

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 26, 2017

**TO:** S. A. Stokes, Technical Director  
**FROM:** P. Fox and D. Gutowski, Hanford Resident Inspectors  
**SUBJECT:** Hanford Activity Report for the Week Ending May 26, 2017

**Tank Farms.** There was a contamination spread when an ultrasonic testing crawler was pulled out of the annulus of AZ-101. The contamination levels exceeded the radiological work permit for the job. The team stopped work, and an HPT discovered personal clothing contamination while surveying the team out. Contamination in the annulus could indicate a primary tank leak. To investigate, the contractor sent the crawler to the 222-S Lab for additional analysis and also analyzed the filter from the annulus Continuous Air Monitor (CAM) which had also alarmed. The CAMs in AZ farm tank annulus ventilation systems may act as supplemental primary tank leak detection. The contractor also performed annulus video inspections. As a result of these inspections and based on the isotopic breakdown of the materials analyzed at the 222-S Lab, the contractor concluded that the source of the contamination was not a primary tank leak. Rather, the likely contamination source was material dripping from an out-of-service pipe that originally fed waste from the PUREX Plant to the tank. The crawler was most likely contaminated when it disturbed a pre-existing patch of dark material on the annulus floor that was located under this pipe, which showed evidence of degradation in the visual inspection.

**PUREX Plant.** The contractor completed placement of a fiber reinforced HDPE cover over PUREX tunnel one as part of the recovery from the May 9 tunnel collapse (see Activity Report 5/12/2017). Upon completion, access restrictions that were in place around the facility to protect workers were lifted. A risk of further tunnel collapse still exists. Although the cover will mitigate the effects of a tunnel collapse over the near term, more permanent action is necessary. RL and the contractor continue to evaluate options for longer term stabilization of the tunnel.

**Waste Treatment Plant (WTP).** ORP issued a letter to the contractor that establishes requirements for resuming production engineering, procurement, and construction (EPC) of the WTP Pretreatment Facility. DOE stopped construction of the facility in 2012 to allow resolution of significant technical issues related to facility processes and safety. The resumption will be conducted in two steps. First will be a conditional release of EPC that will allow the contractor to perform work to support ORP's decision for a full release, and the second step is a full release. The letter also states requirements that ORP intends the contractor to meet before a conditional release is allowed.

**Building 324.** The contractor held a Joint Evaluation Team meeting to provide information to support an RL decision regarding the contractor's proposed approach for ensuring their readiness to conduct activities that will be used to remove the highly contaminated soil from beneath the "B" hot cell. The contractor determined that a checklist readiness assessment is the appropriate level of readiness review for this activity. The meeting was formally conducted and effective.

**Plutonium Finishing Plant.** A gallery glove box was prematurely breached during demolition of the Plutonium Reclamation Facility. The demolition team applied fixative to the damaged area to contain contamination until the glove box is removed. The breach did not result in any detected elevation in airborne or surface contamination levels at the demolition boundary.