

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 29, 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 29, 2021

Tank Farms: A DOE Senior Review Board (SRB) met to evaluate a change to the Tank Farm Documented Safety Analysis (DSA). This proposed change is extensive and adds an addendum to the DSA that analyzes hazards and specifies controls for safe operation of the Tank Side Cesium Removal (TSCR) system. Additionally, it makes necessary modifications to other sections of the DSA to support the TSCR system interface with the systems at AP tank farm. Similar to current DSA, the revised analysis determined that the most significant hazards result from fires and explosions caused by the accumulation and ignition of flammable gases, waste transfer leaks, and other radiological releases caused by internal or external events, or natural phenomena hazard events. The change identifies nine new safety significant systems, structures, or components, nine new specific administrative controls, and three safety program key elements to control the TSCR system hazards. In many cases, the new controls for the TSCR system are similar to existing controls for other Tank Farm systems. Additionally, the change expands the scope of the existing Tank Farm transfer primary piping control to include the interface piping and other Tank Farm piping systems that support TSCR operation. A specific administrative control is also proposed that precludes the removal of certain cover blocks on AP-102 and AP-106 tank piping pits without establishing the conditions necessary to protect workers from leaks that could occur if waste is misrouted from the Waste Treatment Plant. The SRB determined that there is an open question regarding to the standards used for flammable and explosive controls and decided to delay their vote until after the question is resolved.

The Tank Farms Operations Contractor (TOC) continues their retrieval of waste from tank AX-104. Based on the specific gravity readings, it appears that the contractor is reaching the capability limit of the current retrieval method. The tank is approximately 77% retrieved.

Tanks Side Cesium Removal System: A TOC Joint Test Working Group (JTWG) met to review the test procedure that will be used for cold operational acceptance testing of the TSCR system. The test procedure will leverage procedures that the TOC is developing for operation of the facility. This approach will provide a controlled opportunity for evaluation and improvement of the procedures, and also provide operators training in their use before they are used for hot testing or operations. The JTWG voted to conditionally approve the test procedure.

Liquid Effluent Retention Facility (LERF): Work crews staged a mockup to support an ongoing Joint Review Group (JRG) review of the radiological survey procedures that will be used while preparing to replace the LERF basin 44 cover. High contamination levels are anticipated. During the mockup, the workers demonstrated the intended method for removing their outer set of personal protective clothing after exiting the basin. To reduce the potential for contamination spread, workers will stand in a catch basin while doffing assistants cut away their outer coveralls. The JRG also evaluated how the workers would respond to abnormal events and where the workers would receive their final exit surveys with a personnel contamination monitor. The JRG will meet next week to continue their evaluation of the work package.