

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 14, 2023

**TO:** Christopher J. Roscetti, Technical Director  
**FROM:** C. Stott and C. Berg (acting), Resident Inspectors  
**SUBJECT:** Pantex Plant Activity Report for Week Ending April 14, 2023

**Staff Activity:** C. Stott reported for duty as the Pantex Resident Inspector on April 12, 2023. The resident inspectors conducted facility familiarization walkdowns, including observing jockey pump replacement activities for the high pressure fire loop and examining Category One electrical equipment that recently provided an out-of-tolerance value during self-check operations (see 3/24/23 report). Additionally, CNS Process Engineering and Safety Analysis Engineering met with the resident inspectors, providing an overview of the proposed nuclear explosive operations and safety control strategy to continue disassembly of the unit currently supported by a malfunctioning workstand (see 3/31/23 report).

**Alternate Methodology:** Members of the Board's staff and the resident inspectors met with NNSA personnel to continue discussions on the development of the Pantex-specific alternate methodology, which is intended to replace DOE Standard 3009 and 3016 (see 9/30/22 report).

**Safety Basis:** This week, while reviewing an engineering calculation, CNS personnel identified a discrepancy within the Vacuum Chamber and Manifold Safety Analysis Report. The safety basis used a lower capacitance value for the Vacuum Chamber System employed within the newer special purpose facility. When using the correct higher capacitance value for the equipment, the potential electrostatic discharge (ESD) hazard to a nearby nuclear explosive increases in severity. Consequently, CNS Safety Analysis Engineering declared a potential inadequacy of the safety analysis but identified no operational restrictions due to the existing safety analysis adequately controlling the hazard scenario. Per the current weapon response provided by the design agencies, the more severe ESD hazard to the nuclear explosive would still screen and not require any additional controls.

**Operating Procedures:** While performing a routine drawing review, CNS Process Engineering found that a torque requirement for installation of a weapon component had not been appropriately flowed into the operating procedures. CNS conducted an extent of condition review in response to this discovery and identified all affected units. At the current time, CNS and the design agency are working to resolve the discrepancy (i.e., deviate the requirement for affected units and adjust the torque requirement—to match the current value prescribed within operating procedures—for future assembled units).

**Conduct of Operations:** Last week, when performing validation activities within a training environment for a newly developed procedure, a production technician lifted a fixture by hand into a container—to reconfigure it for the next suite of operations—and dropped the equipment, resulting in an injury to their finger. As identified during the event investigation, the fixture exceeded the 40-pound weight limit and should have been lifted via a hoist. As a corrective action for the incident, CNS will brief all production technicians on weight limits during lifting operations. Furthermore, Weapons Training personnel will be briefed on the use of hoists during unit reconfiguration activities.