

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 29, 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 July 29, 2022

Tank Side Cesium Removal Project (TSCR): While preparing to blow down one of the ion exchange columns (IXCs) to support its replacement, operators attempting to verify the position of a pneumatically operated valve (POV) noted the visual indicator marks did not align with the electronic position indications. Verification of the affected POV is necessary to ensure the accomplishment of a successful blowdown to remove liquids that can generate flammable gases. Without the means to visually verify the POV position, operators paused work and secured the system. During a subsequent review of the relevant documentation, TOC personnel identified a gap in the IXC blowdown technical evaluation; this requirement was only identified for two of the three IXCs. As a result, one of the two IXCs removed after the first batch could potentially have not been blown down correctly. TOC personnel declared a Potential Inadequacy of the Safety Analysis, paused TSCR operations, and restricted access to the affected IXC while they amend the technical evaluation and determine appropriate recovery actions.

Tank Farms: TOC personnel have continued to perform borescope inspections of transfer line encasements after the discovery of standing water and corrosion in a transfer line encasement (see 6/3/22 and 6/17/22 reports). Based in part on this data, TOC personnel have proposed use of compressed air in transfer line encasements to dry these spaces and slow degradation. A resident inspector observed the process hazards analysis and control selection meetings for this new activity, which uses similar methods and controls as pneumatic testing of encasements. Based on the risk to workers, TOC engineers propose to credit compressed air relief devices and primary piping of the transfer lines to prevent pressurized radiological or chemical release.

222-S Laboratory: Two resident inspectors observed a pre-job meeting for a transfer of liquid waste from tank 102 in the laboratory's 219-S waste facility to double-shell tank SY-101. The transfer requires coordination with Tank Operations Contractor (TOC) personnel who operate under a separate procedure. During the Field Work Supervisor's brief, a laboratory operator noted that a control and indication panel used for the procedure had experienced three intermittent power losses in the last day and expressed a concern that the power losses would introduce some level of uncertainty into the transfer. The acting laboratory operations manager stated that the transfer could go forward and would be terminated if the panel lost power. However, operators involved in the meeting further noted that the panel was the primary control point for the transfer pump and expressed a further concern that they would not be able to respond without power to the panel. Based on that information, the manager appropriately decided to delay the transfer pending resolution of the control panel power losses.

Waste Encapsulation and Storage Facility: The contractor's Hazard Review Board (HRB) met to evaluate a work package that will be used to remove the existing shielded storage tank located in G-Cell. The tank is being removed to make room for installation of new equipment. A resident inspector observed the HRB and noted it was rigorous, thorough, and conducted professionally. The HRB voted to approve the work package with comments.