November 22, 2024

Washington State Department of Ecology
3100 Port of Benton Boulevard
Richland, WA 99354

Dear Washington State Department of Ecology:

Following are comments on the "Tank-Side Cesium Removal Mechanical Connections Class 2 Permit Modification" as described on your Public Comment Periods Web Page. This comment period is from October 7, 2024, to December 12, 2024.

Documentation provided for this public review includes:

Presentation: "*Tank-Side Cesium Removal System Mechanical Connections Public Briefing;*"

Fact Sheet: "*PUBLIC COMMENT PERIOD Class 2 Permit Modification to the Hanford Dangerous Waste Permit;" and*

Submittal Letter 24-ECD-015*: "SUBMITTAL OF A CLASS 2 PERMIT MODIFICATION REQUEST TO THE HANFORD FACILITY RESOURCE CONSERVATION AND RECOVERY ACT PERMIT FOR THE LOW-ACTIVITY WASTE PRETREATMENT SYSTEM, OPERATING UNIT GROUP 1."*

1. While the permit modification form is a helpful summary, it makes it difficult to determine the magnitude of changes. For example, the change summary calls out nominal flow rate revisions based on experience for Sections C.2 and C.2.1. Doesn't say in which direction, so I had to look them up in the current version of the permit. In Section C.2, the nominal feed flow was 70 gallons per minute, but it will be 60 gallons per minute in the future. In Section C.2.1 it wasn't a flow rate that changed, it was an increase in minimum pressure (the flow rate is not described). Air pressure allowed into the filter top head was 60-80 psig, and in the future, it will be 70-80 psig. Both are for a transfer of 20 gallons of air. If the change summary could include changes in numerical values (with units) that would save some time.

2. Section C.2.1 calls for using 0.1M NaOH to soak and clean filters. How much additional liquid is added to the tank waste per 1,000 gallons treated? This adds to the burden of eventual effluents, for which there is no management plan, but a significant commitment for off-site treatment and off-site risk. TPA Milestone M-

047-00, *Completion of Work for Management of Secondary Waste from the WTP*, is unresolved, in dispute, and proposed to be put off for so long it will have no value. The recent Consent Decree Quarterly Report (Letter 24-TWO-0134, November 12, 2024) notes that the DFLAW Cost Estimate at Completion (EAC) is increasing (by $3 Million in August 2024 alone) in part due to added scope and costs for disposal of regulated effluent waste. The time to address secondary waste impacts from every planned and future action is now.

3. Recently, the Government Accountability Office issued report GAO-25-106938, *DOE Should Use Available Information to Measure the Effectiveness of Its Groundwater Efforts*. GAO notes that the Hanford Central Plateau is contaminated with carbon tetrachloride, trichloroethylene, chromium (total and hexavalent), cyanide, nitrate, iodine-129, strontium-90, technetium- 99, tritium, and uranium. Contaminants are required to be cleaned to drinking water standards. However, Hanford is struggling to remove I-129, which is particularly resistant to removal. Hanford's permitting documentation should be consciously aimed at making sure the contamination of groundwater is not expanded into the City of Richland, via shipments of liquid to Perma-Fix Northwest, just 10 feet above the water table. The TSCR removes cesium isotopes but does not remove other radioactive species such as I-129, H-3, Tc-99, or C-14, all of which are dose hazards. The TSCR does not remove hazardous chemicals, such as ammonia and sodium hydroxide and acetonitrile, among others for which this is a listed waste.

4. Section C.2.2 addresses Ion Exchange but does not address disposal of loaded IX columns. The Tank Closure and Waste Management EIS calls for disposal in WTP melters. Disposal of this waste should be addressed now. A promise of a future TPA milestone is not good enough and invites creation of orphan waste.

5. Changes to Section C.6.4, Tank Management Practices, allow spray leaks or drips to be visually monitored, with no stop to operations unless and until the sump leak detectors are activated. This is contrary to DOE's policy of maintaining employee exposures "as low as reasonably achievable." Allowing contamination to accumulate will increase doses when the mess is eventually cleaned up, and it will increase the amount of secondary waste generated during the cleaning. Further, waiting while something leaks means ignoring a precursor event that could result in an eventual (preventable) catastrophic leak. Just because leaks have occurred before does not mean that ignoring them in the future is a good idea as a response. Rather, a root cause analysis is warranted for leak events. TSCR summary reports show design changes and repairs have occurred due to leaks – such as redesign of a vent hose, waste seepage, leaks at a threaded connection. Five of the 11 available quarterly reports for this system contain information about leakage. This

looks like a systemic poor-quality design. There are many sources of hazards, raw tank waste, treated tank waste, reagents, and filter contents. The filter collects transuranic isotopes and strontium-90, which are significant health concerns. DOE should fix the problems and use the nuclear QA system, not stand by complacently.

6. Permit condition III.1.N.2.k.iv states: *If the cause of the release was a spill that has not damaged the integrity of the tank system, the Permittees may return the tank system to service pursuant to WAC 173-303-640(7)(e)(ii). In such a case, the Permittees will take action to remedy the problem(s) that caused liquid to enter the secondary containment systems [WAC 173-303-320(3)].*

   But WAC 173-303-320(3) also states that the *"owner or operator must remedy any problems revealed by the inspection, on a schedule which prevents hazards to the public health and environment. Where a hazard is* ***imminent*** *or has already occurred, remedial action must be taken* ***immediately."*** An observed spray or drip or seepage is an indication that a hazard, as a minimum, is imminent, and operations should implement a stop-work. The word "immediately" should be added to the permit condition.

Thank you for the opportunity to comment. The proposed permit change places production ahead of safety, raising questions about DOE's nuclear safety and quality culture. This is a repeat issue, going back to at least 2006, per GAO-06-602T, and continuing through GAO-24-106716, which calls for better quality assurance oversight, and GAO-25-106207, which notes weaknesses in DOE's use of lessons-learned reviews.