

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 5, 2016

**MEMO TO:** Steven Stokes, Technical Director  
**FROM:** Ramsey Arnold and Zachery Beauvais, Pantex Site Representatives  
**SUBJECT:** Pantex Plant Report for Week Ending August 5, 2016

**Bent Pit Tube:** Last week, a production technician (PT) in the special nuclear material component requalification facility (SNMCRF) bent a pit tube while installing a pit tube cover after performing a leak test. There was no breach to the pit and no material release. CNS personnel held and a site representative attended a critique to better understand the event. The PT followed the procedure correctly and used the designated pit tube cover. This was the first time that this type of pit, one with a narrower pit tube that is more easily bent, had been processed in SNMCRF. After checking the design agency (DA) drawing, process engineering confirmed that the DA had previously approved the cover for use with this specific pit type. Once approved by the DA, process engineering will be updating the procedure to use a wider pit tube cover to allow for easier application.

**Nuclear Explosive Operations (NEO):** PTs paused bay mechanical assembly NEOs upon hearing a rattling noise while completing a step to rotate a nuclear explosive. CNS production and engineering personnel determined that foreign material was the likely cause of the noise. CNS process engineering developed, and the PTs executed, a nuclear explosive engineering procedure (NEEP) to identify and remove loose material in the aft portion of the unit. Execution of the NEEP identified that a washer had not been properly installed during the attachment of an antenna. The location of the attachment is hidden from the PTs, obstructing installation and verification. Process engineering is developing a second NEEP to remove the loose washer and reinstall the antenna. Additionally, they are modifying the operating procedure to include steps to improve verification that this installation is completed properly.

**NPO Integrated Assessment:** NPO kicked off an integrated assessment of the existing CNS processes to execute NEOs on a specific weapon program in a safe, secure, and high-quality manner. The assessment is designed to review a breadth of different elements including safety basis, nuclear explosive safety, quality assurance, and conduct of operations. Besides meeting DOE requirements, the assessment will provide NPO and CNS feedback on the current systems in place to support delivery of the weapon program over its life. Due to its integrated scope, the assessment will likely help NPO determine what elements need more focused reviews in the future.

**Authorization Basis Approval:** The NNSA Production Office (NPO) approved a documented safety analysis change package to support the restart of disassembly operations for surveillance on one weapon program (see 6/24/2016 and 4/22/2016 reports). The safety evaluation report issued by NPO contained no conditions of approval or technical review comments. The change package updated the program specific hazard analysis report to disallow multi-unit operations, address hazards associated with new transportation handling gear to be used on the program, and updated control analyses to capture topple resistance due to the 95<sup>th</sup> percentile tripping man event. Through the review of this change package, NPO staff identified a disconnect in the documented initiating event frequencies and control identification for certain transportation hazards, affecting multiple weapon programs. Sufficient controls exist to prevent the events, and CNS committed to address the discrepancy in an upcoming annual update.