

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 19, 2022

TO: Christopher J. Roscetti, Technical Director
FROM: B. Caleca, P. Fox, and P. Meyer, Hanford resident inspectors
SUBJECT: Hanford Activity Report for the Week Ending August 19, 2022

DNFSB Staff Activity: B. Caleca was at Idaho National Laboratory to observe the ongoing Integrated Waste Treatment Unit readiness assessment.

Waste Treatment Plant: A resident inspector observed a four-hour classroom training session intended to give Low Activity Waste Facility operators and selected system engineers a better understanding of the various interlocks, which ensure safety of facility and co-located workers. The training was provided to address a knowledge weakness, which resulted in an inadvertent equipment start that damaged two off gas exhausters. The resident inspector noted the instructor was well prepared, the material used to support the training was useful, and the students were interested and engaged. However, the scope of the training did not adequately address the issue it was intended to address, and the time allowed did not support additional scope. Although the training effectively identified the interlocks, their intended purpose, and the actions resulting from their activation, it did not address how interlock inputs are sensed and processed, or how the interlocks interface with support systems. An understanding of those factors is necessary to prevent unintended interlock activation.

Building 324: Contractor management held a critique to understand the conditions resulting in unapproved movement of temporary shielding (the movement did not result in exceedance of any dose limits). The critique revealed workers were not aware of procedures for management of temporary shielding and decisions were being made by an individual in training without adequate oversight or supervision. Similar events have occurred in the past raising questions about corrective action effectiveness (see 4/15/22 report). The event also revealed a weakness in radio communication coverage, which should have been addressed as the facility transitioned to full demolition operations under NFPA 241.

Tank Side Cesium Removal: An operator performing shift routines noted two process piping retention U-bolts were not connected to the structure. Based on the discovery, management issued a timely order prohibiting system blowdowns until engineering completes a technical evaluation. The prohibition places a further restriction on operations which were already limited after the discovery of a misaligned valve position indicator (VPI) and the subsequent discovery of inaccurate information supporting a technical safety requirement (see 8/1/2022 report). The resident inspector notes contractor personnel believe this deficiency was introduced by work performed during operational acceptance testing. In addition to the above mentioned VPI and U-bolts, there have been other material deficiencies affecting system operability and linking back to work performed during and after testing of the system (see 10/8/22 and 6/4/22 reports). However, previous causal analyses related to material or quality deficiencies have been limited to procurement actions and do not cover performance of testing or work in the field. In this case, the contractor initially screened the issue under a level C condition report which would not require a causal analysis. However, management subsequently determined that a causal analysis is necessary and will perform one.