

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 5, 2014

**MEMO TO:** Steven Stokes, Technical Director  
**FROM:** Thomas Spatz, Pantex Site Representative  
**SUBJECT:** Pantex Plant Report for Week Ending September 5, 2014

**Potential Inadequacy of the Safety Analysis (PISA) and Positive Unreviewed Safety Question (USQ) for Electro-Static Dissipation (ESD) Scenario:** On July 10, 2014, the Site Representative observed nuclear explosive operations on a specific weapon program where the Production Technicians (PTs) were kneeling while moving a detonator cable assembly. During this operation the PT's open-toe ESD foot covers were not making contact with the ESD flooring. The Site Representative sent an email to personnel from Consolidated Nuclear Security, LLC (CNS) and the NNSA Production Office (NPO) identifying the ESD concern and inquiring if this scenario was analyzed in the weapon Hazard Analysis Report.

On August 29, 2014, CNS declared a PISA for scenarios where PTs may contact ESD sensitive components while not grounded through ESD footwear for all six weapon programs with ESD concerns. CNS paused operations for these weapon programs. CNS has declared negative USQ determinations and resumed operations for two weapon programs where the weapon response does not yield consequences for human ESD. CNS has upgraded the declared PISA to a positive USQ determination for two weapon programs, due to the increase in probability of an accident previously evaluated and an increase in probability of a malfunction of equipment important to safety. CNS is preparing Justification for Continued Operations for these two programs. CNS is still evaluating the remaining two weapon programs.

**Material Staging Facility at Pantex:** NPO sent a letter to the NNSA Deputy Administrator for Defense Programs requesting approval of Critical Decision 0 (CD-0), *Mission Need for the Material Staging Facility at Pantex*. The original mission need statement was sent in August 2012; however CD-0 was not approved at that time. Based on new cost information, CNS has revised the 2012 version of CD-0, and resubmitted it to NPO.

The mission need estimates the projected work load will require increased staging capacity of nuclear weapons and up to 20,000 nuclear components. The proposed new Material Staging Facility would replace the existing facilities in Zone 4. There are currently 18 Modified Richmond magazines and 42 Steel-Arch Construction magazines in Zone 4, ranging in age from 45 to 65 years. CD-0 states some cracking in the concrete walls has been observed in facilities no longer being used to stage nuclear weapons or components, however no deterioration has been observed in facilities being used to stage nuclear weapons or components.

The 50-year lifecycle costs given in CD-0 are based on the elimination of the Perimeter Intrusion Detection Assessment System for Zone 4 and the elimination of on-site transportation of weapons and weapon components between the Zone 4 and Zone 12 Material Access Areas. CNS estimates a break-even point of between seven and twelve years, compared with the recurring cost to sustain the existing Zone 4. Among the alternatives being considered for CD-1 (Alternative Analysis) is a full-capacity underground storage facility.