February 9, 2020

Washington State Department of Ecology
Attn: Ms. Daina McFadden
3100 Port of Benton Blvd
Richland WA 99354

Dear Ms. McFadden:

I am writing in response to the public comment period for proposed modifications to the Hanford Dangerous Waste Permit for the Liquid Effluent Retention Facility (LERF) and 200 Area Effluent Treatment Facility (ETF). The comment period is from February 3rd to March 19, 2020.

Ecology has expressed intent to approve construction of an ETF Brine loadout system, which DOE wants to build without having established a disposal path ("loadout to nowhere"). This creates an opportunity for speculative accumulation, unknown future doses to workers, and potential for future spills.

I could not find a table with the range of anticipated concentrations of chemicals or isotopes for the brine. Yet the powder made from this brine was previously determined to be a significant source of doses in the performance assessment for the IDF (resulting in a desire for grouted waste).

What are the concentration and possession limits for Tc-99, C-14 and I-129 in brine at ETF?

What are the brine concentrations and possession limits for hazardous chemicals?

The only mention of Tc-99 I found was in two old documents. The Design Integrity Assessment Report, W-519-IAR-Design Rev 0, dated March 26, 2001, had bounding curies per liter for the WTP feed to the LERF, but not in the ETF brine. This was long before the flow sheet changes that occurred with the installation of the WTP/DFLAW/EMF arrangement. Performance Specification W-519-P1 is similarly out of date – since it was published in 2002.

What is the total amount of Tc-99 to be accumulated in the new storage area in totes?

What is the service life of a tote? Are the totes DOT approved for commercial over the road transport? What is the DOT container code for the totes?

The ETF Permit Capacity Calculation (CHPRC-01900 Rev 05, page 26) shows a total volume per tote of 6.6 ft^3 (which is closer to the size of a 55 gal drum). The introductory material states that there can be a total of 43 totes, based on space available. At 6.6 cubic feet per tote, the Permit Capacity calculation indicates the total liquids that could accumulate are 6.6 ft^3 x 43 x 7.48052 gal/ft^3 = 2,122 gallons. It appears this value is contradicted by the Addendum C process information, which states that the totes can contain 260 to 330 gallons each. At 43, totes, the

total liquid volume is 14,190 gallons.

How many curies of Tc-99, C-14, I-129, respectively, are stored in 14,190 gallons?

How many kg of hazardous chemicals are stored in 14,190 gallons?

How much brine will be produced over the life of the WTP project? How many gallons of ETF brine are produced per gallon of Low Activity Waste Feed to WTP?

My concern is that the unknown destination for the brine will turn out to be the Perma-Fix facility inside the city limits of Richland, spreading the waste and risk further than needed, and involving a facility with an expired permit. DOE just can't seem to actually dispose of tank type waste – but prompt disposal is exactly what is needed. The waste should be touched once, to stabilize it, and then it should be disposed. Not shuffled around in an endless loop of interim liquid storage and handoff steps.

Thank you very much for conducting this comment period.