

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 16, 2018

TO: Christopher J. Roscetti, Technical Director
FROM: P. Foster and P. Fox, Hanford Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending November 16, 2018

Tank Farms: The contractor's Plant Review Committee (PRC) met to evaluate a substantial change to the Tank Farm DSA and TSRs. The change eliminates an LCO that was applicable only to AY-102. Additionally, two further LCOs no longer apply to the tank. The change similarly modifies the applicability of a SAC and two administrative control key elements that support the affected LCOs. The changes are justified by completion of waste retrieval from AY-102 and recently completed evaluations that show flammable gas buildup times for AY-102 exceed five years. Additionally, the evaluations determined that it is no longer feasible for AY-102 annulus level to exceed limiting values. The PRC recommended approval of the change.

A worker was struck on his hardhat when an equipment assembly that included a spray ring and top hat unexpectedly tipped while suspended from the crane hook during movement from a tank riser to a waste box. The work team's response to the event was appropriate and well executed, and the worker was medically evaluated and determined to be uninjured. Individuals who attended the post event fact-finding meeting identified several areas that will require further evaluation during the upcoming causal analysis. In particular, the lift points that the riggers used were designed only for removal of the spray ring assembly without the top hat. However, the work instructions that were used by the work team allowed the simultaneous removal of the both items using the same lift points. Workers noted that this evolution had been performed successfully in the past, but also noted that top hats are frequently fabricated from plastic pipe instead of the stainless steel pipe used for this top hat, and that the top hat length can vary substantially depending on the height of the work platform. Although original work instruction versions for this activity directed separate removal of the top hat and spray ring, a decision was made during a previous Joint Review Group meeting to allow simultaneous removal. It appears that this modification was made without considering how the change in equipment configuration would affect the assembly's center of gravity and the stability of the assembly during the lift. In addition, workers attending the meeting noted a need to review and reinforce the criteria used for establishing "fall zones" used for work evolutions. Movement of spray ring assemblies with the top hat installed have been suspended until the contractor completes evaluation of this incident. The resident inspector notes that similar errors in understanding load center of gravity and its effect on equipment stability have played a role in at least two other recent tank farm events. In both of those cases, workers also narrowly missed injury when the load shifted.

105-KW Basin: Workers completed fill of the sixth Sludge Transport Storage Container. This completion represents retrieval of approximately 25% of the sludge stored in the basin.

Plutonium Finishing Plant (PFP): The Tank Farm contractor is expanding their work force to support emerging work scope. Based on existing worker agreements, a substantial number of the workers currently assigned to the PFP demolition project will transition to the new tank farm job positions. The loss of qualified workers at PFP will substantially slow ongoing demolition activities until replacement workers can be hired and trained to fill the PFP positions.