

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 18, 2016

**MEMO TO:** Steven Stokes, Technical Director  
**FROM:** Zachery Beauvais, Pantex Site Representative  
**SUBJECT:** Pantex Plant Report for Week Ending March 18, 2016

**Physics Package Disassembly:** During nuclear explosive bay operations, CNS production technicians (PT) could not remove a significant component from a charge subassembly. In response to this condition, Production and Manufacturing Engineering developed a nuclear explosive engineering procedure (NEEP) directing PTs to reinstall tooling that had slipped during the first attempt, and then reattempt removal. The NEEP was unsuccessful. Production and Manufacturing Engineering developed a second NEEP using an extraction tool, designed specifically for this task. The extraction tool uses vacuum, air pressure and a jackscrew to provide a separation displacement that allows removal. A similar process was used in 2010 to remove a stuck component on a unit of a different modification, for the same program. CNS has released an Information Engineering Release, requesting weapon response information from the cognizant design laboratory for use of the extraction tool on this unit.

**Cracked High Explosive Removal:** Late last week, PTs successfully executed a NEEP to remove a cracked charge and complete disassembly of the unit (see 3/11/2016 report).

**Weapon Response Development:** CNS recently released a report documenting the conclusions of a Weapon Response-Documented Safety Analysis (WR-DSA) System Improvement Project (SIP). The SIP was chartered by NNSA to review weapon authorization processes, including the development and maintenance of weapon response information, with a focus on improving the effectiveness of Pantex nuclear explosive facility utilization. The SIP involved representatives from CNS, each of the design agencies, the NNSA Office of Nuclear Weapon Stockpile, and the NNSA Production Office (NPO). The site representative and members of the Board's staff held multiple meetings with SIP participants to share their insights and concerns with the weapon authorization process. The SIP identified several concerns and areas for improvement including a lack of integration across the various parties involved to assign priorities; a lack of consistency, visibility and understanding of the process; and the allocation of resources to develop point estimates for low-order consequences. The SIP recommended actions including near-term implementation of periodic teleconferences among the involved parties, a prioritization review of the weapon response request backlog, development of an enterprise wide WR-DSA program, and development of criteria for the use of legacy weapon response information. Additional actions, such as documenting consistent technical definitions for important weapon response terms, will be performed through the ongoing revision of DOE-STD-3016, *Hazards Analysis Reports for Nuclear Explosive Operations*, and the upcoming development of implementing documents through the Requirements Modernization Initiative.

**NPO Response to Maintenance Corrective Actions:** NPO issued a letter in response to CNS planned actions to improve maintenance management programs at Pantex and the Y-12 National Security Complex, including actions to address deficiencies raised during a June 2015 DNFSB staff review (see 1/26/2016 report). In their letter, NPO stated that the CNS issue management database entries for most of the issues show little or no action. In response, NPO has requested that CNS submit verifiable action plans to address the maintenance deficiencies for NPO approval within 30 days.