



Oregon

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Re: Oregon Comments on the Washington Department of Ecology 2,000-Gallon Test Bed Initiative Demonstration Research, Development, and Development Permit

Submitted via link at: <https://nw.ecology.commentinput.com/?id=tNePGUiA5>

Oregon appreciates Washington State Department of Ecology (WA Ecology) opening the comment period on the 2,000-Gallon Test Bed Initiative Demonstration (TBI) Research, Development, and Development Permit. Oregon continues to support the safe removal of radioactive waste from the region and disposal at a site more protective of human health and the environment over the long-term. The safety and stability of the Columbia River, our shared resource, remains Oregon's highest priority. Oregon is in favor of the continuation of TBI as the next step in testing the potential to pretreat radioactive tank wastes, assess the performance of treated forms, explore transportation issues, and measure applicability for off-site disposal out of the region. Oregon reiterates TBI concerns we voiced to the US DOE on February 2, 2022.¹ Primarily, that we would prefer that the waste be shipped in solid form if traveling through Oregon; however, we understand from conversations with USDOE that the shipping route for the TBI waste will not travel through Oregon enroute to disposal locations in Utah and Texas. After reviewing documents posted for public review, Oregon presents one specific comment on the permit conditions and two general comments.

COMMENT ON PERMIT CONTENTS

As noted in section 4.2, Sample Collection, of the Sampling and Analysis Plan page 14², sampling will occur after the last tote is filled. The sampling consists of 2-250mL samples taken from each process tote, using a peristaltic pump. As documented in permit section 3.7.3 processing³ a delay tote is expected to be filled over the course of a 1-day shift at a flow rate of 1 gallon per minute (gpm) This is followed by another 1-day shift to fill the process tote. If all works perfectly, the temporal gap between filling the first process tote and sampling will be 10 working days. With limited sampling and the time lag, the statement in the Data Qualities Objective: "Tote sampling under this DQO will occur as soon as possible after the last process tote is filled. Consequently, the pretreated waste within the sampled tote will remain well mixed to the extent practical"⁴, should only be considered for this limited and well-defined phase of TBI. Future iterations of TBI, if any, should consider alternative means of obtaining timely representative samples and increase sampling to ensure acceptance criterion are met. Expansion of the Sampling and Analysis Plan will be critical should tanks with less defined supernatant and more complex chemical and isotopic composition be considered in the next phases of TBI.

Applicable to the permit is that while the In-Tank Pre-Treatment System (ITPS) is directed at removing Cs-137 and may also capture other alkali or alkali-earth radionuclides like Sr-90, it does not practically remove other fission products. Of particular concern are those highly soluble radionuclides that drive

¹ [2022-02-02-Oregon-TBI-WIR-Comment-Letter.pdf](#)

² https://fortress.wa.gov/ecy/ezshare/NWP/TBIRDD/RPP-PLAN-65394_Rev_1.pdf

³ <https://fortress.wa.gov/ecy/ezshare/NWP/TBIRDD/Permit.pdf>

⁴ https://fortress.wa.gov/ecy/ezshare/NWP/TBIRDD/RPP-RPT-61636_Rev_3.pdf

long term risk and are critical to classifying waste streams for transportation, technetium-99 and iodine-129.⁵ The ITPS is expected to pump from the upper tank supernatant which is less dense at 1.13g/mL reflecting a composition of lighter compounds like water. The estimated radionuclide concentration in tank SY-101⁶ shows these hydrophilic nuclides to be generally Class A waste assuming SY-101 is at equilibrium. We are very interested in the sampling results from the process totes showing the true distribution of radionuclides and organics in the aqueous supernatant phases. As appendix H of the January 2023 Savannah River National Labs report⁷ shows the primary route for grouted Class A material would run through several Oregon communities and vital rivers like the Columbia or the Deschutes.

GENERAL COMMENTS

In December 2023, Oregon submitted comments in support of the EPA variance for TBI⁸. This variance helped alleviate concerns that this waste stream would become orphaned if receiving States had alternative Land Disposal Restrictions (LDR) and later decided to refuse acceptance of Hanford waste. The TBI variance documentation is narrowly focused and applies only to the current proposed action. Oregon appreciates WA Ecology's work on this issue and their cooperation with both EPA and DOE. Further, we encourage continued interaction with receiving state regulatory authorities. It is important that the state regulatory agencies be included in the decision-making process and support any granted variance, as they have the working history and knowledge to determine whether a waste form is appropriate for disposal at a specific site. Nuclear Regulatory Commission Agreement States must maintain the right of refusal of a waste form based on that State's interpretation of its regulated landfill acceptance criteria.

A proposal to implement large-scale transportation of liquid tank waste still containing long-lived mobile key radionuclides introduces potentially additional and unnecessary risk of contaminant spread along the entire transportation corridor, increased cost and complexity of accident cleanup, and additional concern to communities along transportation routes. If the TBI is adapted into a full-fledged tank waste management project at Hanford, then DOE should invest in local waste solidification capacity and should also conduct extensive public education along the transit corridor. Oregon Department of Energy and partners are ready to support a public education initiative in our state along a transportation corridor.

We understand that the concerns raised in prior comment letters may be outside of the scope of comment on the permit under consideration. These positions illustrate background concerns that are of critical importance for the future of TBI and off-site tank waste disposal in general. Oregon continues to support protective solutions that comply with state and federal regulations while facilitating the largest clean up mission in the western hemisphere. We believe the TBI demonstration project is in the shared interest of both Oregon and Washington, and we support disposal of Hanford waste outside of the region. A modified confirmatory sampling, as described above, will ensure the complex chemistry and isotopic mix in tanks are assessed fully and that all parties can have confidence in the treatment process and decrease the likelihood that waste may be rejected by the receiving disposal facility based on misrepresentative data.

Thank you for your time and please contact Matthew Hendrickson (matt.hendrickson@energy.oregon.gov) with any questions regarding this comment.

Matt Hendrickson: Radioactive Waste Remediation Specialist

⁵ [eCFR :: 10 CFR 61.55 -- Waste classification.](#)

⁶ <https://pdw.hanford.gov/document/AR-24494>

⁷ [DB760207C1E4245E165FB35070A0676193DF3E673310 \(nationalacademies.org\)](https://www.nationalacademies.org/DB760207C1E4245E165FB35070A0676193DF3E673310)

⁸ [2023-12-18-Oregon-EPA-Response-Letter-reTBI.pdf](#)

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