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Submitted via Email WIR_WATT@rl.gov

550 Capitol St. NE
Salem, OR 97301
Phone: 503-378-4040
Toll Free: 1-800-221-8035
FAX: 503-373-7806
www.oregon.gov/energy

RE: Oregon Department of Energy Comment to Draft 200 West Waste Area Incidental to Reprocessing Evaluation, Hanford

In February 2026, the U.S. Department of Energy (U.S. DOE) Hanford Field Office released the Draft Waste Incidental to Reprocessing (WIR) Evaluation for the 200 West Area Tank Treatment Mission. This document provides the regulatory basis for classifying approximately 32 million gallons of Hanford tank waste as low-level waste (LLW) rather than high-level waste (HLW) as it has been managed, in accordance with federal and state requirements. The WIR evaluation follows the October 2025 issuance of an Amended Record of Decision¹ and the Final Supplement Analysis² for the 200 West Area Tank Waste Treatment. While these documents aim to streamline the retrieval and treatment of waste from 22 to 24 single-shell tanks in the S, SX, and U tank farms, ODOE notes that this represents a significant departure from the previous plan for vitrification as envisioned in the 2012 Tank Closure and Waste Management Environmental Impact Statement.³ Oregon approaches this review with reserved optimism, as it is required to have a WIR in place before waste leaves the northwest. Once the waste is in solid form, we agree that the three WIR criteria have been met. We await the opportunity to review the treatability variance from the U.S. EPA prior to offsite transport.

The 2026 Draft WIR Evaluation for the 200 West Area Tank Treatment Mission⁴ is a mechanism to document that tank waste is “incidental to reprocessing,” and thus not HLW, under the Nuclear Waste Policy Act and U.S. DOE Manual 435.1-1. Per these requirements, to classify Hanford tank waste as other than HLW, the waste must meet three specific criteria:

- 1) The removal of key radionuclides to the maximum extent technically and economically practicable,
- 2) Management of the waste to meet safety requirements comparable to Nuclear Regulatory Commission performance objectives at the disposal facility, and
- 3) The final waste is in a solid form that does not exceed Class C concentration limits.

Oregon provides the following review of the three criteria as applied to the 200-West tank waste proposed to be treated and disposed of off-site.

¹ [https://www.hanford.gov/files.cfm/FINALSIGNEDDOC_-_ATTACHMENT_2_-_Hanford_WATT_AROD_\(10-07-25\).pdf](https://www.hanford.gov/files.cfm/FINALSIGNEDDOC_-_ATTACHMENT_2_-_Hanford_WATT_AROD_(10-07-25).pdf)

² https://www.hanford.gov/files.cfm/EM-2025-000898_-_ATTACHMENT_1_-_Hanford_WATT_SA.pdf

³ <https://www.hanford.gov/page.cfm/FinalTCWMEIS>

⁴ https://www.hanford.gov/files.cfm/HFO-71486_Draft_2-5-26_Public_200_W_WIR_2-3-26.pdf

Criterion One: Radionuclide Removal and Technological Practicality

The U.S. DOE asserts that the 200 West process will utilize multiple steps: settling, decanting, filtration, and ion-exchange columns to remove key radionuclides. The West Area Risk Management (WARM) project involves the transfer of supernatant and mobilization of saltcake from single-shell tanks to the SY Tank Farm for pretreatment. U.S. DOE expects to remove approximately 99.9 percent of cesium-137 (Cs-137), which is the primary driver of immediate radiologic hazard. The tank side cesium removal (TSCR) system has proven both reliable and specific in removing Cs-137 and to a lesser extent, a portion of Strontium 90 (Sr-90). However, TSCR does not capture radionuclides such as Technetium-99 (Tc-99) (half-life of 211,000 years) and Iodine-129 (I-129) (half-life of 15.7 million years), which are highly soluble, mobile in the environment, and cannot be disposed in quantity at the Hanford site. Like TSCR, the WARM pretreatment capability primarily targets alkali-earth radionuclides like strontium-90 (Sr-90) and alkali metals like Cs-137 but does not practically remove the soluble technetium and iodine, which are “key radionuclides,” making the waste greater than Class C. We also note the WARM system will produce its own by-product waste, such as filter cakes and loaded ion exchange columns, which will continue to be managed as HLW and thus not a part of the WIR. If the WARM system operates at a comparable efficiency to TSCR, it seems reasonable to assume acceptance of criterion one by removing Sr-90 and Cs-137. Removing these isotopes allows the waste to meet acceptance criteria for the off-site disposal facilities.

Criterion Two: Safety Requirements and Performance Objectives

The second WIR criterion requires the waste to be managed in a way that meets performance objectives comparable to 10 CFR Part 61, Subpart C. U.S. DOE asserts that the waste will meet the Waste Acceptance Criteria for offsite commercial facilities like Energy Solutions in Utah or Waste Control Specialists in Texas. The WIR Evaluation relies on the assumption that offsite facilities have already been permitted and can support these waste types, and that the waste acceptance criteria for those facilities have been reviewed and approved by their respective state regulators. While Oregon has faith that the receiving states adequately reviewed the performance assessments, we note that those assessments are not readily available for public review. Additionally, Oregon expects that the U.S. DOE will request, and U.S. EPA will grant, a series of treatability variances from the high-level vitrification treatment code associated with the waste destined for offsite disposal. Any local requirements with disposal locations in Utah and Texas are beyond the interests of Oregon, and we assume that U.S. DOE and EPA have worked with those states and that the treated 200-West tank waste will meet the acceptance criteria for the destination facility, thus satisfying criterion two.

However, Oregon notes that uncertainty arises whether the 200W waste will meet the volume restrictions of the Utah and Texas sites. While the current permitted capacity is *likely* sufficient, the data quality within Appendix D is uncertain and difficult to interpret. For example, in Table D.5, tank U-112 is stated to have a retrieved waste volume of 1,545 kGal and when solidified, the volume expands by 1.5 times to 2,318 kGal. These volumes roughly align with tank S-106 but we wonder how tank U-112, which only contains 4,000 Gal of supernatant⁵ eligible for this WIR, produces nearly the same amount of waste as S-106 and its 486,000 Gal of saltcake (which will require significant additions of water to solubilize). This is but one example of potential data quality control issues that should be rectified before the Final 200W WIR is issued. The questions of volume and capacity at the Utah and Texas disposal facilities matter significantly

⁵ <https://pdw.hanford.gov/document/AR-39500>

for all parties interested in not only Hanford waste disposal, but nationwide. Accurate data are vital as many other significant waste streams are likely expecting to use the Utah and Texas facilities, and ensuring significant capacity at both landfills is critical for U.S. DOE to complete the defense waste cleanup mission.

Criterion Three: Solid Waste Form and Concentration Limits

The final criterion requires waste to be in a solid physical form and below Class C limits. As per the WIR, U.S. DOE plans to ship the waste either as a liquid to an offsite solidification facility or as a solidified grout from an onsite facility at Hanford or elsewhere in Richland. This means the waste will be in a solid physical form and thus meet WIR criterion 3 at the time of disposal. However, if U.S. DOE intends to ship the waste in liquid form, the WIR criteria are clear that the liquid waste in transit cannot be considered “incidental to reprocessing,” as treatment is incomplete and the waste has not had highly mobile key radionuclides like Tc-99 and I-129 removed or otherwise bound in a solid material. As best practice, liquid waste should be managed as High-Level Waste until such time as it is in a solid physical form and avoid regulatory uncertainty by solidifying the waste before transport.

The WIR evaluation states that the solidified waste will be well below Class C limits and is expected to meet Class A limits for most tanks should the pretreatment system prove effective at removing Strontium-90.⁶ This is critical to ensuring maximum flexibility in vendor and site selection. Solidification on site ensures even more material meets Class A limits that can be disposed of at both locations. Oregon notes that building an onsite grouting facility eliminates a significant systemic risk; there are *currently* only 2 million gallons per year (MGY) of liquid grouting capacity at both Utah and Texas disposal sites combined. The projected annual demand of ~2.9 MGY for 200W would consume 45 percent more (approximately 900,000 gallons) than all combined stated liquid treatment capacity of the two primary receiving facilities. Including capacity at Permafix Northwest, Richland only adds 0.36 MGY of potential treatment and does not account for any other public or private needs for commercial radioactive materials grouting. A relatively small project such as grouting the 87,700-gallon Effluent Management Facility⁷ still bottoms or transporting the 10,000-gallon Savannah River Site wastewater⁸ may strain the system and be confronted with delays or interruption in processing. It is simply not possible to meet Criterion 3 if the pre-treated liquid cannot be solidified due to lack of resources. Mitigation of this fundamental risk can be realized by grouting on site before shipment.

Conclusion

The 2026 Draft WIR Evaluation for the 200 West Area Tank Treatment Mission and the accompanying Supplement Analysis (SA-05) represent a concerted effort by the U.S. DOE to expedite the completion of Hanford’s tank waste mission through offsite grouting and disposal. However, this speed must not come at the expense of regional safety, environmental protection, or regulatory integrity. To date, there has been no discussion of what response to the release of liquid waste would entail, which per the WIR criterion 3 must be managed as high-level waste until solidification. Such processes must be included in the final decision. As such, Oregon repeats its call for onsite solidification of all Hanford tank waste prior to

⁶ https://www.pnnl.gov/main/publications/external/technical_reports/PNNL-30712Rev1.pdf

⁷ [https://www.hanford.gov/files.cfm/Final_SA_Offsite_Secondary_Waste_Treatment_and_Disposal-\(DOE-EIS-0391-SA-3\).pdf](https://www.hanford.gov/files.cfm/Final_SA_Offsite_Secondary_Waste_Treatment_and_Disposal-(DOE-EIS-0391-SA-3).pdf)

⁸ <https://www.energy.gov/sites/prod/files/2020/08/f77/final-ea-2115-dwfp-wastewater-disposal-2020-08.pdf>

transportation for offsite disposal. The "inherently safer" solid form is a sensible prerequisite for any transportation through communities outside of U.S. DOE's direct control.

It remains Oregon's fundamental position that Hanford tank waste must be solidified prior to entering Oregon. While we understand that the decision on where to grout the tank waste is pending a July 1 deadline per the holistic agreement with Washington State, and is outside the scope of this WIR, we reiterate our frustration that the WIR document, like last year's NEPA supplement analysis, leaves all options open. This continues to force Oregon and other interested parties to plan for the potential that U.S. DOE may be planning to ship liquid Hanford radioactive tank waste through our state. It would be helpful to all parties if U.S. DOE would commit to solidifying Hanford tank waste in Washington State prior to shipment for disposal out of the region.

We call for a process that includes scoping, detailed analysis of alternatives (including onsite solidification), rigorous assessment of potential impacts (particularly transportation and cumulative effects), and formal public review and comment. All these steps are essential for addressing the substantial change of moving from vitrification to grouting for the 200-West Tank Waste project. Finally, as Oregon has long stated, we reiterate our support for disposal of Hanford waste outside of the region, in specifically engineered facilities underlain by favorable geology such as those in Texas and Utah. However, as described in this letter, it is Oregon's strongly held position that radioactive Hanford tank waste must be solidified before leaving the site, and additional transportation risk analysis should be conducted prior to a major shipping campaign. Together, this will enhance safety, reduce risk, and ensure the protection of human health and the environment.

Please contact me (matt.hendrickson@energy.oregon.gov or 503-806-7476) if you have any questions or would like to meet to discuss these comments.

Thank you for your attention to this matter,



Matt Hendrickson
Radioactive Waste Remediation Specialist
Oregon Department of Energy

CC:

Mason Murphy, Confederated Tribes of the Umatilla Indian Reservation
Laurene Contreras, Confederated Tribes and Bands of the Yakama Nation
Anthony Smith, Nez Perce Tribe
Oregon Hanford Cleanup Board
Susan Coleman, Hanford Advisory Board
Laura Buelow, US Environmental Protection Agency
Stephanie Schleif, Washington Department of Ecology
Melanie Snyder, Western Interstate Energy Board