsible party, and the training that will be provided by the contractor*

  SNM-33 Section 2.3 and 2.6.5

- *A commitment that the contractor will comply with all radiation safety and license requirements at the facility*

SNM-33 Section 2.3

X. HEALTH AND SAFETY PROGRAM DURING DECOMMISSIONING: RADIATION SAFETY CONTROLS AND MONITORING FOR WORKERS

X.a. Workplace Sampling Program

- *A description which demonstrates that the air sampling program is representative of the workers' breathing zones*

Section 10.1

- *A description of the criteria which demonstrates that air samplers with appropriate sensitivities will be used; and that samples will be collected at appropriate frequencies*

Sections 10.1 and 10.3.2

- *A description of the conditions under which air monitors will be used*

Sections 10.1 and 10.3.2

- *A description of the criteria used to determine the frequency of calibration of the flow meters on the air samplers*

Section 10.1

- *A description of the action levels for air sampling results*

Sections 10.1 and 10.3.2

- *A description of how minimum detectable activities (MDA) for each specific radionuclide that may be collected in air samples are determined*

Section 10.1 - paragraph 6

X.b. Respiratory Protection Program

- *A description of the process controls, engineering controls, or procedures to control concentrations of radioactive materials in air*

Section 10.2

- *A description of the evaluation which will be performed when it is not practical to apply engineering controls or procedures*

  Conditions have not been foreseen where engineering controls or procedures could not be employed to minimize personnel radiation exposure.

- *A description of the considerations used which demonstrates respiratory protection equipment is appropriate for a specific task, based on the guidance on assigned protection factors*

  Section 10.2

- *A description of the medical screening and fit testing required before workers will use any respirator that is assigned a protection factor*

  Section 10.2

- *A description of the written procedures maintained to address all the elements of the respiratory protection program*

  Section 10.2

- *A description of the use, maintenance, and storage of respiratory protection devices*

  Section 10.2

- *A description of the respiratory equipment users training program*

  Section 10.2

- *A description of the considerations made when selecting respiratory protection equipment*

  Section 10.2

X.c. Internal Exposure Determination

- *A description of the monitoring to be performed to determine worker exposure*

  Sections 10.3, 10.3.1, and 10.3.2

- *A description of how worker intakes are determined using measurements of quantities of radionuclides excreted from, or retained in the human body*

  Section 10.3.1

- *A description of how worker intakes are determined by measurements of the concentrations of airborne radioactive materials in the workplace*

  Section 10.3.2

- *A description of how worker intakes for an adult, a minor, and a declared pregnant woman are determined using any combination of the measurements above, as may be necessary*

  Sections 10.3, 10.3.1, and 10.3.2

- *A description of how worker intakes are converted into committed effective dose equivalent*

  Section 10.3

X.d. External Exposure Determination

- *A description of the individual-monitoring devices which will be provided to workers*

  Section 10.4 - paragraphs 1 and 2

- *A description of the type, range, sensitivity, and accuracy of each individual-monitoring device*

  Section 10.4 - paragraph 1 (As determined by the RSO)

- *A description of the use of extremity and whole body monitors when the external radiation field is non-uniform*

  Section 10.4 - paragraph 3

- *A description of when audible-alarm dosimeters and pocket dosimeters will be provided*

  Section 10.4 - paragraph 1

- *A description of how external dose from airborne radioactive material is determined*

  Section 10.4

- *A description of the procedure to insure that surveys necessary to supplement personnel monitoring are performed*

  Section 10.4 - paragraphs 4 and 5

- *A description of the action levels for worker's external exposure, and the technical bases and actions to be taken when they are exceeded*

  Section 10.4 - paragraph 6

X.e. Summation of Internal and External Exposures

- *A description of how the internal and external monitoring results are used to calculate TODE and TEDE doses to occupational workers*

  Section 10.5

- *A description of how internal doses to the embryo/fetus, which is based on the intake of an occupationally-exposed DPW will be determined*

  Section 10.3 - paragraph 2

- *A description of the monitoring of the intake of a DPW, if determined to be necessary*

  Section 10.3 - paragraph 2

- *A description of the program for the preparation, retention, and reporting of records for occupational radiation exposures*

  Section 10.5 - paragraph 2

X.f. Contamination Control Program

- *A description of the written procedures to control access to, and stay time in, contaminated areas by workers, if they are needed*

  Section 10.6.1

- *A description of surveys to supplement personnel monitoring for workers during routine operations, maintenance, clean-up activities, and special operations*

  Section 10.6.2

- *A description of the surveys which will be performed to determine the baseline of background radiation levels and radioactivity from natural sources for areas where decommissioning activities will take place*

  This item will be addressed during site characterization for the Site Remedial Investigation/Feasibility Study.

- *A description in matrix or tabular form which describes contamination action limits (that is, actions taken to either decontaminate a person, place, or area, restrict access, or modify the type or frequency of radiological monitoring)*

  Section 10.6.2 (not in matrix or tabular form)

- *A description (included in the matrix or table mentioned above) of proposed radiological contamination guidelines for specifying and modifying the frequency for each type of survey used to assess the reduction of total contamination*

  Section 10.6.2 (not in matrix or tabular form)

- *A description of the procedures used to test sealed sources, and to insure that sealed sources are leak tested at appropriate intervals*

  Section 10.6.3

X.g. Instrumentation Program

- *A description of the instruments to be used to support the health and safety program*

  Section 10.7 and Table 10-1

- *A description of instrumentation storage, calibration, and maintenance facilities for instruments used in field surveys*

  Section 10.7 - paragraph 2

- *A description of the method used to estimate the MDC or MDA (at the 95 percent confidence level) for each type of radiation to be detected*

  Section 10.7- paragraph 3

- *A description of the instrument calibration and quality assurance procedures*

  SNM-33 Section 2.8.5 and DP Sections 10.7.1 and 10.7.2

- *A description of the methods used to estimate uncertainty bounds for each type of instrumental measurement*

  Section 10.7- paragraph 2

- *A description of air sampling calibration procedures or a statement that the instruments will be calibrated by an accredited laboratory*

  Section 10.7.1 - paragraph 7

X.h. NUCLEAR CRITICALITY SAFETY

NRC License No. SNM-33, Chapter 4 contains requirements for nuclear criticality safety during decommissioning.

X.i. HEALTH PHYSICS AUDITS, INSPECTIONS AND RECORDKEEPING PROGRAM

- *A general description of the annual program review conducted by executive management*

  Section 10.9

- *A description of the records to be maintained of the annual program review and executive audits*

  Section 10.9

- *A description of the types and frequencies of surveys and audits to be performed by the RSO and RSO staff*

  Section 10.9 (Requirements for annual Project Oversight Committee audits of licensed activities are in Section 2.5 of License No. SNM-33.)

- *A description of the process used in evaluating and dealing with violations of NRC requirements or license commitments identified during audits*

  Section 10.9

- *A description of the records maintained of RSO audits*

  Section 10.9

XI. ENVIRONMENTAL MONITORING AND CONTROL PROGRAM

XI.a. ENVIRONMENTAL ALARA EVALUATION PROGRAM

- *A description of ALARA goals for effluent control*

  Section 11.1

- *A description of the procedures, engineering controls, and process controls to maintain doses ALARA*

  Section 11.1

- *A description of the ALARA reviews and reports to management*

  Sections 10.9 and 11.1

XI.b. EFFLUENT MONITORING PROGRAM

- *A demonstration that background and baseline concentrations of radionuclides in environmental media have been established through appropriate sampling and analysis*

  Section 11.2

- *A description of the known or expected concentrations of radionuclides in effluents*

  Section 11.2 - Table 11-2

- *A description of the physical and chemical characteristics of radionuclides in effluents*

  Section 11.2

- *A summary or diagram of all effluent discharge locations*

  Sections 11.1 and 11.2 - Table 11-1

- *A demonstration that samples will be representative of actual releases*

  Sections 11.1 and 11.2

- *A summary of sample collection and analysis procedures*

  Sections 11.1 and 11.2

- *A summary of the sample collection frequencies*

Sections 11.1 and 11.2

- *A description of the environmental monitoring recording and reporting procedures*

  Sections 11.1 and 11.2

- *A description of the quality assurance program to be established and implemented for the effluent monitoring program*

  Section 11.0 – paragraph 2

XI.c. EFFLUENT CONTROL PROGRAM

- *A description of the controls that will be used to minimize releases of radioactive material to the environment*

  Sections 11.1 and 11.2

- *A summary of the action levels and description of the actions to be taken should a limit be exceeded*

  Sections 11.1 and 11.2

- *A description of the leak detection systems for ponds, lagoons, and tanks*

  Such leak detection systems are not required at the site.

- *A description of the procedures to ensure that releases to sewer systems are controlled and maintained to meet the requirements of 10 CFR 20.2003*

  There are no releases to sewer systems at the site.

- *A summary of the estimates of doses to the public from effluents and a description of the method used to estimate public dose*

  Section 11.3

XII. RADIOACTIVE WASTE MANAGEMENT PROGRAM

XII.a. SOLID RADIOACTIVE WASTE

- *A summary of the types of solid radioactive waste that are expected to be generated during decommissioning operations*

Section 12.2

- *A summary of the estimated volume, in cubic feet, of each solid radwaste type summarized Line a above*

  Section 12.2.1 – paragraph 3

- *A summary of radionuclides (including the estimated activity of each radionuclide) in each estimated solid radwaste type summarized in Line a above*

  This information will be provided with the waste estimates, as appropriate, in the plans for the subsequent phases of decommissioning work to be submitted as amendment requests for the DP.

- *A summary of the volumes of Class A, B, C, and greater-than-Class-C solid radwaste that will be generated by decommissioning operations*

  Section 12.2.1 – paragraph 3

- *A description of how and where each of the solid radwastes summarized Line a above will be stored on site prior to shipment for disposal*

  Sections 12.2 and 12.5

- *A description of how each of the solid radwastes summarized in Line a above will be treated and packaged to meet disposal site acceptance criteria prior to shipment for disposal*

  Sections 12.2 and 12.5

- *If appropriate, how the licensee or responsible party intends to manage volumetrically contaminated material*

  Sections 12.2 and 12.5

- *A description of how the licensee or responsible party will prevent contaminated soil, or other loose solid radioactive waste, from being re-distributed after exhumation and collection*

  Section 12.2.1 – paragraph 2 (Additional information will be provided, as appropriate, in the plans for the subsequent phases of decommissioning work to be submitted as amendment requests for the DP.)

- *The name and location of the disposal facility that the licensee intends to use for each solid radwaste type summarized in Line a above*

  Section 12.2.1 – paragraph 3

XII.b. LIQUID RADIOACTIVE WASTE

- *A summary of the types of liquid radwaste that are expected to be generated during decommissioning operations*

  Section 12.3

- *A summary of the estimated volume, in liters, of each liquid radwaste type summarized in Line a above*

  Section 12.3 – paragraph 3

- *A summary of the radionuclides (including the estimated activity of each radionuclide) in each liquid radwaste type summarized in Line a above*

  This information will be provided with the waste estimates, as appropriate, in the plans for the subsequent phases of decommissioning work to be submitted as amendment requests for the DP.

- *A summary of the estimated volumes of Class A, B, C, and Greater-than-Class-C liquid radwaste that will be generated by decommissioning operations*

  Section 12.3 – paragraph 3

- *A description of how and where each of the liquid radwastes summarized in Line a above will be stored on site prior to shipment for disposal*

  Sections 12.3 and 12.5

- *A description of how each of the liquid radwastes summarized in Line a above will be treated and packaged to meet disposal site acceptance criteria prior to shipment for disposal*

  Sections 12.3 and 12.5

- *The name and location of the disposal facility that the licensee intends to use for each liquid radwaste type summarized in Line a above*

  Section 12.3 – paragraph 3

XII.c. MIXED WASTE

- ***A summary of the types of solid and liquid mixed waste that are expected to be generated during decommissioning operations***

  This information will be provided, as appropriate, in the plans for the subsequent phases of decommissioning work to be submitted as amendment requests for the DP.

- ***A summary of the estimated volumes in cubic feet of each solid mixed waste type summarized in Line a above, and in liters for each liquid mixed waste***

  Section 12.4 – paragraph 5

- ***A summary of the radionuclides (including the estimated activity of each radionuclide) in each mixed waste type summarized in Line a above***

  This information will be provided, as appropriate, in the plans for the subsequent phases of decommissioning work to be submitted as amendment requests for the DP.

- ***A summary of the estimated volumes of Class A, B, C, and Greater-than-Class-C mixed waste that will be generated by decommissioning operations***

  Section 12.4 – paragraph 5

- ***A description of how and where each of the mixed wastes summarized in Line a above will be stored on site prior to shipment for disposal***

  Sections 12.4 and 12.5

- ***A description of how each of the mixed wastes summarized in Line a above will be treated and packaged to meet disposal site acceptance criteria prior to shipment for disposal***

  Sections 12.4 and 12.5

- ***The name and location of the disposal facility that the licensee intends to use for each mixed waste type summarized in Line a above***

  Section 12.4 – paragraph 5

- ***A discussion of the requirements of all other regulatory agencies having jurisdiction over the mixed waste***

This information will be provided, as appropriate, in the plans for the subsequent phases of decommissioning work if mixed wastes are found at the site.

- ***A demonstration that the licensee possesses the appropriate EPA or State permits to generate, store, and/or treat the mixed wastes***

  Section 12.4 - paragraph 4

XIII. QUALITY ASSURANCE PROGRAM

XIII.a. ORGANIZATION

- ***A description of the QA program management organization***

  SNM-33 Section 2.8

- ***A description of the duties and responsibilities of each unit within the organization and how delegation of responsibilities is managed within the decommissioning program***

  SNM-33 Section 2.8 (There are no units established within the QA program at Hematite.)

- ***A description of how work performance is evaluated***

  SNM-33 Section 2.8.4 (Work performance is evaluated by surveillance and audits.)

- ***A description of the authority of each unit within the QA program***

  There are no units within the QA program at Hematite.

- ***An organization chart of the QA program organization***

  SNM-33 organization chart on page 2-30

XIII.b. QUALITY ASSURANCE PROGRAM

- ***A commitment that activities affecting the quality of site decommissioning will be subject to the applicable controls of the QA program and activities covered by the QA program are identified on program defining documents***

  SNM-33 Section 2.8

- ***A brief summary of the company's QA policies***

  SNM-33 Section 2.8

- ***A description of provisions to ensure that technical and quality assurance procedures required to implement the QA program are consistent with regulatory, licensing, and QA program requirements and are properly documented and controlled***

  SNM-33 Section 2.8

- ***A description of the management reviews, including the documentation of concurrence in these quality-affecting procedures***

  SNM-33 Section 2.3

- ***A description of the quality-affecting procedural controls of the principal contractors***

  SNM-33 Section 2.3 and 2.8

- ***A description of how NRC will be notified of changes (a) for review and acceptance in the accepted description of the QA program as presented or referenced in the DP before implementation and (b) in organizational elements within 30 days after the announcement of the changes***

  This description is provided in the license amendment to SNM-33, Section 2.8. Organizational changes shall be managed in accordance with Section 2.4 of SNM-33

- ***A description is provided of how management regularly assesses the scope, status, adequacy, and compliance of the QA program***

  SNM-33 Section 2.8.4 (QA program compliance is assessed through surveillance and audit)

- ***A description of the instruction provided to personnel responsible for performing activities affecting quality***

  SNM-33 Section 2.8

- ***A description of the training and qualifications of personnel verifying activities***

  SNM-33 Section 2.8.4

- ***For formal training and qualification programs, documentation includes the objectives and content of the program, attendees, and date of attendance***

  SNM-33 Section 2.6.6 and 2.8

- *A description of the self-assessment program to confirm that activities affecting quality comply with the QA program*

  SNM-33 Section 2.1.3 and 2.8.4

- *A commitment that persons performing self-assessment activities are not to have direct responsibilities in the area they are assessing*

  SNM-33 Section 2.8.4 (Persons performing self-assessments are not required to have independence from the areas they are assessing. Audits do require independence of the auditor from the area they are auditing.)

- *A description of the organizational responsibilities for ensuring that activities affecting quality are (a) prescribed by documented instructions, procedures, and drawings and (b) accomplished through implementation of these documents*

  SNM-33 Section 2.8.1

- *A description of the procedures to ensure that instructions, procedures, and drawings include quantitative acceptance criteria and qualitative acceptance criteria for determining that important activities have been satisfactorily performed*

  SNM-33 Section 2.8.1

XIII.c. Document Control

- *A summary of the types of QA documents that are included in the program*

  SNM-33 Section 2.8.2

- *A description of how the licensee or responsible party develops, issues, revises and retires QA documents*

  SNM-33 Section 2.7 and 2.8.2

XIII.d. Control of Measuring and Test Equipment

- *A summary of the test and measurement equipment used in the program*

  SNM-33 Section 2.8.5

- *A description of how and at what frequency the equipment will be calibrated*

This description is provided in Section 2.8.5 of SNM-33 and in Section 3.2.4 of SNM-33 for radioactivity measurement instruments.

- *A description of the daily calibration checks that will be performed on each piece of test or measurement equipment*

  Section 10.7.1

- *A description of the documentation that will be maintained to demonstrate that only properly calibrated and maintained equipment was used during the decommissioning*

  SNM-33 Section 2.8.5 and DP Section 10.7.1

XIII.e. Corrective Action

- *A description of the corrective action procedures for the facility, including a description of how the corrective action is determined to be adequate*

  SNM-33 Section 2.8.7

- *A description of the documentation maintained for each corrective action and any follow-up activities by the QA organization, after the corrective action is implemented*

  SNM-33 Section 2.8.7

XIII.f. Quality Assurance Records

- *A description of the manner in which QA records will be managed*

  SNM-33 Section 2.8.3

- *A description of the responsibilities of the QA organization*

  The responsibilities of the records management organization are provided in SNM-33 Section 2.8.3

- *A description of the QA records storage facility*

  SNM-33 Section 2.8.3 –(The QA records storage facility is the Westinghouse Electronic Database Management System (EDMS). The description of this system was previously provided in an amendment request to the NRC dated February 3, 2004 from Karen Craig to G. Mike McCann (RIII).

XIII.g. Audits and Surveillances

- *A description of the audit program*

  SNM-33 Section 2.8.4

- *A description of the records and documentation generated during the audits and the manner in which the documents are managed*

  SNM-33 Section 2.8.4

- *A description of all follow-up activities associated with audits or surveillances*

  SNM-33 Section 2.8.4

- *A description of the trending/tracking that will be performed on the results of audits and surveillances*

  SNM-33 Section 2.8.4

XIV. FACILITY RADIATION SURVEYS

XIV.a. RELEASE CRITERIA

- *A summary table or list of the DCGLw for each radionuclide and impacted medium of concern*

  Section 1.5 (Additional information can be found in Westinghouse's report on "Derivation of Site-Specific DCGLs for Westinghouse Electric Co. Hematite Facility" (Ref. 4) and the *Hematite Soil Survey Plan* (Ref. 5), which have been provided as separate submittals to the NRC.)

- *If Class 1 survey units are present, a summary table or list of area factors that will be used for determining a $DCGL_{EMC}$ for each radionuclide and media of concern*

  Section 14.1 (This information can be found in the *Hematite Soil Survey Plan* (Ref. 5), which has been provided as a separate submittal to the NRC.)

- *If Class 1 survey units are present, the $DCGL_{EMC}$ values for each radionuclide and medium of concern*

  Section 14.1 (This information can be found in the *Hematite Soil Survey Plan* (Ref. 5), which has been provided as a separate submittal to the NRC.)

- *If multiple radionuclides are present, the appropriate $DCGL_W$ for the survey method to be used*

  Section 14.1 (This information can be found in the *Hematite Soil Survey Plan* (Ref. 5), which has been provided as a separate submittal to the NRC.)

XIV.b. CHARACTERIZATION SURVEYS

- *A description and justification of the survey measurements for impacted media*

  Section 14.2 (Information on previous characterization efforts is provided. Further information will be provided of the site characterization performed for the Remedial Investigation/Feasibility Study. A report from this work, "Westinghouse Hematite Site Radiological Characterization Report," (Ref. 36) has been submitted to the NRC.)

- *A description of the field instruments and methods that were used for measuring concentrations and the sensitivities of those instruments and methods*

  This information will be provided of the site characterization performed for the Remedial Investigation/Feasibility Study. A report from this work, "Westinghouse Hematite Site Radiological Characterization Report," (Ref. 36) has been submitted to the NRC.

- *A description of the laboratory instruments and methods that were used for measuring concentrations and the sensitivities of those instruments and methods*

  This information will be provided upon completion of the site characterization performed for the Remedial Investigation/Feasibility Study. A report from this work, "Westinghouse Hematite Site Radiological Characterization Report," (Ref. 36) has been submitted to the NRC.

- *The survey results, including tables or charts of the concentrations of residual radioactivity measured*

  Sections 4.3.1 and 14.2. (Information on previous characterization efforts is provided. Further information is being provided of the site characterization performed for the Remedial Investigation/Feasibility Study. A report from this work, "Westinghouse Hematite Site Radiological Characterization Report," (Ref. 36) has been submitted to the NRC.)

- *Maps or drawings of the site, area, or building, showing areas classified as non-impacted or impacted*

  Section 4.3 - Figure 4-1

- ***The justification for considering areas to be non-impacted***

  No areas of the site have been designated as non-impacted.

- ***A discussion of why the licensee considers the characterization survey to be adequate to demonstrate that it is unlikely that significant quantities of residual radioactivity have gone undetected***

  Sections 4.3.2 and 14.2 (These sections address this for the outlying land areas. Further information will be provided upon completion of the site characterization that is being performed for the Remedial Investigation/Feasibility Study.)

- ***For areas and surfaces that are inaccessible or not readily accessible, a discussion of how they were surveyed or why they did not need to be surveyed***

  No such areas have been identified for the outlying land areas. If any such areas are identified, they will be addressed in the site characterization performed for the Remedial Investigation/Feasibility Study.

- ***For sites, areas, or buildings with multiple radionuclides, a discussion justifying the ratios of radionuclides that will be assumed in the final status survey or an indication that no fixed ratio exists and each radionuclide will be measured separately***

  This information is provided in the *Hematite Soil Survey Plan* (Ref. 5), which has been provided as a separate submittal to the NRC.

XIV.c. REMEDIAL ACTION SUPPORT SURVEYS

- ***A description of the field screening methods and instrumentation***

  Section 14.3.3 (Additional information on soil surveys is provided in the *Hematite Soil Survey Plan* (Ref. 5), which has been provided as a separate submittal to the NRC.)

- ***A demonstration that field screening should be capable of detecting residual radioactivity at the DCGL***

  This is addressed in the *Hematite Soil Survey Plan* (Ref. 5), which has been provided as a separate submittal to the NRC.

XIV.d. FINAL STATUS SURVEY DESIGN

- ***A brief overview describing the final status survey design***

  Section 14.4.1

- ***A description and map or drawing of impacted areas of the site, area, or building classified by residual radioactivity levels (Class 1, 2, or 3) and divided into survey units, with an explanation of the basis for division into survey units***

  Section 4.3, Figure 4-1 (A map showing the survey units for the outlying land areas is provided in the *Hematite Soil Survey Plan* (Ref. 5), which has been provided as a separate submittal to the NRC.)

- ***A description of the background reference areas and materials, if they will be used, and a justification for their selection***

  Section 14.4.4 (Additional information on reference areas is provided in the *Hematite Soil Survey Plan* (Ref. 5), which has been provided as a separate submittal to the NRC.)

- ***A summary of the statistical tests that will be used to evaluate the survey results***

  Section14.4.6 (Additional information on statistical tests is provided in the *Hematite Soil Survey Plan* (Ref. 5), which has been provided as a separate submittal to the NRC.)

- ***A description of scanning instruments, methods, calibration, operational checks, coverage, and sensitivity for each media and radionuclide***

  Sections 10.7 and 14.4.3 (Additional information on instruments is provided in the *Hematite Soil Survey Plan* (Ref. 5), which has been provided as a separate submittal to the NRC.)

- ***For in-situ sample measurements made by field instruments, a description of the instruments, calibration, operational checks, sensitivity, and sampling methods, with a demonstration that the instruments, and methods have adequate sensitivity***

  Sections 10.7 and 14.4.3 (Additional information on instruments is provided in the *Hematite Soil Survey Plan* (Ref. 5), which has been provided as a separate submittal to the NRC.)

- ***A description of the analytical instruments for measuring samples in the laboratory, including the calibration, sensitivity, and methodology for evaluation, with a demonstration that the instruments and methods have adequate sensitivity***

  Sections 10.7 and 14.4.3 (Additional information on instruments is provided in the *Hematite Soil Survey Plan* (Ref. 5), which has been provided as a separate submittal to the NRC.)

- *A description of how the samples to be analyzed in the laboratory will be collected, controlled, and handled*

  Section 14.4.7 (Additional information on soil sample collection is provided in the *Hematite Soil Survey Plan* (Ref. 5), which has been provided as a separate submittal to the NRC.)

- *A description of the final status survey investigation levels and how they were determined*

  Section 14.4.2

- *A summary of any significant additional residual radioactivity that was not accounted for during site characterization*

  To be provided in Final Status Survey Report, as described in Section 14.5

- *A summary of direct measurement results and/or soil concentration levels in units that are comparable to the DCGL, and if data is used to estimate or update the survey unit*

  To be provided in Final Status Survey Report, as described in Section 14.5

- *A summary of the direct measurements or sample data used to both evaluate the success of remediation and to estimate the survey unit variance*

  To be provided in Final Status Survey Report, as described in Section 14.5

XIV.e. FINAL STATUS SURVEY REPORT

- *An overview of the results of the final status survey*

  Specification of incorporation of this item in the Final Status Survey Report is provided in Section 14.5.

- *A discussion of any changes that were made in the final survey from what was proposed in the DP or other prior submittals*

  Specification of incorporation of this item in the Final Status Survey Report is provided in Section 14.5.

- *A description of the method by which the number of samples was determined for each survey unit*

Specification of incorporation of this item in the Final Status Survey Report is provided in Section 14.5.

- ***A summary of the values used to determine the numbers of sample and a justification for these values***

  Specification of incorporation of this item in the Final Status Survey Report is provided in Section 14.5.

- ***The survey results for each survey unit include:***

  — ***The number of samples taken for the survey unit;***

  Specification of incorporation of this item in the Final Status Survey Report is provided in Section 14.5.

  — ***A map or drawing of the survey unit showing the reference system and random start systematic sample locations for Class 1 and 2 survey units, and random locations shown for Class 3 survey units and reference areas;***

  Specification of incorporation of this item in the Final Status Survey Report is provided in Section 14.5.

  — ***The measured sample concentrations;***

  Specification of incorporation of this item in the Final Status Survey Report is provided in Section 14.5.

  — ***The statistical evaluation of the measured concentrations***

  Specification of incorporation of this item in the Final Status Survey Report is provided in Section 14.5.

  — ***Judgmental and miscellaneous sample data sets reported separately from those samples collected for performing the statistical evaluation;***

  Specification of incorporation of this item in the Final Status Survey Report is provided in Section 14.5.

  — ***A discussion of anomalous data including any areas of elevated direct radiation detected during scanning that exceeded the investigation level or measurement locations in excess of DCGLw; and***

  Specification of incorporation of this item in the Final Status Survey Report is provided in Section 14.5.

— *A statement that a given survey unit satisfied the DCGLW and the elevated measurement comparison if any sample points exceeded the DCGLW.*

Specification of incorporation of this item in the Final Status Survey Report is provided in Section 14.5.

- *A description of any changes in initial survey unit assumptions relative to the extent of residual radioactivity*

  Specification of incorporation of this item in the Final Status Survey Report is provided in Section 14.5.

- *If a survey unit fails, a description of the investigation conducted to ascertain the reason for the failure and a discussion of the impact that the failure has on the conclusion that the facility is ready for final radiological surveys*

  Specification of incorporation of this item in the Final Status Survey Report is provided in Section 14.5.

- *If a survey unit fails, a discussion of the impact that the reason for the failure has on the other survey unit information*

  Specification of incorporation of this item in the Final Status Survey Report is provided in Section 14.5.

XV. DECOMMISSIONING FINANCIAL ASSURANCE

XV.a. Cost Estimate

- *A cost estimate that appears to be based on documented and reasonable assumptions*

  Section 15

XV.b. Certification Statement

- *The certification statement is based on the licensed possession limits and the applicable quantities specified in 10 CFR 30.35, 40.36, or 70.25*

  Section 15

- *The licensee is eligible to use a certification of financial assurance and, if eligible, that the certification amount is appropriate*

  Section 15

XV.c. Financial Mechanism

- ***The financial assurance mechanism supplied by the licensee of responsible party consists of one or more of the following instruments:***
  - Trust fund;
  - Escrow account;
  - Government fund;
  - Certificate of deposit;
  - Deposit of government securities;
  - Surety bond;
  - Letter of credit;
  - Line of credit;
  - Insurance policy;
  - Parent company guarantee;
  - Self guarantee;
  - External sinking fund;
  - Statement of intent; or
  - By special arrangements with a government entity assuming custody or ownership of the site.

  Section 15

- ***The financial assurance mechanism is an originally signed duplicate***

  Section 15

- ***The wording of the financial assurance mechanism is identical to the recommended wording provided in Appendix F of this document***

  Section 15

- ***For a licensee regulated under 10 CFR Part 72, a means is identified in the DP for adjusting the financial assurance funding level over any storage and surveillance period***

  Section 15

- ***The amount of financial assurance coverage provided by the licensee for site control and maintenance is at least as great as that calculated using the formula provided in this SRP***

  Section 15