

August 15, 2013

Moira Maloney
West Valley Demonstration Project
U.S. Department of Energy
10282 Rock Springs Road
West Valley, NY 14171-9799

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION COMMENTS ON U.S.
DEPARTMENT OF ENERGY QP-450-01 – MANAGEMENT OF
ENVIRONMENTAL MEDIA – PHASE 1 DECOMMISSIONING OF THE WEST
VALLEY DEMONSTRATION PROJECT

Dear Ms. Maloney:

The U.S. Nuclear Regulatory Commission (NRC) is responding to the U.S. Department of Energy's (DOE) May 31, 2013, transmittal with the enclosed QP-450-01 – Management of Environmental Media – Phase 1 Decommissioning of the West Valley Demonstration Project (WVDP) (Media Policy) which establishes DOE-WVDP requirements for the management of environmental media that may be generated by its contractors during the implementation of Phase 1 decommissioning activities at the WVDP. The NRC staff has reviewed the Media Policy and offer the enclosed comments for DOE's consideration.

The DOE letter states that the management of surface soil, subsurface soil, and streambed sediment in the Media Policy is consistent with the requirements of the Phase 1 Decommissioning Plan (DP) for the WVDP, with the exception of re-use of excavated soils. The NRC staff agrees that the re-use of excavated soils represents a change to the DP. Therefore, consistent with the Phase 1 DP (Section 1.13, Control of Changes), DOE should revise and make conforming changes to the DP.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice for Domestic Licensing Proceedings and Issuance of Orders," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

M. Maloney

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If you have any questions or need any additional information regarding NRC's comments on the Media Policy, please contact me or Chad Glenn of my staff at 301-415-6722.

Sincerely,

/RA/

Michael Norato, Chief
Materials 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

Enclosure:
NRC Questions/Comments

cc:
B. C. Bower, DOE-WVDP
P. J. Bembia, NYSERDA

M. Maloney 2

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U.S. Nuclear Regulatory Commission (NRC) Staff Comments/Questions

1. While it was noted in Section 7.1.1 of the Media Policy that surface soil excavated within Phase 1 areas of WMA 1 and WMA 2 would eventually be excavated and disposed of offsite, it was also indicated that soil excavated in Phase 1 areas outside WMA 1 and 2 could be re-used onsite. Similar statements were provided in Section 7.2.2 of the Media Policy regarding subsurface soil. In both cases, it was stated that surface soils in the areas where excavated soils will be staged or used will be characterized for the radiological parameters identified in the Decommissioning Plan, and that soils will not be staged or re-used in areas of the WVDP that have been released in accordance with requirements identified in the Final Status Survey Plan (FSSP). It is not clear from these statements whether or not these re-used soils will be placed in a final state on the WVDP site (i.e., there are no plans to excavate these soils in the future). If DOE does intend to leave these re-used soils in a final state it is crucial to ensure that appropriate final status surveys have been completed for the entire depth of the re-used soils and the soil beneath them. The NRC encourages DOE to fully consider the necessary characterization and final status surveys that should apply to re-used soils that will not be excavated/disposed of at a later time, and further notes that the DP and its supporting documents (e.g., Characterization Sampling and Analysis Plan and the FSSP) should be integrated into the plans to survey those re-use soils. Additionally, DOE should ensure that soils to be re-used are appropriately staged and segregated once final status surveys are completed. This segregation should prevent contamination to otherwise clean soils near the staging area, as well as prevent further contamination to the re-use soils from ongoing site operations.

The NRC requests clarification from DOE regarding the end state of re-used soils which will not be excavated and disposed of during the completion of Phase 1 Decommissioning, and on how the necessary characterization and final status surveys will be accomplished.

2. NRC is seeking clarification on the final end state of excavated surface soil in WMA 1 and 2 excavated areas. The U.S. Department of Energy (DOE) indicates on page 4 of the Media Policy that "...surface soil excavated within the proposed Phase 1 WMA 1 (Attachment B) and WMA 2 (Attachment C) excavations to support WVDP site operations may be returned to the excavation or, upon DOE-WVDP review and approval, the soil may be staged in a pile or re-used within the boundaries of the proposed WMA 1 and WMA 2 excavations." Similarly, DOE indicates on page 5 of the media policy that "...subsurface soil may be returned to the excavation and covered with surface soil removed from the excavation." In both cases, DOE also indicates that "...surface soil and subsurface soil within the proposed Phase 1 WMA 1 and WMA 2 excavations will eventually be excavated and disposed of at offsite disposal facilities during the completion of Phase 1 Decommissioning." NRC would like to confirm that DOE intends to fill the excavated areas in WMA 1 and 2 with clean fill at the completion of Phase 1 decommissioning consistent with Derived Concentration Guideline Levels (DCGL) assumptions for subsurface soils. If DOE does not intend to fill the excavations with clean fill, DOE should evaluate the re-use of soils to ensure that the final distribution of residual radioactivity meets radiological criteria for unrestricted release.

Enclosure

3. With regard to re-use of soils in Phase 1 areas outside of the proposed WMA 1 and 2 excavations, DOE intends to evaluate whether the surface soils exceed the area-wide clean-up goals for surface soils in determining whether to re-use the soils or package and dispose of the soils offsite (see page 4). NRC is seeking clarification on the Phase 1 areas where surface soils may be re-used and areas where contaminated soils may be relocated. NRC would note that if soils are re-used, the clean-up criteria only apply to areas of the site where the distribution of residual radioactivity is consistent with DCGL calculations (i.e., 10,000 m² area with no more than 1 m thick residual radioactivity at the surface and no subsurface contamination). Any distribution of residual radioactivity different from that assumed in DCGL calculations would need to be evaluated to ensure that the final distribution of residual radioactivity meets the radiological criteria for unrestricted release. This would include re-use of contaminated soil in WMA 1 and 2 excavated areas for which subsurface soil DCGLs have been derived.
4. With regard to re-use of subsurface soils from Phase 1 areas outside of WMA 1 and 2 (see page 6), DOE also indicates that clean-up goals will be used to determine whether subsurface soils can be re-used on site or if the soils will be shipped offsite for disposal. As DOE states in its media policy, NRC would also reiterate that clean-up criteria for subsurface soils have not been established for areas outside of WMA 1 and 2 excavations. Therefore, while DOE may use clean-up goals as criteria for re-use of soil, use of clean-up goals for sub-surface soils outside of WMA 1 and 2 does not guarantee that the soils will meet radiological criteria for unrestricted release.