

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 13, 2021

TO: Christopher J. Roscetti, Technical Director
FROM: A. Gurevitch, M. Bradisse (acting), and C. Berg (acting), Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending August 13, 2021

35-Account Material: This week, CNS identified that specific 35-account material—paint primer whose formulation had been changed by the manufacturer—was used for an unknown amount of time for production activities without an unreviewed safety question (USQ) review. This review by safety analysis engineering personnel ensures the new formulation does not introduce any unanalyzed hazards into the operations. Based on NPO facility representative questioning during the event investigation and critique, CNS personnel indicated that the specifics on how the event occurred were still unknown. However, CNS committed to an extensive suite of actions following the event, including (1) completing the USQ review for the primer material, (2) conducting an extent of condition review to ensure additional 35-account material was not being used without a USQ review, and (3) reviewing the applicable procedure to prevent recurrence (i.e., ensuring the procedure language indicates 35-account material may not be released to the production line without a USQ review). Furthermore, CNS plans to conduct a causal analysis for this event.

Safety Basis: Last week, CNS declared a potential inadequacy of the safety analysis (PISA) related to weight discrepancies between special tooling actual weights and those documented in the safety analysis (see 8/6/21 report). This week, the PISA was determined to represent a USQ due to an increase in the consequence and probabilities of certain accidents.

High Pressure Fire Loop (HPFL): Since a major leak occurred in the HPFL system a few weeks ago (see 7/23/21 report), the resident inspectors have noted several minor incidents related to system performance, potentially related to residual leaks in the system following the event. For example, the jockey pumps—meant to maintain pressure in the system to prevent unnecessary diesel pump cycling—are cycling more frequently than usual. Earlier this month, this cycling caused one of the jockey pump breakers to trip and shut the pump off. Without the availability of this jockey pump to help maintain system pressure, the diesel pump started as designed. CNS initially categorized the event as an unexplained start of the diesel pump and entered the appropriate limiting condition for operation (LCO). However, upon investigating further and determining the cause of the event, the CNS facility representative declared that this constituted an explained start, and determined that the LCO could be exited.

This week, the same diesel pump automatically started again, at which point CNS personnel entered the same LCO. It was determined that the jockey pump was functioning and not the cause of this diesel pump start. After CNS personnel reset the diesel pump, it started again within ten minutes, at which point CNS personnel reset the pump a second time. They categorized this event as a performance degradation of a safety class system when required to be operable. Maintenance personnel elected to start the maintenance pump to help ensure the diesel pump did not start again. As part of the LCO, CNS then surveilled the system leak rate, which was approximately two-thirds of the operability threshold documented in the technical safety requirements. CNS continues to troubleshoot the system and reduce system leaks.