

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 20, 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 20, 2023

Technical Safety Requirement (TSR) Violation: The Pantex TSRs include a specific administrative control (SAC) requiring a walker/spotter to *accompany* various loads during transport to ensure safe passage to the prescribed destination. Earlier this month, during an investigation concerning forklifts transporting multiple nuclear explosives with a single walker/spotter, NPO questioned whether the walker/spotter could perform all the required duties, including controlling ramp traffic, from within a loading dock while a portion of the load stayed in the ramp. Consequently, CNS declared a TSR violation for inadequate control of all loads despite procedural allowance for this particular forklift to walker/spotter ratio. While evaluating incorporation into applicable procedures, CNS will create a standing order requiring an additional walker/spotter when multiple forklifts move multiple loads. The resident inspectors noted that the SAC could be improved to clearly state the safety functions of the walker/spotter. CNS plans to reassess the SAC description and implementation within the safety basis.

Safety Basis: CNS Safety Analysis Engineering declared a potential inadequacy of the safety analysis last week upon formal notification from one design agency that they could no longer support the mechanical insult weapon response rules provided for one weapon program. While evaluating proposed operations within the newer vacuum chamber facility, new information emerged related to the mechanical insult weapon response threshold values (e.g., potential nonconservative assumptions regarding impactor head size and impact mitigation provided by materials within the unit). Until updated weapon response can be provided and control strategy adequacy determined at Pantex, CNS has instituted an operational restriction to prohibit all nuclear explosive operations on this weapon program, excluding transportation and staging.

Procedure Published without Proper Review: Last week, CNS Nuclear Explosive Safety (NES) discovered that a nuclear explosive operating procedure (NEOP) was published without their required review due to personnel selecting the incorrect organizations during the document review process. Immediately upon discovery, CNS Process Engineering reviewed hundreds of procedures and found two additional instances. Of the three identified NEOPs, CNS initiated a stop work event for the two in active status; CNS has since reviewed and reissued one document for production use. CNS found the third NEOP still in the document review process and will ensure that proper organizations are selected as the reviewing officials.

Nuclear Explosive Operations: CNS production technicians discovered that a certain nuclear explosive component was not in the correct orientation. Production technicians previously used special tooling to bend the component in a specified manner before further assembly operations. Upon receipt of the nuclear explosive into a nuclear explosive bay, the technicians discovered that the component was oriented incorrectly, paused operations, and notified the appropriate groups. As corrective actions, CNS entered the unit into the nonconformance process, will add a visual inspection quality hold point to verify proper orientation of the component, and will brief all applicable production technicians on using appropriate caution around this component.