

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 30, 2019

TO: Christopher J. Roscetti, Technical Director
FROM: Zachery S. Beauvais and Miranda McCoy, Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending August 30, 2019

Nuclear Explosive Operations: Production technicians (PT) performed a supplemental detonator cable assembly (DCA) electrical resistance test on a unit that was previously observed to have a shorter than expected DCA (see 5/3/19 report) per a nuclear explosive engineering procedure (NEEP) to evaluate the potential for damage. The test showed that there were no indications of discontinuity within the DCA. This reading allows CNS and design agency personnel to proceed with developing a process to safely disassemble the unit.

PTs executed a NEEP to address a stuck case component encountered during disassembly operations on a separate weapon program (see 7/12/19 and 8/23/19 reports). Per the provisions of a recent nuclear explosive safety (NES) change evaluation (NCE), CNS NES personnel observed the PTs execute the procedure. While the PTs were able to successfully separate the stuck case component from the unit, it remained lodged in the installed tooling fixture. The PTs paused operations after this condition was discovered. CNS and design agency personnel will develop a separate process to address this condition.

While performing an evaluation at a quality hold point, CNS production personnel identified that the readings PTs had recorded for an electrical test of a subcomponent were outside the allowed tolerances. The operating procedure requires PTs to pause in the event that they receive out-of-tolerance electrical readings during this test; however, the PTs proceeded to perform several steps prior to the identification of the discrepancy. Both involved PTs stated that they received an allowable reading but likely made an error while recording the results of the test. Operations on this unit remain paused at an approved stopping point until an NCE can be performed to authorize a second electrical test of the subcomponent.

Documented Safety Analysis: CNS safety analysis engineering (SAE) recently identified two potential inadequacies of the safety analysis (PISA). The first condition stems from previously unidentified impact hazards due to drops of the task exhaust hose during operations on one weapon program. CNS SAE later determined that the inadequacy represented an unreviewed safety question. CNS SAE identified operational restrictions to prohibit the use of a specific task exhaust stand, the same piece of tooling involved in a previous issue related to electrical continuity (see 7/12/19 report), during operations on this program.

The second PISA relates to discrepancy with the weapon response rules used for a specific mechanical impact hazard, affecting one weapon program. During a review conducted as part of an ongoing corrective action plan, CNS SAE identified that the weapon response used in the approved hazard analysis report was not updated correctly following a previous weapon response change. CNS SAE determined that operational restrictions were not necessary as an implemented control would adequately address this scenario. Operations involving this weapon program remain paused due to a separate issue related to internal charge generation hazards (see 1/18/19 report).