

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 9, 2019

TO: Christopher J. Roscetti, Technical Director
FROM: B. Caleca and P. Fox, Hanford Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending August 9, 2019

DNFSB Staff Activity: A DNFSB staff review team participated in a teleconference with ORP and Tank Farm Operations Contractor personnel to perform a factual accuracy review of the staff observations and related DOE positions developed during their review of the Tank Farms DSA.

Tank Farms: The Safety Basis Approval Authority approved an amendment to the Tank Farms DSA that supports performance of waste retrieval activities in AX Farm. The amendment establishes three new LCOs to protect the safety function of the hose-in-hose primary hose assemblies and associated isolation valves during retrieval activities. The AX Farm retrieval process will use substantial amounts of hot water. The first new LCO protects system components by preventing exposure to high temperatures due to a failure of temperature control in the water heating system. The second similarly protects in-pit system components from over-temperature conditions due to a loss of control of the pit heaters. The final new LCO prevents the loss of safety function of the system components due to exposure to freezing conditions during waste transfers. AX Farm retrievals are expected to start later this month.

222-Laboratory: The Corrective Action Review Board (CARB) met to evaluate the apparent cause analysis performed in response to a fire in one of the laboratory's thermal desorption units (TDU) (see 7/12/2019 report). The apparent cause analysis determined that the direct cause of the fire was condensate discharge from an air conditioning unit (ACU) located above the TDU. The analysis also determined that the condensate discharge resulted from a component failure in the ACU, the TDU was inappropriately placed in a location where it could be wetted and, in this case, the contractor processes designed to identify and correct this type of equipment deficiency were not effective. The analysis' corrective actions focused on the development of a technical evaluation to identify appropriate controls for the location of equipment and maintenance of ACUs, and identifying similar conditions associated with other ACUs. Additional corrective actions include modifying round sheets and procedures to specifically include ACU inspections and recovery of the room and equipment affected by the fire. The CARB approved the apparent cause analysis after directing that the corrective actions include the development of internal lessons learned and additional communication of the issue and necessary actions to the workforce. The resident inspector notes that the corrective actions were narrowly focused on ACUs and that it might be appropriate to conduct a broader extent of condition. Additionally, the analysis did not fully address the programmatic failures that underlie the event.

Plutonium Finishing Plant (PFP): While performing demolition and size reduction work, several workers in the demolition zone observed a spurt of liquid described as milky white or faintly purple, followed by a solvent like smell. Work in the demolition zone was paused, fixative was applied to the demolition location, and workers made an orderly exit. Based on the chemical's description and the chemical inventory history of the facility, project personnel believe a bucket of fixative that was used prior to open air demolition, but that was not supposed to remain in the facility, was the cause of the release.