D.2 DECOMMISSIONING PLAN CHECKLIST

Licensee Name: Sigma-Aldrich Company

License Number: 24-16273-01 Docket Number: _____

Facility: 11542 Fort Mims Dr, Maryland Heights, MO

Decommissioning Plan Dated/Version: October 20, 2008

For the acceptance review, NRC staff will use this checklist to conduct a limited technical review the decommissioning plan (DP). The detailed technical review assesses the technical adequacy and completeness of the information.

Staff should use the checklist first during the initial meeting with the licensee to discuss the scope and content of the DP. In most cases, licensees will not be required to submit all of the information in this checklist. The staff, in conjunction with the licensee, should determine what information should be submitted for the site, based on the uses of radioactive material at the site, the extent and types of radioactive material contamination, the manner in which the licensee intends to decommissioning the facility, and other factors affecting the potential for increased risk to the public or workers from the decommissioning operations. This information should be documented by modifying the acceptance review checklist. Copies of the modified checklist should be provided to the licensee and maintained by the NRC reviewer. When the DP is submitted, the reviewer should use the modified checklist to perform the acceptance review

During the acceptance review, the staff will review the DP table of contents and the individual DP chapters or sections to ensure that the licensee has included this information in the DP. In addition, the staff may use Chapters 16 and 17 of this guidance to determine if the level of detail of the information appears to be adequate for the staff to perform a detailed technical review. Staff should recognize that failure to supply an item included in the checklist does not necessarily constitute grounds for rejecting the DP. Rather, the staff should determine if the licensee can supply the information in a timely manner and, if so, communicate the additional information needs to the licensee in a deficiency letter. Only in those cases where a detailed technical review cannot begin without the required information should the DP be rejected. For example, if the licensee is requesting restricted release and has not obtained the appropriate input from community interests who could be affected by the decommissioning, the DP should be rejected during the acceptance review. Questions regarding whether to reject a DP based on the results of the acceptance review should be forwarded to the Decommissioning Directorate, Division of Waste Management and Environmental Protection.

For the detailed technical review, staff should assess the technical accuracy and completeness of the information using the modified checklist.

I. EXECUTIVE SUMMARY

√ The name and address of the licensee or owner of the site

Cover page of D&D Plan

√ The location and address of the site

Cover page of D&D Plan

√ A brief description of the site and immediate environs

Executive Summary of D&D Plan

√ A summary of the licensed activities that occurred at the site

Section 2.1 of the D&D Plan

√ The nature and extent of contamination at the site

Section 4.2 of the D&D Plan

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

Executive Summary of the D&D Plan

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

Sections 3.1 and 3.2 of the D&D Plan

√ A summary of the ALARA evaluations performed to support the decommissioning

Section 3.3 of the D&D Plan

√ A summary of the ALARA evaluations performed to support the decommissioning

Section 3.3 of the D&D Plan

√ If the licensee 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

Executive Summary of the D&D Plan

√ 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)

N/A

√ The proposed initiation and completion dates of decommissioning

9/24/08 – 3/31/09

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

No ground water contamination expected

√ A statement that the licensee is requesting that its license be amended to incorporate the DP

Included in cover letter submitted along with DP

II. FACILITY OPERATING HISTORY

II.a. LICENSE NUMBER/STATUS/AUTHORIZED ACTIVITIES

√ The radionuclides and maximum activities of radionuclides authorized and used under the current license

Section 2.1 – 2.2 of the D&D Plan

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

Section 2.1 of the D&D Plan

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

Section 2.1 of the D&D Plan

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

Section 2.1 of the D&D Plan

√ A scale drawing or map of the building or site and environs showing the current

locations of radionuclide use at the site

Attachment A of the D&D Plan

√ A list of amendments to the license since the last license renewal

Section 2.1 of the D&D Plan

II.b. LICENSE HISTORY

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

Amendment	Carbon 14 Quantity	Tritium Quantity
1	25 Ci	N/A
2	25 Ci	10 Ci
3	25 Ci	10 Ci
4	75 Ci	100 Ci
5	150 Ci	100 Ci
6	400 Ci	100 Ci
7	400 Ci	1,000 Ci
8	400 Ci	1,000 Ci
9	400 Ci	1,000 Ci
10 - 15	800 Ci	1,000 Ci

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

Same as Section 2.1 of D&D Plan

√ A detailed description of how the radionuclides were used at the site

Same as Section 2.1 of D&D Plan

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

Amendment	Location
1-2	Same as Attachment A of D&D Plan, Lab 1

3-5	Same as Attachment A of D&D Plan, Labs 1, 2 & 4
3-15	Same as Attachment A of D&D Plan, all areas noted for use.

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

Same as Attachment A of D&D Plan

II.c. PREVIOUS DECOMMISSIONING ACTIVITIES

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

No previous decommissioning activities

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

N/A

√ The activities that caused the areas to become contaminated

N/a

√ The procedures used to remediate the areas, and the disposition of radioactive material generated during the remediation

N/A

√ A summary of the results of the final radiological evaluation of the previously remediated area

N/A

√ A scale drawing or map of the site, facilities, and environs showing the locations of previous remedial activity

N/A

II.d. SPILLS

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

Section 2.3 of D&D Plan

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

Section 2.3 of D&D Plan

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

Section 2.3 of D&D Plan

II.e. PRIOR ONSITE BURIALS

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

N/A

√ The types, forms, activities and concentrations of waste and radionuclides in the former burial

N/A

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

N/A

III. FACILITY DESCRIPTION

III.a. SITE LOCATION AND DESCRIPTION

√ The size of the site in acres or square meters

Approximately 1 acre

√ The State and county in which the site is located

State of Missouri, Saint Louis County

√ The names and distances to nearby communities, towns, and cities

Maryland Heights (location of site)
Bridgeton 4.2 miles N
St Ann 2.8 mile NE
St John 4.1 miles ENE
Charlack 4.5 miles E
Overland 3 miles ESE
Olivette 3.2 miles ESE
Creve Coeur 2.8 miles S
Significant towns to west located beyond Missouri river (5.6 miles)

√ A description of the contours and features of the site

About 60 feet from the North side of the building, a 20 ft embankment runs down to a street (Lakeside Crossing Ct) running parallel to the North face of the building. Lakeside Crossing Ct is approximately 145 ft to the North of the building. The remainder of the land at the site is generally flat, sloping slightly down from north to south

√ The elevation of the site

The elevation of the site is approximately 520 feet above sea level.

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

The site is located in a newly developed commercial/light industrial park area.

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

A small creek runs alongside Lakeside Crossing Ct, approximately 145 ft from the North of the building.

A man-made lake about one acre in size is located approximately 500 ft to the north of the building.

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

A map of the site showing detailed topography was not available at the time of submission of the DP. This information will be provided as soon as the map is available.

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

The surrounding facilities consist mainly of large warehouses and associated activities. The nearest warehouse is located about 110 ft from the West side of the building. Other warehouse buildings are located about 400 – 500 feet away. A radiochemical manufacturing facility is located about 400 feet to the West.

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

The site contains a two-story building, about 200 ft x 200 ft, with office and laboratory space. A parking lot, approximately 200 ft x 200 ft, is located on the east side of the building.

III.b. POPULATION DISTRIBUTION

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

Population limited to light industrial/commercial warehousing and office use.

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

Population limited to light industrial/commercial warehousing and office use.

III.c. CURRENT/FUTURE LAND USE

√ A description of the current land uses in and around the site

Land use around the site is currently light commercial/industrial.

√ A summary of anticipated land uses

Same as above

III.d. METEOROLOGY AND CLIMATOLOGY

√ A description of the general climate of the region

Average annual temperature near 55 degree F. Highs in summer in the 90s, low in the winter near or slightly below freezing. Average annual rainfall about 45 inches

√ Seasonal and annual frequencies of severe weather phenomena

No significant weather-related effects

√ Weather-related radionuclide transmission parameters

No significant weather-related effects.

√ Routine weather-related site deterioration parameters

No significant weather related effects.

√ Extreme weather-related site deterioration parameters

No significant weather related effects.

√ A description of the local (site) meteorology

No significant effects

√ 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

N/A

III.e. GEOLOGY AND SEISMOLOGY

√ A detailed description of the geologic characteristics of the site and the region around the site

N/A – Site characterization and history indicate radioactive contamination limited to the inside of licensed facility.

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

N/A – Site characterization and history indicate radioactive contamination limited to the inside of licensed facility.

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

N/A – Site characterization and history indicate radioactive contamination limited to the inside of licensed facility.

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

N/A – Site characterization and history indicate radioactive contamination limited to the inside of licensed facility.

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

N/A – Site characterization and history indicate radioactive contamination limited to the inside of licensed facility.

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

N/A – Site characterization and history indicate radioactive contamination limited to the inside of licensed facility.

√ A description of the geomorphology of the site

N/A – Site characterization and history indicate radioactive contamination limited to the inside of licensed facility.

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

N/A – Site characterization and history indicate radioactive contamination limited to the inside of licensed facility.

√ A discussion of the nature and rates of deformation

N/A – Site characterization and history indicate radioactive contamination limited to the inside of licensed facility.

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

N/A – Site characterization and history indicate radioactive contamination limited to the inside of licensed facility.

√ A description of the seismicity of the site and region

N/A – Site characterization and history indicate radioactive contamination limited to the inside of licensed facility.

√ 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

N/A – Site characterization and history indicate radioactive contamination

limited to the inside of licensed facility.

III.f. SURFACE WATER HYDROLOGY

√ A description of site drainage and surrounding watershed fluvial features

N/A – Site characterization and history indicate radioactive contamination limited to the inside of licensed facility.

√ 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)

N/A – Site characterization and history indicate radioactive contamination limited to the inside of licensed facility.

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

N/A – Site characterization and history indicate radioactive contamination limited to the inside of licensed facility.

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

N/A – Site characterization and history indicate radioactive contamination limited to the inside of licensed facility.

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

N/A – Site characterization and history indicate radioactive contamination limited to the inside of licensed facility.

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

N/A – Site characterization and history indicate radioactive contamination limited to the inside of licensed facility.

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

N/A – Site characterization and history indicate radioactive contamination limited to the inside of licensed facility.

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

N/A – Site characterization and history indicate radioactive contamination limited to the inside of licensed facility.

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

N/A – Site characterization and history indicate radioactive contamination limited to the inside of licensed facility.

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

N/A – Site characterization and history indicate radioactive contamination limited to the inside of licensed facility.

III.g. GROUND WATER HYDROLOGY

√ A description of the saturated zone

N/A – Site characterization and history indicate radioactive contamination limited to the inside of licensed facility.

√ Descriptions of monitoring wells

N/A – Site characterization and history indicate radioactive contamination limited to the inside of licensed facility.

√ Physical parameters

N/A – Site characterization and history indicate radioactive contamination limited to the inside of licensed facility.

√ A description of ground water flow directions and velocities

N/A – Site characterization and history indicate radioactive contamination limited to the inside of licensed facility.

√ A description of the unsaturated zone

N/A – Site characterization and history indicate radioactive contamination limited to the inside of licensed facility.

√ Information on all monitor stations including location and depth

N/A – Site characterization and history indicate radioactive contamination

limited to the inside of licensed facility.

√ A description of physical parameters

N/A – Site characterization and history indicate radioactive contamination limited to the inside of licensed facility.

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

N/A – Site characterization and history indicate radioactive contamination limited to the inside of licensed facility.

√ The distribution coefficients of the radionuclides of interest at the site

N/A – Site characterization and history indicate radioactive contamination limited to the inside of licensed facility.

III.h. NATURAL RESOURCES

√ A description of the natural resources occurring at or near the site

N/A – Site characterization and history indicate radioactive contamination limited to the inside of licensed facility.

√ A description of potable, agricultural, or industrial ground or surface waters

N/A – Site characterization and history indicate radioactive contamination limited to the inside of licensed facility.

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

N/A – Site characterization and history indicate radioactive contamination limited to the inside of licensed facility.

√ Mineral, fuel, and hydrocarbon resources near and surrounding the site which, if exploited, would effect the licensee's dose estimates

N/A – Site characterization and history indicate radioactive contamination limited to the inside of licensed facility.

IV. RADIOLOGICAL STATUS OF FACILITY
IV.a. CONTAMINATED STRUCTURES

√ A list or description of all structures at the facility where licensed activities

occurred that contain residual radioactive material in excess of site background levels

Section 4.0 of the D&D Plan

√ A summary of the structures and locations at the facility that the licensee has concluded have not been impacted by licensed operations and the rationale for the conclusion

Section 4.0 of the D&D Plan

√ A list or description of each room or work area within each of these structures

Section 4.0 of the D&D Plan

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

Section 4.0 of the D&D Plan

√ A summary of the locations of contamination in each room or work area

Section 4.0 of the D&D Plan

√ A summary of the radionuclides present at each location, the maximum and average radionulide activities in dpm/100cm^2, and, if multiple radionuclides are present, the radionuclide ratios

Section 4.0 of the D&D Plan

√ The mode of contamination for each surface (i.e., whether the radioactive material is present only on the surface of the material or if it has penetrated the material)

Section 4.0 of the D&D Plan

√ The maximum and average radiation levels in mrem/hr in each room or work area

<2 mrem/hr throughout

√ A scale drawing or map of the rooms or work areas showing the locations of radionuclide material contamination

Appendix A of the D&D Plan

IV.b. CONTAMINATED SYSTEMS AND EQUIPMENT

√ A list or description and the location of all systems or equipment at the facility that contain residual radioactive material in excess of site background levels

Section 7.1 of the D&D Plan

√ A summary of the radionuclides present in each system or on the equipment at each location, the maximum and average radionulide activities in dpm/100cm^2, and, if multiple radionuclides are present, the radionuclide ratios

Section 7.1 of the D&D Plan

√ The maximum and average radiation levels in mrem/hr at the surface of each piece of equipment

Section 7.1 of the D&D Plan

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

Section 7.1 of the D&D Plan

√ A scale drawing or map of the rooms or work areas showing the locations of the contaminated systems or equipment

Section 7.1 of the D&D Plan

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

Open Land Soil Sampling & Analysis Plan

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

Open Land Soil Sampling & Analysis Plan

√ 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

Open Land Soil Sampling & Analysis Plan

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

Open Land Soil Sampling & Analysis Plan

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

Open Land Soil Sampling & Analysis Plan

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

N/A – None expected based on site characterization and history

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

N/A

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

N/A

√ The depth of the subsurface soil contamination at each location

N/A

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

N/A

IV.e. SURFACE WATER

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

N/A

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

N/A

√ 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))

N/A

IV.f. GROUND WATER

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

N/A

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

N/A

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

N/A

V. DOSE MODELING

V.a. UNRESTRICTED RELEASE USING SCREENING CRITERIA

V.a.1. Unrestricted Release Using Screening Criteria for Building Surface Residual Radioactivity

√ The general conceptual model (for both the source term and the building environment) of the site

Section 3.1 of the D&D Plan

√ A summary of the screening method (i.e., running DandD or using the look-up tables) used in the DP

Section 3.1 of the D&D Plan

V.a.2. Unrestricted Release Using Screening Criteria for Surface Soil Residual Radioactivity

√ Justification on the appropriateness of using the screening approach (for both the source term and the environment) at the site

Open Land Soil Sampling and Analysis Plan

√ A summary of the screening method (i.e., running DandD or using the look-up tables) used in the DP

Open Land Soil Sampling and Analysis Plan

V.b. UNRESTRICTED RELEASE USING SITE-SPECIFIC INFORMATION

√ Source term information including nuclides of interest, configuration of the source, and areal variability of the source

N/A

√ Description of the exposure scenario including a description of the critical group

N/A

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

N/A

√ Identification/description of the mathematical model used (e.g., hand calculations, DandD Screen v1.0, and RESRAD v5.81)

N/A

√ Description of the parameters used in the analysis

N/A

√ Discussion about the effect of uncertainty on the results

N/A

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

N/A

V.c. RESTRICTED RELEASE USING SITE-SPECIFIC INFORMATION

N/A

V.d. RELEASE INVOLVING ALTERNATE CRITERIA

N/A

VI. ENVIRONMENTAL INFORMATION

√ Environmental information described in NUREG–1748

N/A

√ For an EIS, the environmental information is reviewed by the EPAD EIS project manager

N/A

VII. ALARA ANALYSIS

√ A description of how the licensee will achieve a decommissioning goal below the dose limit

Section 3.3 of the D&D Plan

√ A quantitative cost benefit analysis

Section 3.3 of the D&D Plan

√ A description of how costs were estimated

Section 3.3 of the D&D Plan

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

Section 3.3 of the D&D Plan

VIII. PLANNED DECOMMISSIONING ACTIVITIES

√ A summary of the remediation tasks planned for each room or area in the contaminated structure, in the order in which they will occur

Section 7.1 of the D&D Plan

√ A description of the remediation techniques that will be employed in each room or area of the contaminated structure

Section 7.1 of the D&D Plan

√ A summary of the radiation protection methods and control procedures that will be employed in each room or area

Section 7.1 of the D&D Plan

√ A summary of the procedures already authorized under the existing license and those for which approval is being requested in the DP

Section 7.1 of the D&D Plan

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

Section 7.1 of the D&D Plan

√ A summary of any unique safety or remediation issues associated with remediating the room or area

Section 7.1 of the D&D Plan

√ 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

N/A

VIII.b. CONTAMINATED SYSTEMS AND EQUIPMENT

√ A summary of the remediation tasks planned for each system 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 7.2 of the D&D Plan

√ A description of the techniques that will be employed to remediate each system in the facility or site

Section 7.2 of the D&D Plan

√ A description of the radiation protection methods and control procedures that will be employed while remediating each system

Section 7.2 of the D&D Plan

√ A summary of the equipment that will be removed or decontaminated and how the decontamination will be accomplished

Section 7.2 of the D&D Plan

√ A summary of the procedures already authorized under the existing license and those for which approval is being requested in the DP

Section 7.2 of the D&D Plan

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

Section 7.2 of the D&D Plan

√ A summary of any unique safety or remediation issues associated with remediating any system or piece of equipment

Section 7.2 of the D&D Plan

√ 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

N/A

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

Open Land Soil Sampling and Analysis Plan

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

Open Land Soil Sampling and Analysis Plan

√ A description of the radiation protection methods and control procedures that will be employed during soil removal/remediation

Open Land Soil Sampling and Analysis Plan

√ A summary of the procedures already authorized under the existing license and those for which approval is being requested in the DP

Open Land Soil Sampling and Analysis Plan

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

Open Land Soil Sampling and Analysis Plan

√ A summary of any unique safety or removal/remediation issues associated with remediating the soil

Open Land Soil Sampling and Analysis Plan

√ 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

N/A

VIII.d. SURFACE AND GROUND WATER

√ A summary of the remediation tasks planned for ground and surface water 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

N/A

√ A description of the remediation techniques that will be employed to remediate the ground or surface water

N/A

√ A description of the radiation protection methods and control procedures that will be employed during ground or surface water remediation

Open Land Soil Sampling and Analysis Plan

√ A summary of the procedures already authorized under the existing license and those for which approval is being requested in the DP

N/A

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

N/A

√ A summary of any unique safety or remediation issues associated with remediating the ground or surface water

N/A

VIII.e. SCHEDULES

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

Attachment B of the D&D Plan

√ A statement acknowledging that the dates in the schedule are contingent upon NRC approval of the DP

Section 8 of the D&D Plan

√ 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 will provide an updated schedule to NRC

Section 8 of the D&D Plan

√ 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 of the D&D Plan

IX. PROJECT MANAGEMENT AND ORGANIZATION

IX.a. DECOMMISSIONING MANAGEMENT ORGANIZATION

√ A description of the decommissioning organization

Section 5.0 of the D&D Plan

√ A description of the responsibilities of each of these decommissioning project units

Section 5.0 of the D&D Plan

√ A description of the reporting hierarchy within the decommissioning project management organization

Section 5.0 of the D&D Plan

√ 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

Section 5.0 of the D&D Plan

IX.b. DECOMMISSIONING TASK MANAGEMENT

√ A description of the manner in which the decommissioning tasks are managed

Section 5.1 of the D&D Plan

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

Section 5.1 of the D&D Plan

√ A description of how the RWPs are reviewed and approved by the decommissioning

Section 5.1 of the D&D Plan

√ Project management organization G A description of how RWPs are managed throughout the decommissioning project G A description of how individuals performing the decommissioning tasks are informed of the procedures in the RWP

Section 5.1 of the D&D Plan

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

Section 5.1 of the D&D Plan

√ 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

Section 5.1 of the D&D Plan

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

Section 5.1 of the D&D Plan

√ The minimum qualifications for each of the positions describe above, and the qualifications of the individuals currently occupying the positions

Section 5.1 of the D&D Plan

√ A description of all decommissioning and safety committees

Section 5.1 of the D&D Plan

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 RSO

Health Physics Operations Procedures (HPOP), Procedure HPAD-02

√ A description of the responsibilities and duties of the RSO

Health Physics Operations Procedures (HPOP), Procedure HPAD-02

√ A description of the specific authority of the RSO to implement and manage the licensee's radiation protection program

Health Physics Operations Procedures (HPOP), Procedure HPAD-02

IX.e. TRAINING

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

Health Physics Operations Procedures (HPOP)

√ 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

Daily meetings cover the job specific tasks for the day.

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

Training checklist and sign-off documents

IX.f. CONTRACTOR SUPPORT

√ A summary of decommissioning tasks that will be performed by contractors

D&D Plan

√ A description of the management interfaces that will be in place between the management and onsite supervisors, and contractor management and onsite supervisors

Facility Oversight and Management Agreement

√ A description of the oversight responsibilities and authority that the licensee will exercise over contractor personnel

Facility Oversight and Management Agreement

√ A description of the training that will be provided to contractor personnel by the licensee and the training that will be provided by the contractor

Facility Oversight and Management Agreement

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

Facility Oversight and Management Agreement

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

X.a. AIR SAMPLING PROGRAM

√ A description which demonstrates that the air sampling program is representative of the workers breathing zones

Section 6.2 of the D&D Plan

√ 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

Section 6.2 of the D&D Plan

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

Section 6.2 of the D&D Plan

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

Section 6.2 of the D&D Plan

√ A description of the action levels for air sampling results

Section 6.2 of the D&D Plan

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

Section 6.2 of the D&D Plan

X.b. RESPIRATORY PROTECTION PROGRAM

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

Section 6.3 of the D&D Plan

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

Section 6.3 of the D&D Plan

√ 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 6.3 of the D&D Plan

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

Section 6.3 of the D&D Plan

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

Section 6.3 of the D&D Plan

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

Section 6.3 of the D&D Plan

√ A description of the respiratory equipment users training program

Section 6.3 of the D&D Plan

√ A description of the considerations made when selecting respiratory protection equipment

Section 6.3 of the D&D Plan

X.c. INTERNAL EXPOSURE DETERMINATION

√ A description of the monitoring to be performed to determine worker exposure

Section 6.4 of the D&D Plan

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

Section 6.4 of the D&D Plan

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

Section 6.4 of the D&D Plan

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

Section 6.4 of the D&D Plan

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

Section 6.4 of the D&D Plan

X.d. EXTERNAL EXPOSURE DETERMINATION

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

Section 6.5 of the D&D Plan

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

Section 6.5 of the D&D Plan

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

Section 6.5 of the D&D Plan

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

Section 6.5 of the D&D Plan

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

Section 6.5 of the D&D Plan

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

Section 6.5 of the D&D Plan

√ 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 6.5 of the D&D Plan

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 6.6 of the D&D Plan

√ 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 6.6 of the D&D Plan

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

Section 6.6 of the D&D Plan

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

Section 6.6 of the D&D Plan

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 6.7 of the D&D Plan

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

Section 6.7 of the D&D Plan

√ 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

Section 6.7 of the D&D Plan

√ 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 6.7 of the D&D Plan

√ 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 6.7 of the D&D Plan

√ A description of the procedures used to test sealed sources, and to insure that sealed sources are leaked tested at appropriate intervals

Section 6.7 of the D&D Plan

X.g. INSTRUMENTATION PROGRAM

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

Section 11 of the D&D Plan

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

Section 11 of the D&D Plan

√ 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 11 of the D&D Plan

√ A description of the instrument calibration and quality assurance procedures

Section 11 of the D&D Plan

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

Section 11 of the D&D Plan

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

Section 11 of the D&D Plan

X.h. NUCLEAR CRITICALITY SAFETY

√ A description of how the NCS functions, including management responsibilities and technical qualifications of safety personnel, will be maintained when needed throughout the decommissioning process

N/A

√ A description of how an awareness of procedures and other items relied on for safety will be maintained throughout decommissioning among all personnel, with access to systems that may contain fissionable material in sufficient amounts for

criticality

N/A

√ A summary of the review of NCSA's or the ISA indicating either that the process needs no new safety procedures or requirements, or that new requirements or analysis have been performed

N/A

√ A summary of any generic NCS requirements to be applied to general decommissioning, decontamination, or dismantlement operations, including those dealing with systems that may unexpectedly contain fissionable material

N/A

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

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

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

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

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

√ A description of the records maintained of RSO audits

XI. ENVIRONMENTAL MONITORING AND CONTROL PROGRAM

XI.a. ENVIRONMENTAL ALARA EVALUATION PROGRAM

√ A description of ALARA goals for effluent control

Section 8 of the D&D Plan

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

Section 8 of the D&D Plan

√ A description of the ALARA reviews and reports to management

Section 8 of the D&D Plan

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

N/A

√ A description of the known or expected concentrations of radionuclides in effluents

N/A

√ A description of the physical and chemical characteristics of radionuclides in effluents

N/A

√ A summary or diagram of all effluent discharge locations

N/A

√ A demonstration that samples will be representative of actual releases

N/A

√ A summary of the sample collection and analysis procedures

N/A

√ A summary of the sample collection frequencie

N/A

√ A description of the environmental monitoring recording and reporting procedures

N/A

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

N/A

XI.c. EFFLUENT CONTROL PROGRAM

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

Section 8 of the D&D Plan

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

Section 8 of the D&D Plan

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

Section 8 of the D&D Plan

√ 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

Section 8 of the D&D Plan

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

Section 8 of the D&D Plan

XII. RADIOACTIVE WASTE MANAGEMENT PROGRAM

XII.a. SOLID RADWASTE

√ A summary of the types of solid radwaste that are expected to be generated during decommissioning operations

Section 9 of the D&D plan

√ A summary of the estimated volume, in cubic feet, of each solid radwaste type summarized in Line 1 above

Section 9 of the D&D plan

√ A summary of the radionuclides (including the estimated activity of each radionuclide) in each estimated solid radwaste type summarized in Line 1 above

Section 9 of the D&D plan

√ 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 9 of the D&D plan

√ A description of how and where each of the solid radwaste summarized in Line 1 above will be stored onsite prior to shipment for disposal

Section 9 of the D&D plan

√ A description of how the each of the solid radwastes summarized in Line 1 above will be treated and packaged to meet disposal site acceptance criteria prior to shipment for disposal

Section 9 of the D&D plan

√ If appropriate, how the licensee intends to manage volumetrically contaminated material

Section 9 of the D&D plan

√ A description of how the licensee will prevent contaminated soil, or other loose solid radwaste, from being re-disbursed after exhumation and collection

Section 9 of the D&D plan

√ The name and location of the disposal facility that the licensee intends to use for each solid radwaste type summarized in Line 1 above

Section 9 of the D&D plan

XII.b. LIQUID RADWASTE

√ A summary of the types of liquid radwaste that are expected to be generated

during decommissioning operations

Section 9 of the D&D plan

√ A summary of the estimated volume, in liters, of each liquid radwaste type summarized in Line 1 above

Section 9 of the D&D plan

√ A summary of the radionuclides (including the estimated activity of each radionuclide) in each liquid radwaste type summarized in Line 1 above

Section 9 of the D&D plan

√ 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 9 of the D&D plan

√ A description of how and where each of the liquid radwastes summarized in Line 1 above will be stored onsite prior to shipment for disposal

Section 9 of the D&D plan

√ A description of how the each of the liquid radwastes summarized in Line 1 above will be treated and packaged to meet disposal site acceptance criteria prior to shipment for disposal

Section 9 of the D&D plan

√ The name and location of the disposal facility that the licensee intends to use for each liquid radwaste type summarized in Line 1 above

Section 9 of the D&D plan

XII.c. MIXED WASTE

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

Section 9 of the D&D plan

√ A summary of the estimated volumes in cubic feet of each solid mixed waste type summarized in Line 1 above, and in liters for each liquid mixed waste

Section 9 of the D&D plan

√ A summary of the radionuclides (including the estimated activity of each radionuclide) in each type of mixed waste type summarized in Line 1 above

Section 9 of the D&D plan

√ 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 9 of the D&D plan

√ A description of how and where each of the mixed wastes summarized in Line 1 above will be stored onsite prior to shipment for disposal

Section 9 of the D&D plan

√ A description of how the each of the mixed wastes summarized in Line 1 above will be treated and packaged to meet disposal site acceptance criteria prior to shipment for disposal

Section 9 of the D&D plan

√ The name and location of the disposal facility that the licensee intends to use for each mixed waste type summarized in Line 1 above

Section 9 of the D&D plan

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

Section 9 of the D&D plan

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

Section 9 of the D&D plan

XIII. QUALITY ASSURANCE PROGRAM

XIII.a. ORGANIZATION

√ A description of the QA program management organization

Section 16 of the D&D Plan

√ A description of the duties and responsibilities of each unit within the organization

and how delegation of responsibilities is managed within the decommissioning program

Section 16 of the D&D Plan

√ A description of how work performance is evaluated

Section 16 of the D&D Plan

√ A description of the authority of each unit within the QA program

Section 16 of the D&D Plan

√ An organization chart of the QA program organization

Section 16 of the D&D Plan

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

Section 16 of the D&D Plan

√ A brief summary of the company's corporate QA policies

Section 16 of the D&D Plan

√ 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

Section 16 of the D&D Plan

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

Section 16 of the D&D Plan

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

Section 16 of the D&D Plan

√ 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

Section 16 of the D&D Plan

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

Section 16 of the D&D Plan

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

Section 16 of the D&D Plan

√ A description of the training and qualifications of personnel verifying activities

Section 16 of the D&D Plan

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

Section 16 of the D&D Plan

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

Section 16 of the D&D Plan

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

Section 16 of the D&D Plan

√ 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

Section 16 of the D&D Plan

√ 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

Section 16 of the D&D Plan

III.c. DOCUMENT CONTROL

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

Section 16 of the D&D Plan

√ A description of how the licensee develops, issues, revises, and retires QA documents

Section 16 of the D&D Plan

XIII.d. CONTROL OF MEASURING AND TEST EQUIPMENT

√ A summary of the test and measurement equipment used in the program

Section 16 of the D&D Plan

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

Section 16 of the D&D Plan

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

Section 16 of the D&D Plan

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

Section 16 of the D&D Plan

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

Section 16 of the D&D Plan and the Facility and Oversight Agreement

√ 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

Section 16 of the D&D Plan and the Facility and Oversight Agreement

XIII.f. QUALITY ASSURANCE RECORDS

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

Section 16 of the D&D Plan

√ A description of the responsibilities of the QA organization

Section 16 of the D&D Plan

√ A description of the QA records storage facility

Section 16 of the D&D Plan

XIII.g. AUDITS AND SURVEILLANCES

√ A description of the audit program

Section 16 of the D&D Plan

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

Section 16 of the D&D Plan

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

Section 16 of the D&D Plan

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

Section 16 of the D&D Plan

XIV. FACILITY RADIATION SURVEYS

XIV.a. RELEASE CRITERIA

√ A summary table or list of the $DCGL_W$ for each radionuclide and impacted media of concern

Section 3 of the D&D Plan

√ 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 3 of the D&D Plan

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

Section 3 of the D&D Plan

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

Section 3 of the D&D Plan

XIV.b. CHARACTERIZATION SURVEYS

√ A description and justification of the survey measurements for impacted media

Section 12 of the D&D Plan

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

Section 12 of the D&D Plan

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

Section 12 of the D&D Plan

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

Section 12 of the D&D Plan

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

Section 12 of the D&D Plan

√ Justification for considering areas to be non-impacted

Section 12 of the D&D Plan

√ 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

Section 12 of the D&D Plan

√ 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

Section 12 of the D&D Plan

√ 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

Section 12 of the D&D Plan

XIV.c. IN-PROCESS SURVEYS

√ A description of field screening methods and instrumentation

Sections 14.5 through 14.6.1.3 of the D&D Plan

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

Sections 14.5 through 14.6.1.3 of the D&D Plan

XIV.d. FINAL STATUS SURVEY DESIGN

√ A brief overview describing the final status survey design

Section 14.0 through 14.4 of the D&D Plan

√ 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 14.0 through 14.4 of the D&D Plan

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

Section 14.0 through 14.4 of the D&D Plan

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

Section 14.0 through 14.4 of the D&D Plan

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

Section 14.0 through 14.4 of the D&D Plan

√ 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

Section 14.0 through 14.4 of the D&D Plan

√ A description of the analytical instruments for measuring samples in the laboratory, as well as calibration, sensitivity, and methods with a demonstration that the instruments and methods have adequate sensitivity

Section 14.0 through 14.4 of the D&D Plan

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

Section 14.0 through 14.4 of the D&D Plan

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

Section 14.0 through 14.4 of the D&D Plan

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

Section 14.0 through 14.4 of the D&D Plan

√ 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

Section 14.0 through 14.4 of the D&D Plan

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

Section 14.0 through 14.4 of the D&D Plan

XIV.e. FINAL STATUS SURVEY REPORT

√ An overview of the results of the final status survey

Section 17 of the D&D Plan

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

Section 17 of the D&D Plan

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

Section 17 of the D&D Plan

√ A summary of the values used to determine the number of samples and a justification for these values

Section 17 of the D&D Plan

√ The survey results for each survey unit include:

The number of samples taken for the survey unit;

Section 17 of the D&D Plan

√ A description of the survey unit, including (a) 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, and (b) a discussion of remedial actions and unique features;

Section 17 of the D&D Plan

√ The measured sample concentrations in units that are comparable to the DCGL;

Section 17 of the D&D Plan

√ The statistical evaluation of the measured concentrations

Section 17 of the D&D Plan

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

Section 17 of the D&D Plan

√ 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 $DCGL_W$; and

Section 17 of the D&D Plan

√ A statement that a given survey unit satisfied the $DCGL_W$ and the elevated measurement comparison if any sample points exceeded the DCGL

Section 17 of the D&D Plan

√ A description of any changes in initial survey unit assumptions relative to the extent of residual radioactivity (e.g., material not accounted for during site characterization)

Section 17 of the D&D Plan

√ A description of how ALARA practices were employed to achieve final activity levels

Section 17 of the D&D Plan

√ 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 and that it satisfies the release criteria

Section 17 of the D&D Plan

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

Section 17 of the D&D Plan

XV. FINANCIAL ASSURANCE

XV.a. COST ESTIMATE

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

Updated Decommissioning funding plan dated June 4, 2007.

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

Decommissioning Funding Plan Review dated June 4, 2007 and NRC approval letter dated June 5, 2008.

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

Decommissioning Funding Plan Review dated June 4, 2007 and NRC approval letter dated June 5, 2008.

XV.c. FINANCIAL MECHANISM

√ The financial assurance mechanism supplied by the licensee 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.

A Standby Trust Agreement

√ The financial assurance mechanism is an originally signed duplicate

Yes

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

Yes

√ 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

N/A

√ 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 NUREG

Yes

XVI. RESTRICTED USE/ALTERNATE CRITERIA

N/A