

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 12, 2019

TO: Christopher J. Roscetti, Technical Director
FROM: B. Caleca and P. Fox, Hanford Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending April 12, 2019

Building 324: Building 324 personnel performed facility-wide surveys following the detection of personal clothing contamination with strontium. Facility management declared a stop work because the contamination's relative ratio of isotopes did not match the assumptions for the facility. Prior to this discovery, pilot hole drilling spread strontium-bearing contamination inside of room 18 (see 3/15/2019 report), and a B-Cell camera removal (see 1/18/2019 report) led to the discovery of a hot particle emitting significant beta radiation inside the camera sleeve, but there has not been an identified source that correlates to the work activities of the individual who had personal clothing contamination. However, the results of the facility-wide surveys did indicate two locations of higher-percentage beta contamination in the B-Cell gallery above room 18. The B-Cell gallery is maintained as a contamination area but has penetrations into room 18, which is posted as a high contamination area and airborne radioactivity area. While room 18 is kept at a negative pressure relative to the B-Cell gallery, this condition can be upset under abnormal ventilation conditions. At this time, the facility has not detected evidence of significant airborne contamination inside of room 18, and has not opted to up-post the B-Cell gallery, but facility personnel have modified controls for work in the entire facility to account for the necessary change in assumptions resulting from the recent discoveries.

Project personnel are also working on a number of improvements to the drill rig used for pilot hole drilling. Smoke testing revealed several leaks in and around the drill casing. The drilling subcontractor is developing a new confinement system, with mockup testing ongoing. In addition, project personnel are considering the use of limited amounts of water inside the drill casing to reduce dust generation. Drilling activities will resume after the new control strategy is finalized and implemented.

Plutonium Finishing Plant (PFP): The work team completed the first phase of their revised demolition plan (see 7/13/2018 report) and started the second phase which involves removal of the PFP vault and the remaining low hazard portions of 234-5Z. The contractor is also performing activities that support preparation for their Management Assessment, which will occur before they start the final two high hazard phases of demolition work.

Tank Farms: The contractor's Plant Review Committee (PRC) met to consider a proposed change to the DSA and TSRs that would allow the evaporator to contain waste and operate without an operable slurry line vacuum breaker as long as the evaporator is not physically connected to the tank farm slurry lines. The evaporator vacuum breaker, which protects the tank farm slurry lines, is a limited life component and is due for replacement. However, the contractor has proposed delaying installation of a new vacuum breaker until evaporator and slurry line repairs are complete to maximize the time available for operation with the new vacuum breaker. The change would allow the contractor to operate the evaporator for proficiency without hazarding the slurry lines. The PRC recommended approval of the change.