DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 7, 2017

TO: S. A. Stokes, Technical Director
FROM: P. Fox and D. Gutowski, Hanford Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending July 7, 2017

Sitewide. A wildfire that started off site moved onto the Hanford site and burned a large swath of the Hanford Site Arid Lands Ecology (ALE) Reserve as well as a portion of the main site near the 200W area. Multiple agencies were involved in the firefighting effort with the Bureau of Land Management providing response in the ALE Reserve, and the Hanford Fire Department (HFD) responding to the fire in Hanford site areas east of U.S. Highway 240. HFD firefighters were able to stop the fire before it reached any waste sites or nuclear facilities. The fire's closest point of approach to 200W waste storage sites was about one half mile.

242-A Evaporator. The tank farm contractor started evaporator campaign 6 (EC-6) on Saturday (see Activity Report 6/30/2017). The campaign was interrupted shortly after the evaporator began sending slurry to AP-104 when the vessel vent exhauster stopped due to a fluctuation on the power grid. The loss of the exhauster resulted in actuation of a safety interlock that subsequently went into fault mode preventing system recovery and the evaporator vessel was dumped back to AW-102. The power fluctuation also caused a loss of ventilation in the AW Farm. Efforts to restart EC-6 on Monday were interrupted again by another system power fluctuation. The site service contractor reports that the system power fluctuations were within normally expected parameters and were caused by offsite system realignments necessitated by the wild fire. The tank farm contractor successfully restarted the campaign on Wednesday.

Plutonium Finishing Plant (PFP). The contractor completed most of the 291-Z demolition work necessary to support the upcoming explosive demolition of the facility ventilation stack (see Activity Report 6/30/2017). Although much of the above grade structure has been removed, the work team left a section in place that supports the main facility exhaust duct pending removal during demolition of the 234-5Z facility. The presence of the ducting and the remaining building structure will not interfere with the stack demolition. The demolition team filled below ground portions of the facility with soil. Per the demolition plan, air compressors, ventilation equipment and demolition debris that fell into the below ground area were not removed prior to backfill.

With the exception of a few pipe stubs, the contractor has finished the removal of all 26 inch process vacuum system piping within the 234-5Z facility. Workers safely removed over 7200 feet of heavily contaminated pipe in waste package size sections to complete this effort.

PUREX Plant. The contractor completed their cause evaluation of the storage Tunnel One collapse (see Activity Report 5/12/2017), as well as their evaluation of the structural stability of both storage tunnels. They reported that, although the cause of the tunnel collapse is unknown, it most likely resulted from a combination of heavy rainfall and deterioration of the wood timbers that make up the tunnel's supporting structure. The contractor's structural evaluations, which were performed using the 2012 building code, show that loads on elements of both tunnel structures exceed building code design capacities. The contractor is moving forward with plans to fill Tunnel One with engineered grout and is evaluating corrective actions for Tunnel Two.