

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 23, 2016

TO: S. A. Stokes, Technical Director
FROM: P. Fox and D. Gutowski Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending December 23, 2016

Waste Encapsulation and Storage Facility. After several days of successful grouting activities, contractor management suspended hot cell stabilization activities when workers in the facility canyon encountered higher than expected radiation fields (greater than 50 Rad/hr, primarily beta radiation) upon completing a grout lift into “C” hot cell. The event occurred after the workers had completed a “pig” launch to clear the grout lines of remaining grout and the contractor believes that the most likely source of the radiation field is displaced contamination that was drawn into the temporary ventilation system that supports the work. Access to the facility canyon has been restricted pending the development of a recovery plan. Once the plan is approved, the contractor expects to enter the canyon to perform surveys. That information will be used to develop a work package to address the problem.

Tank Farms. The contractor continued tank AY-102 waste retrieval activities. Based on the results of a waste displacement measurement conducted on December 22, the contractor has determined that approximately 97% of the total waste has been removed from the tank. The annulus level rose last week during to almost 12” at the resumption of sluicing operations. It was pumped down below 6” this week and rebounded to approximately 9” where it has remained stable. To mitigate the potential for additional refractory degradation, the new operational strategy for annulus pumping raises the level at which pumping begins to 12” in order to reduce the amount of waste flowing through the refractory (see Activity Report 4/22/2016).

Plutonium Finishing Plant. The contractor intends to modify their demolition sequence and remove the 242-Z facility and related transuranic waste packages before continuing with the removal of the back wall of the Plutonium Reclamation Facility fourth floor. This action will help ensure that the transuranic waste packages remaining within the 242-Z facility are not damaged by falling debris. Demolition of the 242-Z facility is expected to start next week.

Waste Treatment Plant. ORP approved the safety strategy summary document for addressing offgas hazards produced by the Low Activity Waste facility melters during operation and cold cap burn off. The three tier strategy to protect co-located and facility workers includes (1) a safety-significant active primary confinement system, (2) a safety-significant indication that the secondary active confinement system is available, and (3) a defense-in-depth passive confinement function in the event that the two active systems fail. ORP also subsequently issued a contract modification that directs the contractor to reclassify the C5V confinement boundary from the C5V exhaust fans to the C5V stack as safety-significant in support of the strategy.

Site Infrastructure. There was a power loss to portions of 200W area due to a downed power line. The repairs were completed the same day. Impacted facilities included 222-S Lab, SY Tank Farm, and the REDOX Plant.