

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 22, 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 October 22, 2021

Staff Activity: The resident inspectors observed demonstrations associated with the federal readiness assessment for restart of nuclear explosive disassembly operations on a certain weapon program that have been paused since 2019 due to internal charge generation hazards (see 6/11/2021 and 7/30/21 reports). Additionally, the resident inspectors attended briefings and deliberations on two nuclear explosive safety (NES) evaluations—a failed electrical test (below) and operations involving two additional weapon programs in the newer vacuum chamber facility.

NES Evaluation: In late August, while conducting an electrical resistance test as part of disassembly operations on a unit, production technicians obtained an abnormal reading indicating a potentially damaged component. CNS suspended the operations and placed the unit in a safe and stable configuration. In September, CNS and design agency representatives jointly determined the unit configuration met the anomalous unit criteria. As a result, a NES study group convened this week to evaluate the proposed process to continue disassembly of the unit. The project team presented a process mirroring currently approved operations, but without further electrical testing of the component in question. Furthermore, the design agency asserted—and provided evidence based on component testing—that the currently provided weapon response is still applicable. As a result, the project team determined that the current control strategy was adequate to ensure the safety of the proposed operations. The NES study group concluded its report with zero findings, deliberation topics, and minority opinions.

Technical Safety Requirement (TSR) Violation: Earlier this month, CNS craft workers performed preventive maintenance and surveillance activities on the fire protection systems in several nuclear explosive bays. Prior to conducting these activities, the CNS facility representative is required to enter appropriate limiting conditions for operations (LCO) and take the prescribed actions for each of the impacted facilities. Upon review of the completed work packages, a different CNS facility representative—i.e., the primary individual responsible for these facilities who was off duty at the time of the maintenance—determined that not all LCOs were entered prior to these work activities on certain bays, resulting in a TSR violation. For example, multiple LCOs were required to be entered for individual bays, but the one pertaining to the intentional override of the blast door interlock system was not entered. At the event investigation and critique, participants identified corrective actions to address this event, including facility representative retraining and briefings on attention to detail and work authorization requirements. Furthermore, CNS conducted an extent of condition review to assess appropriate LCO entry during similar activities and identified one additional noncompliance.

Electrostatic Discharge (ESD) Event: CNS continues to investigate mechanisms resulting in the ESD event that occurred in a nuclear explosive cell in late August. Earlier this month, CNS executed a nuclear explosive engineering procedure to remove the high explosive mat from facility where the event took place (see 10/8/2021 report). Upon testing the static dissipative properties of the mat, CNS determined this week that it did not contribute to the event.