

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 13, 2023

TO: Timothy J. Dwyer, Acting Technical Director
FROM: A. Holloway, C. Stott, and C. Berg (acting), Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending October 13, 2023

Technical Safety Requirement (TSR) Violation: During normal operations, prior to moving certain nuclear explosive configurations between facilities within the ramps, CNS production technicians place the units within an Enhanced Transportation Cart (ETC)—a safety class control that precludes consequences from various potential impact, thermal, and electrical hazard scenarios. To ensure the cart can perform its safety function, the approved transportation configuration requires the ETC door to be closed and latched. CNS developed a specific administrative control within the TSRs, requiring the assembly of the transportation configuration to be conducted by at least two operators.

Last week, while using an ETC to move a nuclear explosive between facilities, a production technician—not involved in the transportation activity—identified that the ETC door was open and subsequently closed it. During the investigation process, CNS participants did not attribute the open door to any specific cause but did confirm that the ETC door latching mechanism was functioning appropriately. However, due to the open ETC door during the transportation activity, CNS categorized the event as both a TSR violation and safety basis noncompliance. In response, CNS plans to conduct a causal analysis and develop corrective actions to prevent reoccurrence of the event, including consideration of procedural changes for all weapon programs to require two-person verification during ETC door closure.

Work Conducted Without Proper Evaluation: Earlier this year, CNS paused a lightning protection system (LPS) upgrade project when CNS Safety Analysis Engineering (SAE) personnel discovered that the work had not been routed through many of the various required safety evaluations, e.g., unreviewed safety question (USQ) and nuclear explosive safety reviews. CNS Project Engineering staff improperly exempted the work from these required safety evaluations by documenting the work scope as “routine maintenance” (see 6/23/23 report). The full project scope is expected to be evaluated using the CNS centralized review process requiring involvement from multiple organizations. In particular, the CNS Nuclear Explosive Safety organization—and SAE through the USQ process—would determine any restrictions for nuclear explosive operations in facilities undergoing construction.

Last month, a CNS Facilities Operations Manager identified that the upgrade project had resumed with work occurring on defense nuclear facility roofs during active nuclear explosive operations without such activities being evaluated through the USQ process. Upon discovery, the Facilities Operations Manager notified CNS Facility Representatives and the work on the facility roofs was paused at that time. During the investigation of this most recent instance, CNS SAE personnel noted that they had only evaluated the lift plan portion of the LPS upgrade, assuming that was the entire scope of work, but not the portion for conducting work on the facility roofs. The LPS upgrade work remains paused pending a USQ evaluation for the complete project scope. Also, CNS personnel discussed plans to conduct a causal analysis for this event to develop corrective actions to prevent recurrence.