

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 12, 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 12, 2017

**PUREX Plant.** A radiological technician performing pre-work surveys near the PUREX plant Tuesday morning noted radiation readings above the background levels previously encountered during the ongoing work activities. While investigating the cause of the elevated readings, workers discovered a partial collapse of storage tunnel one just south of the PUREX canyon. The tunnel stores radiologically contaminated process equipment that failed during facility operation between 1960 and 1965. The roof and one wall of the tunnel structure in this location is composed of wood timbers. While it is presumed that the collapse resulted from degradation of the roof timbers, the actual failure mechanism has not been confirmed.

The facility emergency response organization and site emergency operations center were activated and a site area emergency was declared. Workers in the northern half of the Hanford site sheltered in place until safe routes were established for an orderly departure from the site. After evaluating options, the contractor mobilized a crew and filled the hole with sand and gravel to cover the contaminated equipment and stabilize the tunnel structure in the area of the collapse. Workers completed the initial stabilization effort late on Wednesday evening allowing on site work to resume in most areas on Thursday morning after implementation of controlled access points to keep non-essential personnel away from the PUREX tunnels in case there was an additional tunnel collapse. No radioactive material release was detected from the initial event or during subsequent recovery actions.

The contractor is developing plans to install a temporary cover over the tunnel to limit any radioactive material release in case the tunnel fails in another location. This action is expected to complete next week. Once that effort is complete, they will evaluate and propose options for longer term stabilization of the tunnel and its contents for DOE consideration.

**Tank Farms.** The tank farms received extension times for two TSR surveillances due to the emergency at the PUREX plant. They briefly entered the LCO for Double-shell tank primary ventilation systems in AP farm as they were unable to complete the required surveillance within the extended time. Essential personnel are now allowed to enter the tank farms adjacent to PUREX to complete surveillances with permission from the Central Plateau Surveillance and Maintenance shift manager. No further TSR surveillances were missed during the time all personnel were restricted from the area.

**Radiochemical Processing Laboratory.** A worker performing work in an RBA discovered non-reportable levels of contamination on one hand on an exit survey. Follow-up surveys and a fact-finding meeting were unable to conclusively determine the source of the contamination.

**Waste Treatment Plant.** ORP sent a letter to the contractor noting concern regarding the contractor's implementation of hazardous energy controls during work. The contractor was instructed to provide immediate actions that they intend to take to stop and reverse the adverse trend.