

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 24, 2018

**TO:** S. A. Stokes, Technical Director  
**FROM:** P. Foster and P. Fox, Hanford Resident Inspectors  
**SUBJECT:** Hanford Activity Report for the Week Ending May 25, 2018

**Tank Farms:** The contractor's Plant Review Committee (PRC) met to review a proposed amendment to the Tank Farms DSA that adds the remote monitoring of conditions associated with flammable gas buildup and freeze protection in the tank farms. The improved monitoring of flammable gas controls is expected to resolve Board concerns that were identified in Recommendation 2012-2 related to DOE's flammable gas strategy for double-contained receiver tanks (DCRTs) and double shell tank annuli. Additionally, the change addresses a recent positive USQD related to DCRT flammable gas controls (see 04/27/18 report). The amendment identifies two new LCOs that control the implementation and use of the new automated waste transfer freeze protection and DST annulus high-level alarm safety instrumented systems.

A worker opened a pressurized drum while performing work activities related to the removal of hose-in-hose transfer lines in C-Farm. The drum was previously unused and the pressurization was caused by the recent ambient temperature increase. During the removal, the drum ring and lid flew off, narrowly missing the worker. Contractor management has restricted the use of waste storage drums pending completion of drum safety refresher training.

**222-S Laboratory:** Contractor management held a fact finding meeting to discuss a recent unplanned trip and restart of 222-S Laboratory confinement ventilation system components that occurred during installation of a system software update. The fact finding determined that the event occurred due to an improperly sequenced work evolution. As a result, the control system was not configured correctly to support the installation of the software upgrade. The fact finding also uncovered communication weaknesses between the facility operations staff and the construction cadre, gaps in the understanding of the system control software, and weaknesses in the control of work that requires coordination between multiple work instructions.

**105-KW Basin:** The Assistant Secretary for Environmental Management authorized DOE RL to initiate Engineered Container Retrieval and Transfer System operation. DOE RL subsequently authorized the contractor to start operations.

**Plutonium Finishing Plant:** Radiological Control Technicians who were performing routine weekly surveys identified a small, low-level, spot of alpha contamination just outside of existing contamination control areas. The contractor held an in-progress ALARA review to discuss the event and determine if current contamination control methods or boundaries require adjustment. The attendees identified a number of potential reasons for the unexpected condition including biological vector transfer of the contamination or unidentified contamination from the December contamination spread event (see 12/15/2017 report). The attendees also noted that there have been four cases of contamination found in uncontrolled areas since the December event, as well as a number of cases where significant contamination levels were found in radiological buffer areas. The attending DOE RL Subject Matter Expert noted that it might be appropriate to conduct a coherent review of the entire data set to determine if there is any underlying link.