

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 29, 2023

TO: Katherine R. Herrera, Acting Technical Director
FROM: B. Caleca, P. Fox, N. Huntington, and P. Meyer, Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending December 29, 2023

REDOX Facility: The DOE Senior Review Board (SRB) met to review a revision of the facility safety basis. This revision allows certain intrusive risk mitigation work, such as the removal of the plutonium recovery cage. It also incorporates the latest non-destructive assay (NDA) data, which CPCCo uses to show that liquid criticality scenarios are not credible for the planned work. As a result, the liquid criticality hazard has been screened out and no criticality controls are credited for this scope. However, CPCCo has not completed NDA work in all areas of the facility with fissile material holdup. Consequently, they are required by contract to assay these areas prior to expanding the work scope. As a further precaution, the safety basis prohibits draining of high fissile content liquids in those areas. This revision does not resolve an existing potential inadequacy of the safety analysis regarding use of a transportable criticality alarm system without a safety designation or technical safety requirement (see 7/28/2023 report). The PISA will be resolved by a separate evaluation of the safety of the situation. The SRB decided that the safety basis revision is ready for Safety Basis Approval Authority review and approval.

A worker was splashed with water, which leaked out of a glove bag during asbestos abatement work in a contamination area. Radiological control technicians surveyed the person's face and personal protective equipment (PPE). Finding no radiological contamination, they then used a safety shower to wash away potential asbestos contamination. During a following critique, workers noted that the glove bag was located above the worker, requiring them to perform overhead work. While the worker was wearing a hood, they were only required to use safety glasses and a half-mask to protect their head and face for this activity. A similar event in 2019, using the same PPE, had led to a worker's face being contaminated. In addition, the glove bag had not been leak tested and communication issues hampered egress of other work crews during the event. The work package was suspended pending resolution of the issues.

Central Waste Complex (CWC): While performing a routine surveillance, a worker identified an unexpected residue under a waste drum. The Shift Operations Manager secured the facility and entered the appropriate limiting condition for operation. Operations personnel developed necessary work instructions and then re-entered the building to investigate the condition of the container. They determined there was a breach in the safety-significant drum. The container was overpacked. Radiological and chemical surveys performed during the work did not detect any contamination release. The container had been previously overpacked after retrieval from the burial grounds in 2008 and has been stored in one of the waste storage buildings since then.

222-S Laboratory: A chemical technician (CT), who was bagging waste from a hood, felt a droplet on their cheek. Because hydrofluoric acid (HF) is used in this hood, responders conservatively assumed the droplet was HF. The area was flushed, and calcium gluconate was applied. The individual was transported to a hospital for medical evaluation. The CT did not experience symptoms from the potential dermal exposure and was released from the hospital, without restrictions. A survey of the affected area did not detect any radiological contamination.