DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 7, 2018

TO: Christopher J. Roscetti, Technical Director
FROM: P. Foster and P. Fox, Hanford Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending September 7, 2018

DNFSB Staff Activity: D. Brown was onsite for site-specific training and to perform oversight support activities.

Effluent Treatment Facility: The contractor recently replaced the cover on Liquid Effluent Retention Facility (LERF) basin 42. This was a complex task performed under difficult conditions and the contractor had to overcome a number of radiological challenges during their work. Contractor management held a post-job As Low As Reasonably Achievable (ALARA) review to discuss and record lessons learned by the work team. The Resident Inspector observed the ALARA review and noted that the event effectively captured a number of lessons learned. The contractor will use this information to support their planning for the upcoming replacement of the LERF basin 44 cover. LERF basin 44 is the most highly contaminated of the three basins.

The contractor's Corrective Action Review Board (CARB) met to evaluate the causes and corrective actions associated with a contamination spread event that occurred when high winds transported a flake of dried algae containing high contamination levels of beta/gamma contamination from the basin into a posted Soil Contamination Area/Radioactive Material Area during replacement of the LERF basin 42 cover. The flake was found during surveys performed in response to the wind event. The contractor determined that the event occurred because required contamination controls were not fully in place. On the day of the spread, workers were pulled from the worksite due to heat stress concerns and a problem with sweat-compromised personal protective clothing. After pulling workers out of the area, the contractor supervisor determined, based on a review of the weather forecast, that high winds were unlikely and decided not to send the team back in to secure the site before ending work for the day, as was required by the work instructions. Although a high wind warning was issued later in the day, the contractor did not act to secure the site. The Resident Inspector observes that this event is similar to a recent event at the Plutonium Finishing Plant and to other events that occurred at the 618-10 Burial Ground during remediation of that site. In all of these cases, the events involved the performance of open air work within highly contaminated worksites and a wind carried contamination spread outside of appropriately defined radiological control areas, which was attributed to ineffective implementation of established contamination control methods. The contamination spreads have occurred during work performed by three different contractors under two DOE Offices. The Resident Inspector notes that an evaluation of the above information could indicate a need for a more formalized technical review of contamination control methods used while performing open air work involving high levels of contamination, as well as, the establishment of more rigorous criteria for implementation of those contamination controls.

PUREX Plant: DOE-RL approved the Evaluation of the Safety of the Situation and Justification for Continued Operations that the contractor submitted in response to the PISA and positive USQ that resulted from the identification of significant corrosion damage to structural bolts in Storage Tunnel 2 (see 8/3/2018 report).