

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 1, 2016

**MEMO TO:** Steven Stokes, Technical Director  
**FROM:** Ramsey Arnold and Zachery Beauvais, Pantex Site Representatives  
**SUBJECT:** Pantex Plant Report for Week Ending July 1, 2016

**Pneumatic Hose:** While moving an empty enhanced transportation cart in the corridor of a nuclear explosive facility using an air-powered Easy Mover, a pneumatic hose inadvertently disconnected resulting in a hose whip. The pneumatic connection fitting struck a production technician (PT) in the jaw resulting in a lost time injury. Air was supplied to the easy mover using two connected hoses of different diameters to allow for the required length. The disconnection occurred at the junction of the two hoses. Hose whip scenarios in nuclear explosive areas are controlled with the use of safety class restraints (i.e. nylon tape or plastic ties). The restraints were not required and could not be used for this operation. CNS temporarily paused operations requiring the use of pneumatic hoses. Tooling and Machine Design Engineering (TMD) prepared an engineering evaluation (EE) to release the operations. To support the EE, TMD and Production Tooling investigated the hoses used and unsuccessfully attempted to recreate the inadvertent decoupling. CNS revised local procedures to now require the use of hose whip restraints with hoses connected in series or, preferably, the use of single hoses for Easy Mover operations.

**Work Stand:** PTs paused operations in a nuclear explosive bay after encountering unexpected resistance when attempting to rotate installed tooling. The pause occurred in the same facility and at the same operational step as a recent instance of chattering observed while raising a unit in a workstand (see 6/17/2016 report). The issues occurred on separate copies of the workstand and on different components within the workstand, allowing CNS to conclude that the events were unrelated. A site representative observed PTs execute a nuclear explosive engineering procedure (NEEP) developed to move the unit to a new workstand and continue operations. The NEEP was completed successfully and PTs were able to continue the operations.

**35-Account Extent of Condition Review:** CNS personnel held and the site representatives attended a critique to understand the events that led to 35-account water not being tested to the specifications required by the design agency. CNS explosive technology personnel had received approval from the design agency to use an equivalent test on a one-time basis, however, the design agency had not approved its usage indefinitely. The discovery was made as part of the extent of condition review performed following issues with testing of 35-account tape (see 4/29/16 report). Communication breakdown between engineering, who provides the test specifications for 35-account materials, and explosives technology, who completes the testing, contributed to the event. The discrepancy does not impact the safety of ongoing operations.

**Special Tooling Program:** CNS Engineering submitted the first quarterly update to NPO on the status of actions underway to improve the special tooling program (see 4/15/2016 report). The improvements stem from an assessment of the special tooling program performed last year by NPO. The quarterly update communicates progress toward developing process modifications and proposes a new approach to validate tooling analyses. The new approach includes an independent validation of a subset of tooling analyses to be performed by engineering personnel at the Y-12 National Security Complex, followed by load testing of individual components rather than bulk testing of tools.