DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 14, 2018

TO: Christopher J. Roscetti, Technical Director
FROM: B. Caleca and P. Fox, Hanford Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending December 14, 2018

Plutonium Finishing Plant (PFP): The Resident Inspector observed a full-up field drill at the PFP. The scenario simulated a medical emergency event that caused a waste handling accident with a punctured transuranic waste drum. The event resulted in an alert level emergency with a spread of contamination to surfaces and individuals at the scene and high levels of airborne radioactivity. During the drill, the radio system frequently dropped out or failed to adequately transmit information resulting in less than adequate communication at the scene and between the scene and the incident command post (ICP). Additionally, the work crew's priority decisions appeared to place contamination control considerations above care of an individual with a life threatening condition resulting in significant delays in delivery of first aid to the injured individual. Further, the hazard assessors were part of the work team at the start of the event. This made it difficult for them to adequately coordinate activities outside of the event boundaries and reduced the effectiveness of the facility emergency response organization. Lastly, the facility recently moved the ICP to a larger room to support more effective ICP operations. However, the new ICP is not adequately equipped to support those operations. The Resident Inspector notes that the drill team held an effective hot wash that identified the above concerns. The manager who is responsible for the contractor's emergency planning (EP) program also observed the drill and the hot wash, and engaged with the facility representatives to obtain their perspective regarding PFP EP performance.

Test Bed Initiative (TBI): The contractor performed a review of the TBI design, which is about 60% complete. The filtration and ion exchange system is designed for installation into a 12 inch tank riser and is intended to deliver approximately 2000 gallons of processed tank supernate to shipping totes. The Resident Inspector observed parts of the review and noted that, although the design had yet to incorporate equipment related to the safety control set, the level of design detail was adequate to support the review. Additionally, the design review team included appropriate membership and the members of the review team actively engaged with the design team. The contractor's intent is to incorporate the comments and deliver a near final design in early January. DOE is working closely with stakeholders to develop decisions related to deployment and permitting for the engineering scale demonstration project.

PUREX Plant: The contractor reported that the team that is stabilizing the PUREX Storage Tunnel 2 has placed over 50% of the amount of grout necessary to fill the tunnel.

Tank Farms: The contractor placed another extended reach sluicer system (ERSS) into AX-102. It is the second of three ERSSs that they intend to install to accomplish retrieval of the tank's waste. They expect to start the waste retrieval late in the fiscal year.

Waste Treatment Plant (WTP): ORP delivered a letter to the Board that reports that all commitments made in response to the issues that the Board identified in 2012 related to electrical system design at the WTP are complete and that they consider the issues resolved.