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The U.S. Dept. of Energy's Test Bed Initiative will Determine the Future of Radioactive Tank Waste at the Hanford Nuclear Site

Public Comment Deadline: February 2, 2022

Hanford is the most contaminated site in the Western Hemisphere—and you can help hold our government accountable for Hanford's toxic and radioactive pollution legacy. Right now, the federal government wants your input on a critical cleanup decision.

The Proposal

The U.S. Dept. of Energy's (Energy) plan to retrieve and treat 2,000 gallons of waste from Hanford's infamous Tank SY-101 will determine the future of radioactive tank waste at Hanford. But there's a problem: Energy's Test Bed Initiative (TBI) and its phased approach has excluded public involvement, limited environmental review, and raises real safety and environmental concerns that Energy must first address. Energy's latest move is beginning to look more like cutting corners than cutting waste.

The Details

The Draft Waste Incidental to Reprocessing (WIR) Evaluation for the TBI Demonstration targets approximately 2,000 gallons of supernate—the uppermost liquid layer of tank waste that contains lower levels of insoluble, long-lived radionuclides—from Tank SY-101. [1] This waste will be separated and pretreated, then solidified in grout and disposed of offsite. [2] Phase 1 of the TBI Demonstration started with 3 gallons of waste as a test. Now, Energy is moving to scale up the process to 2,000 gallons. Phase 2 will set the precedent for Phase 3, where workers will retrieve and grout 500,000 gallons of tank waste.

Photo courtesy of U.S. Dept. of Energy

Columbia Riverkeeper's mission is to protect and restore the water quality of the Columbia River and all life connected to it, from the headwaters to the Pacific Ocean.

Clean Water
Healthy Rivers
Our Future

Tank Waste is No Joke

Hanford's tanks hold some of the nation's most toxic, radioactive waste. Pollution from Hanford's tanks has already entered Hanford's soils, groundwater, and some has reached the Columbia River. Tank SY-101 is no exception and actually contains the most highly concentrated waste of all the double-shell tanks at Hanford. The tank is on the Flammable Gas Watch List and monitored closely. [3] SY-101 has one of the largest Total Organic Carbon (TOC) loads of Hanford's HLW tanks with nearly 150 volatile organic compounds measured in retained gas, emanating from the slurry. [4] The waste in Hanford's tanks must be taken seriously now and in the future.

What is the Test Bed Initiative?

The Test Bed Initiative is the process by which Energy determines whether, under current regulations, pretreatment and offsite stabilization and disposal of tank waste are viable for tank waste treatment. [5] Currently, the safest and only onsite option for disposing of Hanford's tank waste is vitrification, which means turning waste into glass. The success of the TBI hinges on the reclassification of High Level Waste (HLW) to Low Level Waste (LLW) through the Waste Incidental to Reprocessing (WIR) Determination. Energy's TBI is a concerted effort to accelerate and decrease the cost of tank closure through the use of offsite, commercial treatment and disposal facilities. But faster and cheaper is not always better, and the TBI raises serious questions and concerns Energy must address.

The Concerns

PermaFix Northwest: The potential offsite grouting facility located in Richland, Washington, has a long history of safety concerns and environmental violations. Questions and uncertainties arise around the TBI's reliance on offsite treatment facilities and how Energy will keep them accountable, ensuring public and environmental safety.

Grout: Energy' plans to transport pretreated tank waste to an off site treatment facility, and disposed of as LLW in a grout form. The treatment itself is less effective than vitrification. Historically, grouting has had minor success due to the unpredictable nature of grout setting in highly radioactive waste. There is no guarantee that radionuclides will remain immobilized in grout over time, meaning that radioactive waste could leak into the ground immediately after burial or years later. There is a startling lack of information regarding the stability of grout over hundreds and thousands of years.

Waste Incidental to Reprocessing: Energy is reserving the right to decide what is and is not High Level Waste (HLW) through the use of WIR. The problem is, under the Nuclear Waste Policy Act (NWPA), tank waste by definition is HLW. Case law strongly suggests that Energy's WIR approach contradicts the NWPA as it applies to Washington. The success of the TBI essentially hinges on the nonexistent power Energy has to independently reclassify High Level Waste (HLW) to Low Level Waste (LLW).

Increased Waste at Hanford: If the TBI proceeds, grouting 2,000 gallons of tank waste will increase Hanford's soluble tank wastes by 1.7 times. [6] Creating more soluble waste at Hanford could result in additional orphaned waste, or waste with nowhere to go, at the site.

Insufficient Environmental Review: On August 17, 2021, Energy quietly released the draft Environmental Assessment (EA) for the TBI without notifying the public and without providing an opportunity for a public hearing or comment period. A select group, including the Wash. Department of Ecology and the Confederated Tribes and Bands of the Yakama Nation were invited to comment. However, the public was not. Energy must give the public every opportunity to understand the gravity and ramifications of the TBI and the future of Hanford's tank waste.

How can I hold the government accountable?

Take Action
Public Comment Deadline: February 2, 2022

Online: https://bit.ly/hanford-2022

In Writing to:
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[1]*Draft Waste Incidental to Reprocessing Evaluation for the Test Bed Initiative Demonstration*, U.S. Dept. of Energy, p. 11 (October 2021).
[2] *Id.*
[3] Dynamics of Crust Dissolution and Gas Release in Tank 241-SY-101, Rassat et, al., (Jan. 2000) available at https://digital.library.unt.edu/ark:/67531/metadc705778/m2/1/high_res_d/750394.pdf.
[4] Occurrence and Chemistry of Organic Compounds in Hanford Site Tank Waste, L.M. Stock (July 2004).
[5] Hanford Test Bed Initiative Fact Sheet, U.S. Dept. of Energy, (Nov. 2021).
[6] U.S. Dept. of Energy, Draft Environmental Assessment of the Test Bed Initiative Demonstration, 2-1, fn. 9, available at https://pdw.hanford.gov/document/AR-15241.

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