

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 24, 2021

TO: Christopher J. Roscetti, Technical Director
FROM: B. Caleca, P. Fox, and P. Meyer, Hanford Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending December 24, 2021

Inner Area End States: During routine surveys of the 224B Facility, radiological control technicians identified contamination outside of a posted contamination area. Analysis of the contamination later determined the source to be Cs-137, an isotope not associated with 224B, suggesting contamination was brought inside the building, likely by a biological vector (e.g. rodents). 224B is one of several facilities onsite that has been in a Surveillance and Maintenance mode for several decades; as a result biological intrusion is not unexpected. Facility personnel secured the building and intend to perform investigative surveys to determine the extent of the contamination and to deal with any wildlife intrusion.

Tank Farms: The contractor held an incident command post (ICP) limited drill simulating an explosive device injuring a worker and breaching two ion exchange columns at the Tank Side Cesium Removal storage pad. The drill had originally been intended to be a field drill, but poor weather including icy conditions forced the contractor to move the field portion to a control cell indoors. The resident inspector observed the drill from the ICP and noted that the performance of both the drill team and the facility emergency response organization fulfilled the drill objectives.

High Level Waste: DOE's Office of Environmental Management published to the federal register an assessment of its interpretation of what constitutes high level waste as first proposed in a 2019 Supplemental Notice. This assessment affirmed the legality of their interpretation that waste created during the reprocessing of spent fuel but containing radionuclide concentrations below certain levels is not high-level waste. This waste could be stabilized and disposed of "in accordance with its radiological characteristics," rather than requiring all reprocessing waste be disposed of as high-level waste in a deep geological repository. The assessment does not change any requirements that apply to DOE defense nuclear facilities.

Waste Treatment Plant (WTP): The WTP contractor completed an external assessment to evaluate their readiness to operate the Laboratory (LAB) facility as a below hazard category 3 nuclear facility and commence open source validation operations. The assessment also evaluated the contractor's readiness to operate Balance of Facility (BOF) systems in support of LAB open source validation operations, Low Activity Waste (LAW) Facility melter heat-up, and Direct Feed LAW (DFLAW) cold and hot commissioning. The assessment identified four findings related to BOF and LAB staffing, the contractor's planning for deliberate operations, reliability of the plant cooling water system, and deficiencies in LAB facility fume hood ventilation flow. The team also identified 26 opportunities for improvement, and eight noteworthy practices. The assessment team concluded that, subject to the resolution of findings and completion of prerequisites, the contractor can safely perform operations in support of LAB open source validation, LAW melter heat-up, and DFLAW cold and hot commissioning.