

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 29, 2023

**TO:** Katherine R. Herrera, Acting Technical Director  
**FROM:** A. Holloway and C. Stott, Resident Inspectors  
**SUBJECT:** Pantex Plant Activity Report for Week Ending December 29, 2023

**Nuclear Explosive Operations:** Last week, CNS production technicians executed a nuclear explosive engineering procedure (NEEP) after an assembled unit failed certain required vacuum chamber testing. CNS transported the unit to a nuclear explosive bay and performed partial disassembly, component replacement, and rebuild operations to address the failed test. Later in the week, while performing the setup steps for a subsequent unit in the same nuclear explosive bay, production technicians could not locate a certain piece of tooling used during NEEP operations. The technicians subsequently determined that the tooling had been inadvertently left within the previous unit. CNS process engineering issued another NEEP to retrieve the tooling, which the production technicians successfully accomplished. The resident inspectors observed these operations, including the retrieved tooling from within the unit. The resident inspectors note that the procedural step within the first NEEP instructs the technicians to remove the tooling, “if necessary,” as opposed to language—such as “ensure”—to positively instruct the technicians to remove the tooling from the unit before continuing assembly operations.

**Configuration Management:** Earlier this year, CNS closed and locked two interconnect sectional post-indicator valves (PIV) on the high pressure fire loop (HPFL) to permit excavation associated with locating a domestic water system leak. Initially, CNS planned to impair the PIVs for less than one day; however, site personnel left the work order open and the PIVs closed for several subsequent months. This week, while reviewing open work orders, the CNS fire systems maintenance section manager noted the duration of this work order and questioned whether the PIVs needed to remain closed. Due to this inquiry, CNS fire protection engineering (FPE) identified that the sectional PIV positions were not correctly reflected in either HPFL status board (i.e., separate configuration management systems maintained by the Operations Center and the CNS HPFL facility representative). Of note, FPE was consulted prior to work execution to ensure operability of the HPFL system to perform its safety function in this altered configuration.

At the event investigation, CNS participants noted that (1) the scope of the template work order used specifically disallowed interconnect sectional PIV manipulation and (2) craft workers and supervisors should have identified this discrepancy during the pre-job briefing. Furthermore, CNS identified gaps related to communication of PIV changes and updating the associated status boards. The Operations Center was not informed of the PIV closure and, given the expected short duration, the HPFL facility representative status board was also not updated.

In response, CNS updated the HPFL status boards to reflect current valve configurations, and FPE personnel analyzed the HPFL system to ensure it remained operable for every valve manipulation since the two sectional PIVs were closed. Additionally, CNS plans to develop a work order to restore these PIVs to their normally open and locked position, and intends to delete the template work order used—as it could be misapplied in the future. CNS will develop a new work document with a more robust notification process to the Operations Center and Emergency Services Dispatch Center.