

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 16, 2025

TO: Technical Director
FROM: Pantex Plant Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending May 16, 2025

Violation of Technical Safety Requirements (TSR): This week, PXD facility engineering identified that a surveillance requirement for special-purpose facility equipment was not satisfied. The surveillance requirement verifies that an alarm and automatic shutdown feature of the equipment functions at a predetermined setpoint for load imbalance. Per the safety basis, load imbalance during these operations can result in potential failure of the equipment and impact to the nuclear explosive. PXD facility engineering personnel discovered that the equipment setpoints were changed sometime between the performance of the initial factory acceptance test in 2018 and the site acceptance test in 2020. During this time, the manufacturer changed the setpoints such that the alarms and shutdown feature would not initiate until the load imbalance slightly exceeded the limit prescribed within the TSRs. After discovering that the results of the surveillance requirement were not adequate to identify an inoperable condition, PXD declared a violation of the associated TSR for this piece of equipment and initiated an administrative stop-work event to prevent its use. PXD personnel plan to correct setpoints for the alarm and automatic shutdown features, revise the testing procedure to satisfy the surveillance requirement, and revise the vendor manual to reflect adequate setpoints for testing.

Nuclear Explosive Safety (NES) Change Evaluation (NCE): This week, the resident inspectors attended an NCE for proposed changes to the electrical bonding strategy for nuclear explosive operations on a specific weapon program. PXD proposed these changes due to the suspension of a previous NCE for the continued use of electrostatic dissipative tiles, which may provide inadequate electrical grounding to certain equipment (see 2/21/2025 report). The NNSA Chair of this current NCE paused the activity due to incomplete information. The project team had not formally contacted the associated design agency for an assessment of the proposed changes. The NNSA Chair stated that the NCE could reconvene if this information is obtained in the next few weeks; otherwise, the NCE would again be suspended.

Unplanned Power Outage: During the weekend, PXD reported an unexpected loss of power in multiple nuclear explosive bays. This event was similar to another recent occurrence (see 3/7/2025 report) in which PXD determined that the cause of the power outage was a fault in one of the electrical bus ducts that supply power to the affected facilities. During the event investigation, PXD infrastructure personnel relayed that the bus ducts are inspected every three years, but these inspections are only visual evaluations of the bus duct exterior. As a result of this discussion, PXD infrastructure personnel discussed plans to perform an extent-of-condition review of other bus ducts using infrared detection equipment to identify increased electrical resistive heating resulting from equipment degradation. As part of the recovery from the power outage, PXD re-entered the facility where technicians had recently entered immediate action procedures due to a peculiar odor from a nuclear explosive (see 5/9/2025 report) to post a required fire watch. Before stationing the fire watch, PXD received concurrence from PXD personnel in facility management, fire protection, safety analysis engineering, and NES organizations. Currently, PXD has not made an anomalous unit determination for this unit.