

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 13, 2020

TO: Christopher J. Roscetti, Technical Director
FROM: B. Caleca and P. Fox, Hanford Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending March 13, 2020

242-A Evaporator: A resident inspector met with nuclear safety and project representatives from DOE-ORP and a Tank Farm Contractor (TOC) nuclear safety representative to discuss the reasons for the TOC's recent proposal to modify their approach in responding to the Board's safety concerns regarding seismic and fire hazard controls identified in the Board's June 2014 letter to the Acting Assistant Secretary for Environmental Management (see 1/31/2020 report). The TOC representative noted that the seismic design ground motion spectra recently changed and that a TOC analysis has determined that, contrary to previous analyses, the 242-A evaporator control room structure will withstand the design basis event. Consequently, a seismic failure that affects their ability to shut down the evaporator is now considered a beyond design basis event leading to their conclusion that an automatic shutdown is not necessary and that a safety-significant (SS) manual shutdown is adequate to protect the onsite collocated and facility workers who would be affected by a seismic event. The discussion also addressed their change in approach related to facility fires. During the discussion, the TOC representative noted that the existing evaporator structure does not have fire rated barriers and that it would be extremely difficult and costly to modify the structure to establish adequate fire barriers. They also explored alternative methods for providing fire protection for the safety-significant equipment but, based on current design efforts, they had determined that the originally proposed approach is not feasible from a cost and schedule perspective. Consequently, rather than providing a safety-significant dump system that will fail safe in a facility fire, they intend to have a SS evaporator shutdown system that will be triggered by a defense-in-depth fire detection system designed and installed in locations of concern in accordance with current fire system design codes. They will also credit a combustible control specific administrative control as a preventative measure. They consider their proposed controls adequate to protect the affected facility and collocated workers from a facility fire event. DOE has not yet formally communicated whether they will approve the proposed controls.

Building 324: Contractor management held a critique and determined that radiological control technicians (RCTs) and Industrial Hygiene Technicians (IHTs) did not have the appropriate training for supporting ongoing asbestos work. Field work supervisors (FWS) are required to verify the training of all workers in an activity prior to start of work. However, the subcontractor FWS only checked the training of his direct reports during the work planning stage, and stated that since RCTs and IHTs are matrixed to him the day of an activity, he does not check their training, believing they would be verified by their respective supervisors. This is similar to training issues self-identified by the contractor at the Plutonium Finishing Plant where large numbers of support personnel with lapsed training were assigned to work activities without having their training verified by the FWS. Project management issued a stop work until all facility personnel had their training records verified, which was completed the next day. Critique participants also noted a potential need to perform contractor-wide verification of training and sharing of lessons learned from the two occurrences. The resident inspectors note that the TOC recently identified and worked to address a similar issue. Although this is a FWS responsibility, existing systems and assignment processes make accomplishing this requirement a difficult task.