

May 13, 2008

Mr. Al Washko  
Medical Center Director  
Department of Veterans Affairs  
Nebraska-Western Iowa Health Care System  
Omaha, NE 68105-1873

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION REGARDING ALAN J.  
BLOTCKY REACTOR FACILITY DECOMMISSIONING PLAN

Dear Mr. Washko:

By letter dated September 21, 2004, (Agencywide Document and Access Management System (ADAMS) Accession No. ML042740512), the Department of Veterans Affairs (VA) submitted a Decommissioning Plan (DP) for the Alan J. Blotcky Reactor Facility (License R-57) in Omaha, Nebraska. The DP proposed decontamination and dismantlement of the facility and termination of the facility license with no restrictions on future site use.

After reviewing your request, the U.S. Nuclear Regulatory Commission staff has determined that additional information is required in order to complete its review. The additional information needed is described in the enclosure to this letter. I understand that the VA will be using contracted technical support services to address our questions. I recommend a technical meeting to discuss our questions at your earliest convenience after you've arranged for the appropriate technical support services.

If you have any questions, please call me at (301) 415-6721.

Sincerely,

**/RA/**

Theodore Smith, Project Manager  
Reactor Decommissioning Branch  
Decommissioning and Uranium Recovery  
Licensing Directorate  
Division of Waste Management  
and Environmental Protection  
Office of Federal and State Materials  
and Environmental Management Programs

Docket No: 50-131

Enclosure: Request for Additional Information

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Medical Center Director  
Department of Veterans Affairs  
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**REQUEST FOR ADDITIONAL INFORMATION**  
**DEPARTMENT OF VETERANS AFFAIRS**  
**NEBRASKA-WESTERN IOWA HEALTH CARE SYSTEM**  
**DECOMMISSIONING PLAN FOR**  
**ALAN J. BLOTCKY REACTOR FACILITY**  
**DOCKET NO. 50-131**

- References:
- (1) Proposed Decommissioning Plan (DP) for the Alan J. Blotcky Reactor Facility (AJBRF) in Omaha, Nebraska (License R-57) dated September 21, 2004, from Al Washko of the Department of Veterans Affairs (VA) to the U.S. Nuclear Regulatory Commission (NRC) (ML042740512).
  - (2) Facility Characterization Report for the AJBRF in Omaha, Nebraska (License R-57) dated May 2, 2006, from Al Washko of the Department of Veterans Affairs to the U.S. Nuclear Regulatory Commission (ML061380580).
  - (3) NUREG-1757, Volumes 1 and 2, *Consolidated Decommissioning Guidance*, September 2006.
  - (4) NUREG-1537, *Guidelines for Preparing and Reviewing Applications for the Licensing of Non-Power Reactors*, February 1996.

**1. Provide clarifications regarding Derived Concentrations Guideline Levels (DCGLs) and other criteria used for residual radioactivity remaining on site at license termination and for material to be released and removed from the site prior to license termination.**

The DCGLs and any other criteria to be used should be clearly defined and consistent in all applicable sections of the Decommissioning Plan (DP). The following requests for additional information (RAIs) relate to providing clear definitions or consistency regarding criteria to be used.

Enclosure

**1(a). Provide criteria for soil and volumetrically contaminated materials to be left in place****Basis:**

Section 5.1.2 of the DP indicates that DCGLs are not needed for soils. However, Section 8.1.1 of the DP indicates that after removal of the reactor internals, core bores will be made into the surrounding material (i.e., epoxy/gunite, steel, concrete, and surrounding soil). This section states that some or all of the pit structure may be left intact or that further remediation may be required, potentially including removal of the pit structure and concrete and surrounding soil. However, the DP does not include specific criteria that would be used to determine if such remediation is needed. Criteria for soils are also needed to determine if minimum detection levels were sufficient for the characterization of soils around and under the reactor pit.

**Path Forward:**

The VA should provide criteria that will be used to determine if soil and other potentially volumetrically contaminated materials around the reactor pit can remain in place.

**1(b). Describe criteria for drains, ventilation ducts, and any other miscellaneous components to be left in place****Basis:**

Section 8, of the DP states that decommissioning activities will include removal of some ventilation ducts and drains and perhaps other miscellaneous components. The DP is not clear on what criteria will be used to determine if such components may remain in place. It may be that the VA intends to apply the building surface DCGLs to these components, but the NRC staff has not seen that stated in the DP.

**Path Forward:**

The VA should clearly describe what criteria are to be applied for leaving components in place other than building surfaces. If the VA intends to use the DCGLs developed for building surfaces, the VA should justify the appropriateness of the DCGLs for these other components.

**1(c). Provide justification for radionuclide mix****Basis:**

The radionuclide mix assumed by the VA is based on results of a single sample of resin that was analyzed (described in Attachment 2 of the Facility Characterization Report (FCR)). It is unclear to the NRC staff how this single sample would be representative of all different areas of the VA facility that might be contaminated. The VA has not justified this sample as being representative of all areas.

In addition, the NRC staff was unsure why the naturally occurring radionuclides thorium-230 (Th-230) and lead-210 (Pb-210) would be present as contaminants. If these nuclides are under the licensee's control and elevated above background, then they should be addressed, but there was no discussion about these in the DP.

**Path Forward:**

The VA should provide additional information on the expected radionuclide mix. If one sample is thought to be representative, justification should be provided. If not, the VA should describe an alternative for determining the radionuclide mix and when the determination would be made.

**1(d). Reevaluate Th-230 and Pb-210 DCGLs.****Basis:**

As described in Attachment 2 of the FCR, the VA calculated DCGLs for building surfaces for Th-230 and Pb-210 using the DandD screening code. The NRC staff has concerns about two of the DCGL values. First, for Th-230, it appears that the results were interpreted incorrectly. Based on the DandD report for the Th-230 run, the radionuclide used was "Th-230+C" and the nuclide concentrations for the source term were distributed among all progeny. This means that the input concentration is the concentration of all radionuclides in the Th-230 decay chain summed together. This differs from the interpretation by the VA that the concentration is the concentration of Th-230 only. The way that the DandD code distributes activity for decay chains is described in NUREG-1757, Volume 2, Section 4.2.2.3 (April 2001).

For Pb-210, the NRC staff believes that if Pb-210 were present as a contaminant, then most likely Polonium-210 (Po-210) would also be present, because the reactor facility has been shut down and relatively undisturbed long enough that the Po-210, with a half life of 138 days, would have ingrown close to equilibrium with Pb-210. However, the VA did not include Po-210 as part of the radionuclide mix, nor did it calculate a DCGL for Po-210.

**Path Forward:**

If Th-210 and Pb-210 are retained in the radionuclide mix, the VA should reevaluate the DCGLs for these nuclides, or should provide justification that the proposed DCGLs are appropriate.

**1(e). Clarify what radionuclides are detectable for building surfaces DCGL****Basis:**

Attachment 2 of the FCR provides, for building surfaces, the proposed DCGLs for individual radionuclides and the calculated DCGL for gross measurable activity. A note to the table in this attachment attempts to describe which nuclides are detectable. The note states "Detectable refers to nuclides which are detectable when the detector is operated at an alpha+beta counting voltage using an efficiency for Tc-99." The table does not describe what instrument is proposed for use in the measurements. It is unclear to the NRC staff what radionuclides would actually be measured during the proposed measurements. The note indicates counting of alpha and beta particles, but indicates an efficiency for a beta-emitter, Tc-99, would be used. In the table, the alpha-emitting nuclides are indicated as not detectable, which seems to conflict with alpha plus beta particles being measured. Also, the table does not appear to account for differences in actual efficiency compared to the efficiency proposed for use (i.e., efficiency for Tc-99).

**Path Forward:**

The DP should clearly describe modifications to the gross DCGL to account for detectability of certain radionuclides or certain radiation emissions. If the instrumentation intended to be used impacts the detectability, details about the instrumentation should be provided.

### 1(f). Clarify the criteria for offsite release of materials

#### **Basis:**

The DP describes the As-Low-As-is-Reasonably-Achievable (ALARA) criteria for surfaces, but it is unclear exactly how the criteria are intended to be applied. Section 1.8 of the DP states limits for loose (removable) and fixed contamination (1000 and 5000 dpm/100 cm<sup>2</sup>, respectively) governing the “free release of materials.” The same section further states that “Plant systems and reactor components constitute an exception, and will receive decommissioning to meet the calculated DCGLs.”

It is unclear to the NRC staff what the VA intends here. First, the limits for loose and fixed contamination are described as for free release of materials, which the NRC staff interprets as for materials that will be released from the site prior to license termination. But the DCGLs apply to building surfaces that will remain on site at license termination. No clear statement is made in this section about what is being done to assure that future doses are ALARA.

In Section 5 of the DP, after discussing the DCGLs, the VA states that “Conservatively, decommissioning is being planned to decontaminate and remove radioactive concentrations at the facility to values in the not to exceed a range [sic] of 5,000 dpm/100 cm<sup>2</sup>.” In this statement, there is no exclusion of the plant systems and reactor components, which seems different than the statement in Section 1.8. In addition, it appears to the NRC staff that this goal of 5000 dpm/100 cm<sup>2</sup> is for materials remaining on site, not materials being released from the site.

In Section 7.1 of the DP, the VA restates the limits governing the free release of materials that were given in Section 1.8.

In Section 14.1 of the DP, the VA states that the “DCGLs, in combination with the existing AJBRF [Alan J. Blotcky Reactor Facility] material release limits, will be utilized as the regulatory basis for release of the site for unrestricted use.” The DP does not describe the “existing AJBRF material release limits,” but it appears to the NRC staff that this statement mixes limits to be applied to building surfaces (and potentially materials) *remaining on site at license termination* with limits to be applied to the *off site release of materials prior to license termination*. The NRC staff distinguishes between these two cases, because the regulatory bases (i.e., in the NRC regulations) for the two are different.

Among these cited sections of the DPs, these statements appear inconsistent and unclear.

In addition, the DP does not address the planned releases of bulk material or aggregated waste (bags, drums, etc.), that may be volumetrically contaminated.

#### **Path Forward:**

The VA should clarify the limits it proposes using, being careful to specify how the limits will be used (e.g., are limits for building surfaces or materials to be left on site at license termination or for release of materials off site prior to license termination). The VA should clarify statements that may relate to ALARA goals or limits, if such are proposed. The VA should describe the existing release limits that will be used for the decommissioning work. If the VA intends to release volumetrically contaminated materials from the site (i.e., other than for disposal at a licensed facility), the DP should describe conditions of release and should provide criteria

proposed (refer to NUREG-1757, Volume 1, Section 15.11 and to Information Notice 85-92). The VA should be consistent throughout the DP in describing the different limits.

**1(g). Clarify applicability of criteria for removable contamination**

**Basis:**

Section 7 of the DP states that loose (removable) contamination will be eliminated where possible and states that a limit of 1000 dpm/cm<sup>2</sup> will apply to loose contamination for the “free release of materials.” It is unclear to the NRC staff whether this criteria for removable contamination will be applied to building surfaces and components that will remain at the facility.

**Path Forward:**

The VA should clarify whether it proposes any criteria for loose or removable contamination for building surfaces, components, or other materials that will remain on site at license termination.

**1(h). Justify that conditions for use of screening criteria for surfaces are met**

**Basis:**

As described in the Characterization Report, the screening criteria used by the VA as DCGLs were obtained from a *Federal Register* notice published by the NRC staff, or from the DandD code. The NRC staff provided guidance on criteria for the applicability of these screening values. The guidance states that for use of the building surface screening criteria, the DP should describe how the following conditions would be met: (1) the residual radioactivity should be surficial and non-volumetric; (2) the residual radioactivity on surfaces should be mostly fixed, with no greater than 10% of the total being removable or loose; and (3) the screening values should not be applied to surfaces such as buried structures (e.g., drainage or sewer pipes) without adequate justification. These three criteria are discussed in NUREG-1757, Volume 2, Revision 1, Section H.2.2.

**Path Forward:**

The VA should justify that the site conditions are appropriate for the use of the screening values.

**1(i). Clarify to what radiation emissions the criteria apply**

**Basis:**

The DP does not describe the type of radioactivity (e.g., alpha, beta, gamma or some combination) to which the DCGLs and the criteria for loose and fixed contamination apply. Attachment 2 of the FCR includes a description of how a “reduced” DCGL was calculated, including only those radionuclides that are detectable. This information is not presented in the DP when DCGLs are discussed.

**Path Forward:**

Provide a clarification in the DP regarding to what radiations or radionuclides the DCGLs apply.

## **2. Clarify additional characterization or site historical information needed**

### **Basis:**

The FCR, in subsections of Section 8, describe a number of instances where the characterization was incomplete or insufficient, due primarily to difficulty accessing certain areas, but also due to other issues. The DP has not described how these areas will be sufficiently characterized during the remainder of the decommissioning work.

Section 2.3 of the FCR indicates that the pneumatic transfer system was rerouted in the 1960s, from its original terminus in the first floor. The DP and FCR do not discuss characterization and possible remediation for areas of the first floor potentially impacted by contamination from the pneumatic transfer system.

In addition, the DP does not provide information pertaining to the characterization, radiological status, and anticipated disposition of sanitary sewer lines and embedded piping.

### **Path Forward:**

The VA should describe additional site history information or characterization needed and how it will be obtained. The VA should address whether characterization or decontamination or removal of sewer lines and embedded piping is needed.

## **3. Provide details on proposed soil sampling around the reactor pit**

### **Basis:**

In Section 8.3 of the DP, the VA states “During the decommissioning of the reactor tank, horizontal bores will be made approximately at various depths of the pit in each quadrant to determine if the soil immediately outside the tank is activated or contaminated.” No further details about the proposed sampling are provided in the DP.

### **Path Forward:**

The VA should provide additional detail to clarify the commitment for soil sampling around the reactor pit.

## **4. Clarify which method will be used to evaluate final status survey results**

### **Basis:**

Section 14.1 of the DP discusses general methods that might be used for evaluating the final status survey measurements results. This discussion describes two different methods, both based on recommendations from the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM). The first method is that fixed measurement results would be compared directly with the DCGLs. This is described as an ALARA methodology. However, it is unclear to the NRC staff whether the VA intends to use this method for compliance or intends this as an administrative goal.

The second method is the use of nonparametric statistical tests.

Section 14.1 appears to state that the VA intends to use both of these approaches. It is unclear to the NRC staff if this is the intent, as details have not been provided.

**Path Forward:**

The VA should clarify which method is to be used. If the VA intends to use both methods, the VA should describe conditions for use of each. The description should be clear as to which method will be used for regulatory compliance. If a method to be used for ALARA will only be considered an operational or administrative (not for compliance) method, this also should be clearly described in the DP.

**5. Provide evaluation of hot particles****Basis:**

A number of reactor facilities have discovered hot particles in various locations during decommissioning. Origins of hot particles have included particles of failed fuel and particles of activated materials. The DP does not discuss the possibility of hot particles at the VA facility.

**Path Forward:**

The VA should evaluate the possibility of hot particles at the AJBRF facility. The DP should either justify that significant hot particles do not exist at the facility or demonstrate that characterization and final status surveys will detect such hot particles if they do exist.

**6. Describe how hard-to-detect nuclides (HTDN) will be addressed.****Basis:**

The soil sample analyses performed in support of the activation analysis, presented in the FCR (Attachment A of the DP), did not include analysis methods for the detection of hard-to-detect radionuclides (HTDN), alpha-emitters or low-energy beta emitters. Section 8.11 of the FCR (page 62) states that "Many of the radionuclides listed for soil in APPENDIX C are radionuclides that cannot be detected by gamma spectroscopy. Therefore, analysis of a few samples during decommissioning for these radionuclides is suggested." The DP does not describe a commitment to perform such additional analyses.

The DP does not explicitly address the potential for HTDN on structural surfaces and systems, or in soils. Table 4.2, Resin Sample Analysis Results Summary, indicates the presence of tritium (H-3), carbon-12 (C-14), and plutonium-241 (Pu-241) at detectable levels. Section 4.4 (page 45) states that "An environmental analysis of surface soil samples was performed to determine the presence of radiological or hazardous contamination present outside of the containment building. None of the soil samples analyzed by gamma spectroscopy showed any measurable radioactivity." A similar statement appears in Section 4.5, Subsurface Soil Contamination. A review of the derivation of the DCGLs for structural surfaces, as presented in Attachment 2 of the Characterization Report, indicates that HTDN were included in the calculation of the DCGLs. However, this is not explicitly stated in the body of the text of the DP, nor does it address the potential for HTDN in soil.

**Path Forward:**

The DP should provide clarification about how HTDN have been addressed, for soils and for building surfaces. If additional measurements of HTDN are to be made during decommissioning (including during further characterization, remedial action support surveys, or

during final status surveys), the DP should provide commitments to perform such measurements.

## **7. Provide information about expected doses during decommissioning**

### **Basis:**

The DP does not include an individual or collective dose-estimate for workers during the decommissioning, as suggested by NUREG-1537, Part I, Appendix 17.1, Section 3.1.3. This information would be helpful in evaluating whether the radiation protection program is sufficient for the expected doses.

### **Path Forward:**

The DP should provide discussion about the dose levels expected for workers involved in the decommissioning activities.

## **8. Provide Method for Approving Changes to the DP**

### **Basis:**

Section 9.1.6 of the DP, page 80, cites one of the functions of the Reactor Safeguards Committee (RSC) as follows: "The committee will review decommissioning procedures, decommissioning activities dealing with radioactive material and radiological controls as well as review and approve changes to the decommissioning plan." This section also lists the following as an RSC function: "Review proposed changes to the decommissioning plan or procedure changes, including changes in monitoring or control equipment, systems or testing to determine if there are safety questions as defined in 10 CFR 50.59." However, the DP does not discuss the conditions that would allow changes to the DP without prior NRC approval and the method that is proposed for the licensee to approve such changes, nor does it describe changes or conditions that would require prior NRC approval.

NUREG-1537, Part I, Appendix 17.1, Section 9, states that "Unless the DP contains a method to make changes without prior NRC approval, NRC will have to approve all changes to the plan, no matter how small or insignificant with regard to safety." The NRC staff has additional guidance on changes to DPs in NUREG-1757, Vol. 1, Chapter 18 (the licensee should note that Volume 1 is generally applicable to materials licensees, but may provide helpful information for reactor licensees).

### **Path Forward:**

The licensee should incorporate into the DP the change control criteria and method for modifications to the DP. This could be done by listing: (1) what in the DP may be changed by the licensee; and/or (2) what changes must be approved by the NRC. The DP should also describe how changes to the DP will be documented, and how the NRC will be notified of changes.

## **9. Provide a Radiological Accident Analysis**

### **Basis:**

The DP does not discuss or analyze potential radiological accidents that could affect the public or occupational health and safety. A Radiological Accident Analysis, as described in NUREG-

1537, Part I, Appendix 17.1, Section 3.3, would describe accidents that are directly related to decommissioning with emphasis on how they differ from accidents related to normal maintenance activities. Sufficient detail is needed to clearly define and analyze the consequence of any significant potential accidents, including all potential releases of radioactivity to or from controlled areas of the facility. This information is needed for NRC staff preparation of the Environmental Assessment.

**Path Forward:**

The DP should include a Radiological Accident Analysis.

**10. Provide proposed revision to Technical Specification**

**Basis:**

Since there is no longer nuclear fuel at the facility, most of the operating license technical specifications will not apply after the DP is approved by amendment. However, the DP should describe the applicable decommissioning technical specifications (TS) to include the safety precautions necessary during the decommissioning phase (refer to NUREG-1537, Part I, Appendix 17.1, Section 5).

Section 8.0, page 58, states that “Requests for changes to the technical specifications will be prepared and submitted to address such impacts prior to the start of the actual decommissioning work.” Based on this statement, NRC staff concludes that the licensee intends to submit the decommissioning technical specifications to the NRC for review and approval prior to the start of decommissioning work.

**Path Forward:**

The DP should include, at a minimum, the commitment by the licensee to include the information described in NUREG-1537, Part I, Appendix 17.1, Section 5, in the revisions to the TS. The NRC staff also notes that it may be preferable to include a request for changes to the TS as part of the DP package. The revised TS should include the four sections described in Section 5 of Appendix 17.1: 1) a section imposing limiting decommissioning conditions at the facility that is comparable to the limiting conditions for operation for required equipment and conditions; 2) a section providing for surveillance of the required equipment and conditions for decommissioning; 3) a section describing the residual facility and site to which the DP applies, and; 4) an administrative section that outlines the management structure, provides for review and audit functions, provides for development and use of the necessary procedures, and contains reporting and record-retention requirements.

**11. Provide a Detailed Final Status Survey Plan**

**Basis:**

The DP does not contain a proposed Final Status Survey Plan with adequate detail, as recommended by NUREG-1537, Part I, Appendix 17.1, Section 4. Section 8 of the DP, page 54, refers to Section 14 for the Final Survey Plan “(see Section 14 for the Final Survey Plan)”. Section 14 generally references the MARSSIM and NUREG-1505 as “The basis for developing the final survey plan...”

Based on the above and the minimal information provided in Section 14, it appears that the intent of the licensee is to submit a Final Status Survey Plan to the NRC for review and approval at a later date. However, the latter is not explicitly stated in the DP. Clarification is needed as to whether the intent of the licensee to submit a Final Status Survey Plan for approval at a later date, or if Section 14 is the proposed Final Status Survey Plan. The NRC staff prefers the FSS Plan be part of the DP, but separate submittal can be acceptable if the DP commits to an acceptable process. For additional guidance, see NUREG-1757, Vol. 2, Chapter 4 (for guidance on final status surveys) and Section 2.2 (for guidance on flexibility in submittals).

**Path Forward:**

If Section 14 is to serve as the proposed Final Status Survey Plan, the licensee should provide a complete, detailed plan. The licensee should refer to the applicable guidance documents (NUREG-1537, Part I, Appendix 17.1, Section 4; and NUREG-1757, Volume 2, Chapter 4) to determine the information that should be supplied by the licensee to allow the NRC staff to determine that the FSS design or design process is adequate to demonstrate compliance with the radiological criteria for license termination.

## **12. Provide Additional Information on Training Program**

**Basis:**

The Training Program section of the DP, Section 9.4, lacks some of the information recommended by NUREG-1537, Part I, Appendix 17.1, Section 2.5. The items not described include:

- The required frequency for refresher training
- A statement that contractors will receive training on the DP
- A statement that existing training programs have been modified to account for the differences between normal operations and D&D; and
- The DP does not state that training on the principles and techniques of D&D activities will be conducted.

**Path Forward:**

The licensee should provide additional information in Section 9.4 of the DP, and the licensee's training program modified accordingly:

## **13. Describe responsibilities of Decommissioning Operations Contractor (DOC) Manager**

**Basis:**

The responsibilities of the DOC Manager are not specified in the DP (as recommended by NUREG-1537, Section 2.4). In addition, the DP refers to the "DOC on-site supervisor" in Section 9.1.8. It is assumed that this section should refer to the "DOC Manager".

**Path Forward:**

The DP should include the responsibilities of the DOC Manager. In addition, the terminology should be clarified or corrected in the DP.

#### **14. Provide description of dismantlement methods and tools**

**Basis:**

Section 8 of the DP discusses the decommissioning activities. However, the DP does not state that standard industry dismantling and decontamination techniques will be used, and does not describe the tools to be used (e.g., wire saws, high pressure/ultra-high pressure water, needle guns, jack hammers, torches/plasma arc torches, hydraulic cutters, and hand tools). Section 2.3.1 of NUREG-1537, Part I, states that “the licensee should describe the methods, techniques, and equipment necessary to segment or otherwise dismantle components and systems.”

**Path Forward:**

The DP should include a description of the methods, techniques and tools that will be used for the dismantlement and decontamination activities. The licensee should commit to informing the NRC in advance if new or unique technologies are to be used.

#### **15. Provide Additional Details on Waste Disposal**

**Basis:**

The DP does not specify the classification of the wastes anticipated to be generated during D&D. Section 12.1.1 of the DP states that “Solid radioactive waste generated during the decommissioning of the AJBRF will be primarily comprised of low-level radioactive waste.” Section 12.2.2 of the DP states that “Implementation procedures and the Waste Disposition Plan will provide instructions for determining the 10 CFR 61 waste classification of radioactive waste.” Table 12.1 of the DP lists the components to be removed, associated waste volumes, and expected waste receiver facility. However, the DP does not specify the classification of anticipated waste volumes.

In addition, based on Table 12.1, it appears that some wastes may be sent to a landfill. However, no details are provided about the landfill or about criteria for what materials could be sent to the landfill.

**Path Forward:**

The licensee should provide additional information about the classification of wastes. In addition, if the licensee intends to send wastes to a landfill, the licensee should provide information about the intended landfill and criteria the licensee proposes to use to determine acceptability for disposal at the landfill.

#### **16. Include consideration of potentially contaminated outdoor areas**

**Basis:**

Section 5.1.1 states “Exterior building surfaces do not contain concentrations of residual radioactivity concentrations. Accordingly, the need to perform dose modeling other than what already has been completed in the process of establishing DCGLs for the site is not a consideration and appears not to be warranted.” A similar statement is made about surface soils in Section 5.1.2 of the DP. However, the DP has not justified that all outdoor areas can be considered non-impacted. The NRC staff believes that it may be appropriate to consider at least some part of the exterior of the building (especially the roof near any stack release points)

and exterior soils (especially at the ramp that will be built for access into the basement) as potentially impacted. If some areas are potentially impacted, they must be included in final status survey plans.

**Path Forward:**

If exterior parts of the building and exterior soils cannot be justified as non-impacted, the DP should address these potentially impacted areas. Such areas must be considered in the final status survey plan.

**17. Additional items for clarification**

**Basis:**

The NRC staff noted some items in the DP that are unclear, as follows:

- a. Table 4.4 and 4.5 summarize locations and contamination levels for rooms and for systems and equipment. The last column of the Tables contains a sub-heading "(Direct Scans)". The applicability of the heading to the information presented in the column is not clear. The Table should also state the type of radioactivity the values represent (e.g., total beta/gamma).
- b. The DP contains contradictory statements in Section 7.1, page 52. The last sentence of the second paragraph states "Per the site characterization report results, the structures and components within the AJBRF contain non-detectable levels of contamination." The following paragraph states "Per the site characterization report results, most of the structures and components within the AJBRF contain very low levels of contamination."
- c. The discussion of the Cost Benefit Analysis in Section 7.2 of the DP requires additional clarification. This section states that "The cost of achieving the lower limits of contamination is insignificantly greater than decommissioning to the calculated DCGL level of 27,000 dpm/100 cm<sup>2</sup>." This section does not define the "lower limits of contamination". It appears to the NRC staff that "lower limits of contamination" is meant to represent the 5000 dpm/100 cm<sup>2</sup> "release limit" described in Section 7.1, though this is not clear in the document.
- d. There are inconsistencies in the DP regarding references to specific organizational positions. For example, Figure 9.1 references the "DSC". However, this committee is described as the Reactor Safeguards Committee (RSC), in Section 9.1.6. Furthermore, the document describes the RSC as the "Reactor Safeguards Committee" and as the "Reactor Safety Committee".

**Path Forward:**

The VA should consider these items and should provide clarifications in the DP as appropriate.