DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 14, 2020

TO: Christopher J. Roscetti, Technical Director
FROM: B. Caleca and P. Fox, Hanford Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending February 14, 2020

DNFSB Staff Activity: M. Bradisse was on site performing routine site surveillance activities.

Plutonium Finishing Plant (PFP): Project personnel held a formal post-job meeting to identify lessons from their hot demonstration of Plutonium Reclamation Facility (PRF) debris retrieval, packaging and staging (see 2/7/2020 report). Workforce participation was strong and they discussed methods for improving housekeeping, contamination control, and waste management. The first cans of PRF debris were retrieved and loaded this week following the post-job.

The resident inspectors met with contractor and DOE-RL personnel to discuss the strategy to prevent potentially contaminated liquid leaks from cans containing PRF debris during their shipment to the Environmental Restoration and Disposal Facility (ERDF). Liquid is present because water is introduced into the debris during load out of waste as a control to prevent contamination spreads. During earlier demolition activities, leaks were identified on several cans prepped for shipment to ERDF. Past response from the project has been to tilt these waste packages in a high contamination area to allow drainage and ship once no detectable liquids were identified. The purpose of this meeting was to understand any changes to their process for preventing leaks, and for identifying and addressing leaking cans, considering the higher levels of contamination in PRF waste. Project personnel noted that the amount of water absorbent material added to each can prior to its use is capable of absorbing a larger liquid volume than the waste being loaded, and that ERDF is conducting inspections of their cans' seals to help minimize the possibility of leaks. Project personnel also discussed changes to PRF debris loading methods that will reduce the amount of incidental water loaded.

Radiochemical Processing Laboratory (RPL): The Resident Inspectors walked down hotcell, glovebox, and key facility support areas with the RPL Facility Manager and DOE Facility Representative. The walk down provided an opportunity to discuss ongoing facility and facility support service upgrades, current support for Hanford site missions, and the status of a pending revision to the facility documented safety analysis. The facility is well maintained and the overall condition of the facility and installed equipment is generally excellent.

Building 324: A Resident Inspector observed the on-scene response for a full-up drill that simulated an explosion in the hotcell airlock and an injury to one of the workers located near the airlock. The facility emergency response organization was able to effectively obtain and coordinate the movement of personnel and equipment to support their response to the event, and they were timely in their isolation of the scene and in their completion of radiological surveys. However, the initial response to the injured individual was unnecessarily delayed because of radiological considerations. The drill coordinator was well supported by a sufficient number of experienced drill controllers and their presentation of the scenario provided a good understanding of the simulated event. The drill team's discussion during the hotwash effectively identified areas needing improvement and indicated a thorough evaluation of the facility's response.