UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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April 13, 2009

Ms. Rebecca Tadesse, Chief
Materials Decommissioning Branch
Decommission and Uranium Recovery Licensing Directorate
Division of Waste Management and Environmental Protection
Office of Federal and State Materials and Environmental Management Programs
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Dear Ms. Tadesse:

In December 2008, the U.S. Environmental Protection Agency requested and received a copy of the *Phase 1 Decommissioning Plan for West Valley Demonstration Project* dated December 2008 from the U.S. Department of Energy's (DOE) West Valley Demonstration Project.

We are providing our comments for your consideration in developing Requests for Additional Information (RAIs) and in your review and consultation with DOE pursuant to the West Valley Demonstration Project Act.

General Comments

More information needs to be provided with respect to how the excavated areas will be restored during Phase 1. Such information would be useful in order to verify the restoration is consistent with the conceptual model assumptions used in developing the Derived Concentration Guideline Levels (DCGLs) for the 25 millirem per year dose limit.

Considering the surface to be 0-2 feet for this project may have implications for DCGL development and Final Status Surveys. Also, the term "Subsurface DCGL" can be misleading without an accompanying footnote in the tables to remind the reader that these DCGLs are limited to WMA 1 and 2 removals that are at least nine meters below surface.

The reasoning is not clear for developing streambed DCGLs when the streams are not yet sufficiently characterized. The Decommissioning Plan (DP) should discuss why there is confidence that the streams will not be re-contaminated since there are still significant quantities of radioactive materials on site after completion of Phase 1.

For areas where the Phase 1 removal is confined to the first two feet of surface but it is suspected or known that contamination continues deeper, there should be a discussion in the DP on how to identify the extent of the Phase 1 excavations in order to facilitate potential future Phase 2 work in the same location and on minimizing future cross contamination.

Specific Comments

Pages 4-29 (2nd paragraph) and B-5 (Section 1.2) and Table B-5 state that the first two feet are considered to be surface soils for the purposes of this DP. Soils deeper than 6-12 inches are not usually considered surface soils. Does this site specific definition of surface make the $DCGL_W$ and $DCGL_{EMC}$ more or less conservative? How does this alter or impact the effective use of field measurements during Final Status Survey? Will this same definition of surface apply during Final Status Survey? If depth of soil sampling is two feet, then a shallow contamination layer is being diluted by uncontaminated soil in the two feet core.

Table 4-18 and Table B-5: Clarify how BH-38 located near the Remote Handle Waste Facility can also be considered a background subsurface soil location (see Table B-5).

Figure 5-3: The cross-section view of WMA 2 and associated text state that subsurface DCGLs would apply to the bottom of the excavation and the sides more than three feet below the surface. What will be the restored cross-section upon completion of the excavation? How does the restored profile compare with the assumed depth of nine meters of uncontaminated backfill used in the subsurface conceptual model?

Table 5-1 and Table ES-1: It should be noted that the surface DCGLs for Cm-243, Cs-137 and Tc-99 for the resident farmer scenario exceed the soil concentration levels in Table 1 of the 2002 EPA-NRC Memorandum of Understanding for *Consultation and Finality on Decommissioning and Decontamination of Contaminated Sites*. Although the MOU is not applicable to the West Valley Demonstration Project Act activities and NYSERDA's license with the NRC is in abeyance until completion of the WVDP, the potential impact, if any, of the MOU in the future should be considered.

Figure 5-8 and page 5-26 (2nd bullet): Many of the subsurface DCGL are approximately 100 times the surface DCGLs. As illustrated in the figure and described in the bullet point, a plug of contaminated subsurface soil nine meters below mixes with the overburden column of uncontaminated fill as it is brought to the surface by drilling and is then spread over a 100 square meters to a depth of 0.3 meters. It appears that this resulting layer would exceed the surface DCGLs. Even if some mixing is permitted of this layer with the uncontaminated surface, it appears this still would be insufficient to meet surface DCGLs.

Table 5-6: The assumption that there will be significant moisture content to inhibit resuspension of contaminated sediment is not supported in the DP and may not be sufficiently conservative for alpha emitters and consideration of long-term impacts. Footnote 2 of Table 5-2 notes that Erdman Brook and Franks Creek are not considered a drinking water exposure pathway because of the low flow volumes, and they thus have the potential to run dry at times.

Page 5-29: The basis for the number of hours per day and the number of weeks spent by a hypothetical recreationist on the contaminated stream bank should be provided.

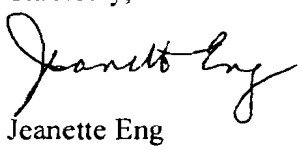
Page 5-44, Section 5.3.1: It is possible that a resident farmer could spend time visiting stream areas and could consume contaminated fish and venison. As a result, the resident farmer and recreationist are not mutually exclusive and thus the farmer could exceed the 25 mrem/yr dose limit.

Page 9-36 (4^{th} bullet): Clarify what will be the sampling depth for Final Status Survey soil samples since the DP is defining surface soil to be 0-2 feet.

Table B-5: What is the location and depth of BH-39? What is the depth of BH-38? Is much subsurface geologic variation expected to be encountered such that there is a need for several subsurface backgrounds to be established?

If you have any questions regarding our comments, please do not hesitate to contact me.

Sincerely,



Jeanette Eng
Radiation and Indoor Air Branch

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