

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 18, 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 March 18, 2022

DNFSB Staff Activities: Members of the Board's technical staff met with DOE representatives to discuss site DOE processes for reviewing and approving safety basis documents.

Pacific Northwest National Laboratory, Radiochemical Processing Laboratory (RPL): A system engineer discovered that the location for measuring residual pressure of a fire suppression system riser had been moved to a location that was not compliant with the facility Technical Safety Requirements (TSRs). Based on current calculations, measurement at the new location is expected to bound results for the original location and is compliant with both National Fire Protection Association (NFPA) 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*, and the wording of the TSR surveillance requirement. However, it was not consistent with the explicit location identified in the TSR basis discussion. The system engineer and Unreviewed Safety Question reviewers did not note the conflicting direction when the associated maintenance procedure was modified in January 2021. Facility management subsequently determined that the lapse of time since the residual pressure was measured at the correct location exceeded the maintenance period plus allowed grace time. Consequently, they reported a TSR violation. Facility operations declared the riser inoperable, established a fire watch in the area covered by the riser, and contacted Hanford Fire Department personnel to re-perform the inspection in compliance with the facility's TSRs.

Tank Farms: The contractor completed a combined event investigation/cause analysis for the U Farm direct push bore incident (see 3/11/22 report). The apparent cause of the misplaced push was the failure to flow down a required unit conversion to the subcontractor. Planned corrective actions include strengthening requirements flow down, identifying past bore locations to determine if similar errors were made, and submitting an Operating Experience/Lessons learned report.

Plutonium Uranium Extraction Plant (PUREX): Project personnel completed their root cause evaluation of a chemical spray event that occurred at the PUREX 211A facility (see 11/19/2021 report). They determined the event was caused by a "failure to follow established processes, procedures, and guidelines during preparation and execution of the work package and activities." DOE field office oversight personnel subsequently determined that the evaluation was inadequate and rejected the contractor's request to close the associated occurrence report.

105-KW: A 42,000-pound ion exchange column (IXC) suspended from the transfer area bridge crane contacted a shield cask cover support frame attached to the building structure. The incident occurred when the signalman became distracted while receiving directions from the rigging evolution designated leader and failed to direct the crane operator to stop the crane movement before it contacted the frame. The crane's control system sensed the contact and stopped. The work team subsequently evaluated the situation, determined that there was no damage, and completed the movement of the IXC to its installation location.