

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 26, 2024

**TO:** Katherine R. Herrera, Acting Technical Director  
**FROM:** A. Holloway and C. Stott, Resident Inspectors  
**SUBJECT:** Pantex Plant Activity Report for Week Ending January 26, 2024

**Staff Activity:** C. Berg joined the resident inspectors to assess a nuclear explosive safety (NES) change evaluation, attend a training course, and walkdown facilities to assess fire protection system configurations. C. Stott traveled to Albuquerque, NM, to attend a training course.

**Nuclear Explosive Safety:** A NES study group convened this week to evaluate recovery activities for a nuclear explosive in a facility with water intrusion underneath the electrostatic dissipative flooring (see 12/08/23 report). CNS asserted that the dissipative functionality of the flooring could not be verified through testing; therefore, it cannot be credited within the safety basis to perform its safety function. The project team proposed a nuclear explosive engineering procedure that permitted partial assembly of the nuclear explosive—to a transportable configuration—and subsequent removal from the facility. The study group, project team, and Board's staff observed the proposed operations in a training environment. These particular assembly operations are currently not authorized at Pantex. The Board's staff questioned the proposed use of a localized electrostatic dissipative environment and the potential for unanalyzed electrostatic discharge hazards. In addition to this topic, the study group also discussed the use of procedural line throughs, the formality of input documentation provided by the project team, and whether the resulting nuclear explosive configuration would constitute an approved transportable configuration. The NES change evaluation will continue next week.

**Conduct of Operations:** Earlier this month, while installing three ballast weights on a nuclear explosive during assembly operations, CNS production technicians installed one of the components incorrectly (i.e., the ballast was inverted such that the chamfer edge was facing opposite of the expected configuration). CNS quality acceptance personnel discovered the discrepancy during a procedural hold point and nonconformed the unit. In response, CNS developed and executed a nuclear explosive engineering procedure to resolve the discrepancy, as well as briefed production technicians on the event and expectations for verbatim compliance with procedural steps. Furthermore, CNS process engineering plans to revise the nuclear explosive operating procedure to enhance directions for installation of the ballasts, including adding a requirement to view an additional illustration prior component placement.

In addition, last week, while de-engraving a particular weapon component per the operating procedure, CNS production technicians used the incorrect housing part during milling activities. The use of this incorrect equipment resulted in a greater depth for the milling bit, causing subsequent damage to the component (i.e., the milling bit removed more material than desired). While the operating procedure specifies the correct identifier for the housing part, both the engraving and de-engraving housings are kept in the same kit and look similar. In response to the event, CNS initiated a nonconformance report for the component, briefed the technicians on the event, and reiterated the importance of verbatim compliance. Also, CNS tooling and machine design personnel plan to assess potential options to apply unique identifiers to the housing parts to prevent a similar event.