

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 13, 2024

TO: Timothy J. Dwyer, Technical Director
FROM: B. Caleca, P. Fox, and P. Meyer, Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending December 13, 2024

Radiochemical Processing Laboratory (RPL), Pacific Northwest Site Office: RPL relies on an inventory tracking system to ensure in-process radioactive material quantities do not exceed the facility limit. The limit protects assumptions used to define accident consequences that support identification of nuclear safety hazard controls. The system is also used to support decisions regarding the receipt of additional material into the facility. In mid-November, facility personnel opened a transfer cask for laboratory work and determined that, based on expectations from the inventory tracking system, several containers containing strontium 90 (Sr-90) were missing. The project leader responsible for the absent Sr-90 initiated actions to determine the location of the containers but did not notify facility management until December 4. Based on the investigation performed by the project leader and information from other individuals, facility management determined that the Sr-90 was most likely transferred to other containers without documenting the transfers in the inventory tracking system. They also determined that the existing entries in the inventory tracking system that documented the presence of the containers had been made to correct a previous inventory issue but without physically confirming the presence of the containers. Lastly, the issue had not been discovered during a recent inventory validation performed in response to a previous event (see 10/27/2023 report). Facility management is working to identify the location of the missing Sr-90 and will perform a causal analysis to identify required corrective actions. The facility limit was not exceeded because of this event. This is the third notable occurrence at RPL related to inventory control within the last 15 months (see 10/27/2023 and 2/9/2024 reports).

Low-Activity Waste (LAW) Facility: The HFO Senior Review Board (SRB) met to evaluate a proposed change to the LAW facility safety basis. Among the changes in this revision of the documented safety analysis and technical safety requirements was the addition of an administrative control to define actions within the LAW Facility to protect tank farm workers from waste sprays and misroutes when work is performed in pits associated with double-shell tanks AP-102 and AP-106. This change was made to address concerns the Board communicated to DOE in its letter dated February 28, 2023. The new control defines responsibilities and actions that are necessary to clearly link safety controls across the interface between the tank farm and LAW facilities. The SRB recommended that the change be forwarded to the safety basis approval authority after minor comments are addressed.

Central Waste Complex: Workers discovered contamination on a standard waste box by a direct survey. Upon implementing a spill response and exiting the building, two workers were found to have contamination on their pant legs. The facility entered their limiting condition for operation (LCO) for loss of container integrity, and a second LCO for combustible loading because a forklift was left in the aisleway during the building exit. Radiological control personnel suspected the contamination may be due to radon decay products, and this was confirmed the following day. Subsequently the building was restored to operability.