



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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January 14, 2021

21-NWP-006

Brian A. Harkins, Deputy Assistant Manager
Tank Farms Division
Office of River Protection
United States Department of Energy
PO Box 450, MSIN: H6-60
Richland, Washington 99352

Re: Waste Management Area C (WMA C) Closure Performance Standard

References: See page 4

Dear Brian A. Harkins:

The Department of Ecology (Ecology) is replying to Letter 20-TF-0060 (Reference 1). We appreciate the contents of Attachment 2, *Crosswalk of Model Parameterization and Assumptions for Fate and Transport Modeling Used in the WMA C RCRA Closure Analysis of Residual Waste Impacts under Landfill Closure Conditions*, RPP-ENV-58806. Ecology considers RPP-ENV-58806 an essential analysis that forms part of the basis for the fate and transport modeling of nonradionuclide contaminants in the vadose zone at WMA C. We would appreciate further discussions on Ecology's comments about RPP-ENV-58806.

Additionally, Ecology values the cooperation between the United States Department of Energy's (USDOE) contractor, Washington River Protection Solutions, and our subcontractor, Tetra Tech, in the exchange of Surface Transport Over Multiple Phases code and input files. This allows Tetra Tech to replicate example outputs from the WMA C Appendix I Performance Assessment (WMA C IPA) documents. Tetra Tech found a small inventory error which we understand has been corrected in the WMA C IPA documents and the correction will appear in the revised versions of these documents.

Ecology raised several issues in our letter 20-NWP-062 (Reference 2) related to sorption, dilution/infiltration, and protectiveness. Rather than responding to USDOE's assertions here, we will defer to the comment resolution and document revision process for the WMA C IPA documents. We look forward to a productive engagement through that *Tri-Party Agreement* (TPA) process.

Finally, USDOE's letter 20-TF-0060 expressed concern about footnote 1 in Ecology's letter 19-NWP-062. USDOE asserted that:

“Ecology has attempted to reverse its previous decision-making with regard to Waste Management Area (WMA) C.”

However, this is not the case. Letter 19-NWP-090 (Reference 3) from Ecology clearly referred to “future decision-making” that would need to be done through the formal permitting process. Ecology does not, and cannot, make decisions of this nature and significance through informal correspondence. As a reminder, Ecology stated:

“The supplement satisfies the demonstration process and criteria needs . . . to support *future decision-making* [emphasis added] for WMA C closure, and provides *some of the basis* [emphasis added] for landfill closure. . . . Although conceptual agreement has been reached between Ecology and USDOE, based on this information, formal approval of the practicability demonstration can only be made following resolution of Ecology's WMA C Appendix I Performance Assessment comments and through Ecology's issuance of a closure plan for WMA C.”

Ecology's statement in Letter 19-NWP-090 is consistent with Ecology's statement in our “Foreword” to the *Final Tank Closure & Waste Management Environmental Impact Statement*:

“While DOE has identified the Preferred Alternative for tank closure as including landfill closure, it is important to point out that the specific details of how a tank farm will be closed will be identified in each tank farm closure plan permit. These closure plans will be subject to public comment and agency response before landfill *decisions* [emphasis added] can be implemented.”

In reserving the right to require clean closure of WMA C or a portion thereof, dependent on the outcome of key analyses such as the IPA and the Waste Incidental to Reprocessing (WIR) Evaluation for tank residuals, Ecology is merely following the proper regulatory process. Landfill closure decisions can only be made through the formal permitting process, after submission of a complete and certified permit application and opportunity for public comment.

The WMA C IPA is a critical document that is needed to support our regulatory analysis of whether USDOE's proposed landfill closure of WMA C will be protective of human health and the environment. Because the IPA is a TPA Primary Document, Ecology's comments and concerns must be adequately resolved before we can rely on it for the purpose of determining that the closure performance standard will be met.

In addition, the WIR Evaluation for WMA C tank residuals—and a final WIR Determination—is relevant to our regulatory analysis of whether the waste remaining in the tanks and ancillary equipment is high-level waste as defined in 40 CFR § 268.40 (Applicability of Treatment Standards). We agree that USDOE's issuance of a WIR Evaluation and Determination under Order 435.1 is outside the scope of Resource Conservation and Recovery Act (RCRA) and the Hazardous Waste Management Act.

Accordingly, such a determination made by USDOE pursuant to its Atomic Energy Act of 1954 (AEA) authority is not dispositive of whether tank waste residuals are high-level waste subject to RCRA's Land Disposal Restrictions (LDR) treatment standard of HLWIT. However, Ecology does not believe that it could approve a treatability variance in the absence of such a determination. Accordingly, if the U.S. Nuclear Regulatory Commission were to disagree with USDOE's conclusion that the residual waste is WIR, Ecology would likely not be able to legally authorize the disposal of such waste through a landfill closure decision.

USDOE also expressed concern that Ecology is attempting to regulate "AEA materials," which we understand to be a reference to the radionuclide component of mixed waste. We have repeatedly and consistently assured USDOE that this is not the case, and we reaffirm that assurance here. Indeed, the *Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste Portion for the Treatment, Storage, and Disposal of Dangerous Waste* (Site-wide Permit), Revision 8C, provides as follows:

"Where information regarding treatment, management, and disposal of the radioactive source, byproduct material, special nuclear material (as defined by the *Atomic Energy Act of 1954*, as amended) and/or the radionuclide component of mixed waste has been incorporated into this permit, it is not incorporated for the purpose of regulating the radiation hazards of such components under the authority of this permit or Chapter 70.105 RCW."

This provision will continue to apply to all information incorporated by reference into the Single-Shell Tank portion of the Site-wide Permit, including the WMA C IPA and the WIR Evaluation (and resulting Determination) for WMA C tank residuals.

If you have questions or concerns, please contact me at jeff.lyon@ecy.wa.gov or (509) 372-7914, or Beth Rochette, Toxicologist, at beth.rochette@ecy.wa.gov or (509) 372-7922.

Sincerely,



Digitally signed by
Lyon, Jeffery (ECY)
Date: 2021.01.13
19:15:00 -08'00'

Jeffery J. Lyon
Tank Systems Operation & Closure Project Manager
Nuclear Waste Program

rk/aa

cc: See page 4

References:

1. Letter 20-TF-0060, dated August 6, 2020, "U.S. Department of Energy Response to Ecology Letter from J.J. Lyons to B.A. Harkins, 'RE: Waste Management Area C (WMA C) Closure Performance Standard,' 20-NWP-062, Dated April 1, 2020"
2. Letter 20-NWP-062, dated April 1, 2020, "Waste Management Area C (WMA C) Closure Performance Standard"
3. Letter 19-NWP-090, dated June 12, 2019, "Transmittal of Supplemental Information to the Clean Closure Practicability Demonstration for the Single-Shell Tanks, DOE/ORP-2014-02-SUPP1, Revision 0"

cc electronic:

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