DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 9, 2024

TO: Katherine R. Herrera, Acting Technical Director
FROM: B. Caleca, P. Fox, N. Huntington, and P. Meyer, Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending February 9, 2024

Radiochemical Processing Laboratory (RPL): Contractor management completed their root cause analysis of unaccounted radioactive material inside RPL hot cells and have successfully accounted for all material (see 10/27/2023 report). As part of an extent of condition, personnel initiated an inventory review using the facility's radioactive materials tracking (RMT) database, which implements a facility specific administrative control for material-at-risk and fissile materials. During this inventory, a worker noted a can of material in the Shielded Analytical Laboratory hot cells that was not in the RMT database. The facility promptly responded and declared a technical safety requirement violation. A resident inspector attended the critique, where participants noted that the inventory method used only verifies that all items logged in the database can be located but does not require workers to verify all material is associated with an RMT entry. As a result of the event, facility management issued standing orders to pause all work and material movements requiring RMT pending recovery actions.

242-A Evaporator: While implementing a procedure to switch the evaporator into a recirculation status, night shift operators inadvertently caused a pressure transient that activated an interlock, which dumps the contents of the evaporator vessel. Facility management noted that the shift log did not adequately capture what occurred and the operator turnover did not properly communicate the cause of the trip, hindering recovery actions. A resident inspector observed management discussing the event with day shift operators and reinforcing expectations for log-keeping and procedure adherence. Facility personnel believe multiple steps in an operating procedure were not performed, and that operators had not used place keeping when performing the procedure. Contractor personnel have initiated an event investigation.

Test Bed Initiative (TBI): A WRPS Joint Review Group (JRG) determined that a work package, which a work team will use to install the TBI mast assembly into double-shell tank SY-101, is ready to support safe accomplishment of the work. The TBI mast assembly includes the pump, filter, and ion exchange column. The work package will also remove existing equipment from the selected tank riser and install an adapter that reduces the size of the riser opening to match the TBI mast configuration. The JRG also determined that the Field Work Supervisor (FWS) and backup FWS candidates were adequately prepared to lead the effort.

Low Activity Waste Facility: A resident inspector observed an evaluated drill conducted by the contractor's emergency planning and response team. The scenario presented to the crew involved an ammonia release in the ammonia skid room resulting from a failed gasket, and subsequent exposure of two commissioning technicians. The response of the facility emergency response organization was prompt, demonstrating marked improvement from previous drills (see 6/23/2023 report). The drill response was generally well executed. Areas for improvement identified and openly discussed in the post-drill hotwash included assuring the availability of checklists, completion of abnormal operating procedures, interfacing with emergency responders at the event scene, and developing recovery plans.