

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 14, 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 October 14, 2022

Board Activities: The Board received a briefing from DOE regarding changes in DOE's proposed approach to address previously defined Board concerns related to 242-A evaporator seismic and fire hazards. DOE noted that the recently revised seismic hazard is less than indicated in previous analyses, eliminating the need for engineered seismic controls. DOE also stated that a fire hazard control previously proposed to the Board, which would use an engineered system, is not feasible. Consequently, they intend to use a specific administrative control instead. The Board continues to evaluate DOE's position.

Waste Treatment Plant (WTP): Plant operations personnel started a heat up of Low-Activity Waste (LAW) Facility melter #1 over the weekend. Since the melter is empty and does not contain a glass pool to conduct electricity for Joule heating, the initial heat up is performed using a set of temporarily installed startup heaters. These heaters will raise the melter to operating temperature, after which frit will be added to establish the glass pool allowing the transition to Joule heating. However, shortly after commencing the heat up, a power supply for one of the startup heaters failed. Operators terminated the heat up to establish conditions for investigating the problem. Facility personnel are working with the power supply vendor to determine the cause of the failure and repair the unit. Heat up will resume after the problem is resolved.

DOE notified the WTP contractor of several ongoing areas of concern, which could result in inefficient melter heat up or prevent a systematic transition into the facility commissioning process. DOE also recognized ongoing actions to improve two of the areas, which were configuration management and the ability to effectively perform event investigation and causal analysis processes, and then identify and implement effective corrective actions in an operational environment. However, DOE further stated that the contractor needed to further mature the programs to mitigate DOE concerns. The resident inspectors note, in addition to the impacts stated by DOE, the ongoing weakness in both areas can introduce unobserved, latent conditions, which, in certain circumstances, can adversely impact safe operations, as well as efficiency.

242-A Evaporator: Workers removed a section of pipe to support the modification of an air system, which is used to actuate the evaporator system safety-significant dump valves (see 06/24/2022 reports). The pipe was attached to a vent valve, which had been locked open to prevent inadvertent operation of the dump valves while performing other work associated with the dump valve actuators. The resident inspectors note that, although the piping removal did not immediately result in an unsafe condition, information obtained during a fact-finding meeting indicated some maintenance personnel have a misunderstanding of lock-out/tag-out program controls and requirements since they did not consider the condition of the valve prior to performing the work. Additionally, the incident points to a failure of the facility's work release processes, which should have precluded the coincidental work without establishing appropriate conditions for working both jobs. Lastly, had it been conducted, a pre-work, supervisory, walkdown could have prevented the error.