

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 26, 2015

**MEMO TO:** S. A. Stokes, Technical Director  
**FROM:** Jason Anderson, Acting Pantex Plant Site Representative  
**SUBJECT:** Pantex Plant Report for Week Ending June 26, 2015

### **Potential Inadequacy in the Safety Analysis (PISA) for Electrostatic Discharge (ESD)**

**Hazard:** On June 19, 2015, Consolidated Nuclear Security, LLC (CNS) declared a PISA on two separate weapon programs when a vulnerability to a potential ESD hazard was discovered in a common component. All operations on the two programs were paused. For both weapon systems of concern, there is the potential that corrosion has altered the electrical properties of an electrical isolation component that is exposed during nuclear explosive operations, and may not provide adequate worker protection against all postulated ESD threats. CNS is currently awaiting an Information Engineering Release from the Design Agency before performing an Unreviewed Safety Question determination to ascertain whether this information is within the currently analyzed safety envelope. If CNS finds the evaluated situation to be outside the current safety analysis, CNS will consider developing additional controls, which may require a nuclear explosive safety evaluation, and document the final revised control suite in a Justification for Continued Operation, which will be submitted to the NNSA Production Office for approval prior to operations resuming.

**Deluge Fire Suppression System Limiting Condition for Operation (LCO):** CNS entered the LCO for an inoperable primary or secondary power supply when a ground fault alarm was received from a backup battery charging component. The backup batteries are designed to provide an alternate means to power the deluge fire suppression system upon the loss of normal alternating current (AC) power. On June 20, 2015, the Emergency Service Dispatch Center received a ground fault alarm signal from a charging component in the safety-class deluge fire suppression system. This component is required to be functional while conducting operations in these facilities, several of which were affected by this single alarm. This fault in the battery charging system rendered the system inoperable and, appropriately following the LCO, the affected facilities were placed in maintenance mode. Maintenance personnel isolated the cause of the ground fault alarm to a single facility. That facility will remain in maintenance mode until repairs can be conducted. The remaining facilities have been returned to operation mode.

**Combustible Standoff Distance Technical Safety Requirement (TSR) Violation:** CNS declared a TSR violation on June 24, 2015, when personnel conducting a combustible loading sweep entered a facility and discovered a pallet within the prescribed combustible standoff distance.

**Loss of Power Events:** CNS conducted a planned power outage to isolate the cause of a recent loss of power event (see 6/12/15 and 6/19/15 reports). CNS discovered that a connector was faulty, replaced it, and returned the system to service. CNS also replaced an arrester that had failed several months ago in an electrical substation. The arrester is designed to preferentially fail upon nearby lightning strike, saving critical electrical components. In this case, the arrester prevented damage to a transformer that regulates one of the two off-site power supplies.