

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 20, 2017

**MEMO TO:** Steven Stokes, Technical Director  
**FROM:** Ramsey Arnold and Zachery Beauvais, Pantex Site Representatives  
**SUBJECT:** Pantex Plant Report for Week Ending January 20, 2017

**DNFSB Staff Activity:** J. Abrefah, D. Bullen, C. Berg, A. Hutain, and D. Minnema conducted the onsite portion of a safety culture improvement review. P. Foster discussed the plant's electrical distribution system with engineering personnel and observed the first in a series of planned Nuclear Explosive Safety (NES) Change Evaluations (NCE) to authorize the use of a new tester on specific weapon programs. General design of the tester was previously approved by a NES study group. The NCE documented no findings against the NES standards.

**Readiness Verification (RV):** CNS personnel continued a RV review in preparation to start-up alteration and restart disassembly operations on one weapon program (see 1/13/2017 report). RV activities this week included a drill to test the knowledge of the production technicians (PT) on their response to an abnormal event. A site representative observed this activity. Specifically, the drill scenario simulated the response to hearing a loud, unexpected noise during weapon disassembly operations. The PTs demonstrated knowledge of the immediate action procedures, simulated the appropriate notifications, and the PTs and the section manager in the facility demonstrated knowledge of plant level procedures governing the allowances for personnel to remain in a nuclear facility following such an event.

**Loss of Power:** CNS conducted a critique on the partial loss of power that occurred late last week during testing of a breaker recently installed on the 115 kV electrical distribution system (see 1/13/2017 report). DNFSB staff members, including a site representative, attended the critique. A fact finding team determined that current transformer leads from the electrical utility were not landed prior to energizing the circuit. Consequently, an installed differential voltage relay detected unbalanced currents, and functioned as-designed to trip all 115 kV breakers. Possible miscommunication between CNS project planners, electrical subcontractors, and the electrical utility allowed the circuit to be energized prior to landing the leads.

**Charge Generation:** The cognizant design agencies released weapon response information related to the potential consequences of charge generation during certain case removal steps. CNS requested the weapon response information following the discovery of unexpected sparking during disassembly operations, resulting in a potential inadequacy of the safety analysis (see 12/30/2016 report). The weapon response information states that while the potential for charge generation exists, possible insults from such charges would not result in hazardous consequences. The additional information allowed safety analysis engineering personnel to determine that the condition represents a negative unreviewed safety question. CNS process engineering is developing a nuclear explosive engineering procedure to resume operations.

**Cell Concrete:** A testing subcontractor performed required seven-day break tests on sample cylinders prepared during the placement of concrete in two nuclear explosive cells (see 1/13/2017 report). The average compressive strength of the cylinders for each cell exceeded the 4000 psi strength requirement. The seven-day break results are a preliminary indicator of the concrete's strength, however project acceptance is based on a break test to be conducted 28 days following initial placement.