

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 22, 2021

TO: Christopher J. Roscetti, Technical Director
FROM: B. Caleca and P. Fox, Hanford Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending January 22, 2021

Liquid Effluent Retention Facility: A recently approved justification for continued operation (see 10/30/2020 report) required installation of concrete barriers to limit fueled equipment access near Basin 44. The purpose of the control is to minimize the likelihood that fuel from a vehicle, equipment, or refueling activity will cause a fire that releases radioactive solids from Basin 44 into the environment. During work to relocate a pump on the cover of Basin 44, workers initiated the removal of a concrete barrier prior to stationing a traffic control attendant, as is required by the compensatory measure. Another nearby worker noticed the activity and notified the field work supervisor (FWS) who immediately directed the workers to replace the barrier. No fueled equipment entered the area before the control was correctly established. The error occurred even though the FWS had briefed the requirement during the pre-job meeting for the work. Contractor management suspended the work and is investigating the event.

Aging Structure Stabilization: Contractor personnel have completed work to fill settling tank 241-Z-361 with grout. This completes work on two of the three underground structures that are currently being stabilized to eliminate their risk of collapse, which could cause a release of radioactive material to the atmosphere (see 5/8/2020 report). At the final crib, workers attempted to free an obstruction (see 11/6/2020 report) in the riser which the project hoped to use for grouting and inspected a potential alternative location for a penetration that could be used to support grout introduction. However, efforts to free the obstruction failed and the investigation determined that the alternate location could not be easily used for grouting. Work is paused while the contractor re-evaluates their approach.

During the second and final grout placement in tank Z-361, contractor personnel observed dirty liquid leaking from the gasketed joint between the grouting equipment and riser flange, and from penetrations in the riser that supported the worker's use of borescopes. Surveys of the liquid found that radioactive contamination levels were at least twice the allowed limit for the work. Workers exited the area immediately, leaving the ventilation on the riser running until re-entry could be approved by radiological control personnel and management. During recovery actions later in the day, workers identified that liquid was also leaking from a low point in the ventilation hose between the riser and the negative air machine that was left running. At an in-progress ALARA review held afterward, attendees noted that no worker contamination occurred and that airborne radioactivity remained within the protection factor of the respiratory protection used by the workers. The contractor is currently working to determine the nature and location of the material and contaminants in the ventilation hose and around the tank riser, and has covered the spills with clean gravel to prevent wind-born dispersal of the material.

Waste Encapsulation and Storage Facility (WESF): DOE has approved Critical Decisions 2 and 3 for the WESF Modification Project. This approval allows the project to move forward with WESF facility modifications. The modifications integrate with the ongoing Cask Storage System and Capsule Storage Area Projects to support eventual relocation of the WESF cesium and strontium capsules from the WESF pool to dry storage.