

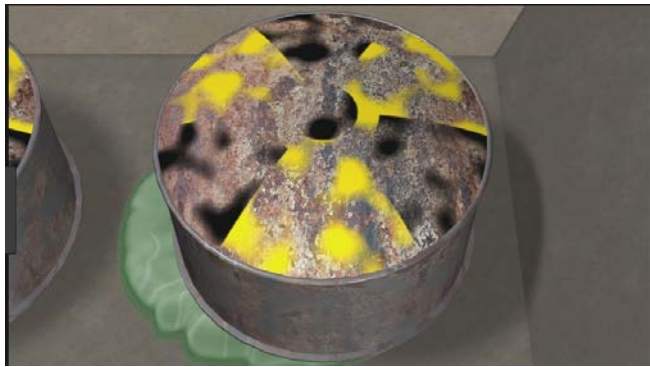


HIGH-LEVEL NUCLEAR WASTE AND HANFORD

Hanford's Tank Waste Needs to be Removed and Disposed of in a Licensed Geological Repository

June 2018

The Hanford nuclear site in southeastern Washington State is the **most radioactively contaminated facility** in the nation, with 177 underground waste tanks containing high-level radioactive waste.



A third of these tanks have leaked over one million gallons of high-level waste into Washington's soil and groundwater. The groundwater flows into the Columbia River. The waste is toxic for millions of years, and poses dramatic threats to human health and safety, the environment, and future generations.

As defined by law, "high-level waste" refers to radioactive waste that contain unique dangers due to the extreme toxicity of the wastes and the long-lived nature of the radioactivity. Hanford's Pacific NW Laboratories estimates that Hanford created 525 million gallons of high-level nuclear waste at Hanford.

The Department of Energy (DOE), the agency that runs Hanford, is proposing to **re-label** Hanford's tank waste so it will not have to comply with the expensive and time-consuming requirements of treating and disposing of tank waste in a legally-compliant (and protective) manner, putting the Pacific NW at risk.

The proposal was issued on June 4, 2018, on the DOE's website. DOE intends to declare some 66,000 gallons of high-level waste "residue" in the C Tanks as "Waste Incidental to Reprocessing," or WIR, which means the DOE is proposing to **simply dump cement, or grout**, on top of this waste, and abandon this waste in place.

Even though DOE attempts to characterize the residual amount of waste as "incidental", the volumes are quite large. For instance, DOE provided data on *just one* of the C Farm tanks, C-102 reveals that the **total volume** of residual waste in tank C-102 is estimated at 59,214 cubic/ft . This much waste would fill a football field one foot deep. This waste contains **plutonium concentrations 12 to 57 times greater** than the standard set by DOE and EPA. Plutonium has a half-life of 24,500 years, and is dangerous for ten times that amount of time.

Cement does not work to contain nuclear waste. Reports have stated that use of grout for long periods involved in the disposal of radioactive waste (more than 100 years) is outside the general operating envelope for cementitious materials. The cement also allows water infiltration, and breaks down quickly in the presence of caustic materials such as nuclear waste. The DOE has spent hundreds of millions of dollars attempting to qualify grout at Hanford as a storage medium for long-lived nuclear waste. Those studies have all concluded that **grout does not work**.

Consider:

- DOE has identified **dozens of Hanford waste tanks** contending that they contain no high-level nuclear waste, which would allow these tanks to either be left in place and filled with concrete or to have wastes removed and dumped onsite.
- This proposal would shatter the decades-long consensus that the path for Hanford's tank waste is vitrification – mixing the wastes with glass and disposition in a deep, geologic repository, which is the only efficient way to treat radioactive waste.
- The proposal also violates the Nuclear Waste Policy Act. DOE does not have authority to re-label these wastes.
- Abandoning long-lived nuclear wastes in the tanks at the volumes and concentrations that DOE is proposing also violates other legal requirements for the disposal of plutonium.
- Hanford is not a qualified or appropriate place to dispose of high-level nuclear waste.

Leaving substantial quantities of untreated high-level nuclear waste at Hanford is illegal And poses significant threats to the groundwater and Columbia River.

Let's be clear – Hanford is proposing short-cuts to the cleanup that will save money, but will in the end further damage the environment, and impact human health and safety and future generations.



Hanford Challenge urges the public to submit comments on the proposed action. Check our website for details.

- Communicate with your representatives in Congress and at the state level to oppose DOE's plan to abandon untreated high-level nuclear waste in Hanford tanks.
- Hanford's tank waste must be removed, properly treated through vitrification, and legally disposed of in a deep geological repository licensed by the Nuclear Regulatory Commission.
- Congress should mandate that Hanford build new tanks to protect the groundwater and nearby Columbia River from future tank failures

Don't let Hanford become an unlicensed and unregulated high-level radioactive waste dump.

For more information, visit www.hanfordchallenge.org