

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 30, 2016

**MEMO TO:** Steven Stokes, Technical Director  
**FROM:** Ramsey Arnold and Zachery Beauvais, Pantex Site Representatives  
**SUBJECT:** Pantex Plant Report for Week Ending September 30, 2016

**Anomalous Units:** Production technicians (PT) successfully completed disassembly of two anomalous units. Processing of these units had been initially suspended in April and August 2015. Conditions encountered on one of the two units required PTs to perform a modified cut and cap process as had been anticipated by CNS and design agency engineers.

The site representatives observed initial operations on both units after they were moved from interim staging. During the period when operations were suspended on these units, copies of special tooling installed on the units and special tooling protecting the units exceeded their preventive maintenance (PM) periods. The general safety requirements for production activities allow PTs to continue operations if the PM on a piece of special tooling expires while it is in use but do not allow such tooling to be reinstalled after it has been removed. During operations on one unit, PTs reinstalled a piece of special tooling which had exceeded its PM. Although the piece of special tooling is credited to perform a safety class function to protect the unit from electrostatic discharge and lightning hazards, the PM is not required to validate this function. Soon after installation, the PTs and production section manager (PSM) discovered that the PM had expired, and the PSM directed the PTs to remove the tooling. Following questions from the site representative, CNS production management determined that this action was not allowed.

Prior to the most recent operations, the anomalous units had been staged in enhanced transportation carts, type I (ETC-I), housed in a nuclear explosive cell facility, since February 2016. The Pantex Technical Safety Requirements (TSR) specify multiple in-service inspections (ISI) to be performed on this safety class design feature, including a quarterly inspection of the conductive gasket installed on the ETC-I door. Due to the staging operations, this ISI was unable to be performed. The TSR requires, for all ISIs, that CNS provide justification of an extension request, prior to expiration, to NPO for review and approval. The site representatives informed NPO and CNS engineering management that this was not performed. NPO is currently determining a path forward to ensure this scenario is addressed in the future.

**Pause in Operations:** During disassembly operations for surveillance, PTs could not remove a component using the process defined in the approved nuclear explosive operating procedure (NEOP). The pause occurred during processing of the first unit attempted following a recent start-up (see 9/23/2016 report). The step directs the PTs to use a mechanical press to apply pressure to the case of the unit, directed through installed special tooling, in order to relieve pressure on an installed connecting ring to allow its removal. During the first attempt, PTs reached the maximum applied pressure specified in the NEOP, however, the ring could not be removed. PTs questioned whether the installed tooling was functioning properly. As allowed by operating procedures, the PSM initiated a back-out so PTs could reattempt the step with a different copy of the installed special tooling. This second attempt was also unsuccessful. During the last campaign on this program, other units had experienced similar difficulty. CNS engineering revised a nuclear explosive engineering procedure (NEEP), initially developed in 2010, that directs PTs to use a specially designed punch and non-sparking hammer to loosen the component prior to attempting removal. The NEEP was executed successfully.