

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 13, 2016

**MEMO TO:** Steven Stokes, Technical Director  
**FROM:** Ramsey Arnold and Zachery Beauvais, Pantex Site Representatives  
**SUBJECT:** Pantex Plant Report for Week Ending May 13, 2016

**DNFSB Staff Activity:** D. Brown and J. Anderson observed the B61 and W84 Nuclear Explosive Safety Studies, respectively.

**Tape Adhesion:** CNS management restarted one weapon program through the normal authorization process by providing properly certified tape to the production department (see 5/6/2016 report) and subsequently released the 35-account tape certification process in whole, allowing other weapon operations to be restarted. Prior to restarting nuclear explosive (NE) operations, CNS completed a management assessment and a minimum set of software quality assurance documentation. Also, production technicians verified that each affected facility contained no tape released before the discovery of the testing issue. The site representatives performed a walkdown of the 35-account laboratory and interviewed CNS Explosives Technology (ET) personnel responsible for tape testing. The site representatives observed the new adhesion test requirements implemented by a standing order. The standing order requires dual verification that the correct software output calculations are utilized, i.e., the average. ET technicians demonstrated the new testing protocol, which corrects the previously unrealized error of how test data gathering and usage is performed, a finding made during the management assessment. Along with continuing to retest tape and recalculate previous tape test results, ET will be reviewing all 35-account material tests that utilize software to determine if any additional software should be maintained as safety software.

**Special Tooling:** During process demonstrations on an inert trainer unit last week, a piece of special tooling failed to maintain air pressure to a bladder used to hold components (see 5/6/2016 report). CNS convened an issue resolution team, with membership from multiple engineering groups, to develop a path forward and return the process to operations. Operations on this program were previously paused due to tape issues. Those operations requiring the use of the affected tool remain paused. Production Tooling technicians disassembled the copy of the tool that experienced the loss of pressure and discovered metallic debris in a valve installed on the tool, a possible cause for the malfunction. Tooling and Machine Design (TMD) conducted an extent of condition that determined the previously identified tools were the only ones that lack a secondary catch feature where required, but other tools were identified that lack an in-line screen to prevent accumulation of debris. All copies of the affected tooling will be removed from service; however, one copy was in use at the time operations were paused. Production and Manufacturing Engineering is developing a NE engineering procedure to allow for removal of the tool. TMD is developing an engineering evaluation to aid in determination of a path forward.

**Concrete and Rebar Testing:** Following an observation from DNFSB headquarters staff, CNS Facilities Engineering has determined that additional testing of rebar, mechanical rebar splices, and concrete cores will be required to verify that a recently installed section of a NE cell equipment area floor structure will meet its intended design function. The floor structural repair was performed as part of the high pressure fire loop lead-in replacement for the facility (see 11/6/2015 report). The testing will be completed at a testing facility that is currently on the project subcontractor's quality assurance supplier list.