

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 24, 2023

TO: Christopher J. Roscetti, Technical Director
FROM: C. Berg, Acting Resident Inspector
SUBJECT: Pantex Plant Activity Report for Week Ending March 24, 2023

Staff Activity: J. Anderson, M. Randby, and F. Ruz-Nuglo were on-site to observe and evaluate the nuclear explosive safety study group training and orientation for the operational safety review of one weapon program.

Out-of-Tolerance Electrical Test: This week, production technicians used Category One electrical equipment (i.e., a resistance tester) within a nuclear explosive bay to perform an electrical test on a nuclear explosive from a certain warhead program. Per the nuclear explosive operating procedure—prior to conducting the test on the unit—the production technicians performed a self-check of the electrical tester and cable, obtaining an out-of-tolerance value (i.e., the electrical tester provided an *overrange* result). The electrical tester self-check provides confidence that the equipment is behaving as expected and will provide only intended electrical stimuli to the nuclear explosive.

Following this step in the operation, the production technicians discussed the result from the electrical equipment self-check with another technician within the facility and, based on a perceived nuance within the procedure, they inappropriately determined that the tester output value was correct. Consequently, they did not execute the *Trouble Call* process per Pantex operating procedures and continued with the electrical test of the nuclear explosive. Subsequently, the production section manager reviewed the nuclear explosive operating procedure, identified the discrepancy, paused operations, and notified appropriate personnel. In immediate response to the event, CNS placed the electrical tester and cable out-of-service and provided the equipment to CNS Engineering for further evaluation. Furthermore, during the event investigation, CNS personnel identified a single corrective action to develop a nuclear explosive engineering procedure to permit—following the necessary reviews and approvals—a retest of specific electrical circuitry within the unit.

Recommendation 2019-1: As part of Recommendation 2019-1, the Board identified concerns with several legacy open conditions of approval (COA) that existed at Pantex for over a decade. In its implementation plan, NNSA committed to disposition these legacy COAs, including replacing wood-framed false ceilings in two nuclear explosive cells (see 10/7/22, 12/30/22, and 1/13/23 reports). Of note, the false ceiling replacement also permits removal of a secondary wet pipe fire suppression system within these two facilities.

Earlier this month, CNS completed construction activities in the remaining cell, replacing the wood-framed false ceiling with one fabricated of metal, and returned the facility to service. This considerable effort represents a significant safety improvement, removing unnecessary combustible and impact hazards from these facilities. In November 2022, NPO concurred with a CNS proposal to remove the COA and planned improvement for the false ceiling replacement from the safety basis—as well as close the associated Recommendation 2019-1 implementation plan action—upon completion of these construction activities.