

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 2, 2016

**MEMO TO:** Steven Stokes, Technical Director  
**FROM:** Ramsey Arnold and Zachery Beauvais, Pantex Site Representatives  
**SUBJECT:** Pantex Plant Report for Week Ending September 2, 2016

**Radiography Operations:** The site representatives observed radiography operations on two weapon programs in order to verify proper flow-down and implementation of specific administrative controls (SAC) that require verification of certain component positions prior to further operations. These observations were conducted to follow-up on Board's staff questions generated during a recent Technical Safety Requirement implementation review (see 8/12/2016 report). Specifically, the staff questioned how the existing process ensures linkage between the unit radiographed and the paperwork documenting SAC completion. The site representatives observed quality assurance technicians (QAT) verify unit serial number linkages between radiographs, supporting documentation, and physical markings on units; however, such steps are not explicitly stated in the operating procedures. The site representatives note that the operation effectively implements the SAC, but is reliant on QAT training to do so. Additionally, a section manager for radiography operations detailed the process for a management post-review of radiographs, which includes an additional verification of the serial number, however the review is not implemented to serve a safety function. During observed operations, the QATs executed the procedures with strong adherence to reader-worker-checker principles and demonstrated strong knowledge of the operation.

During site representative observations, technicians moved a transportation cart with an air-powered easy mover. Due to the radiography bay layout, this operation requires the connection of two air hoses to provide adequate hose length for the move. A safety restraint was used to provide a supplemental mechanism for hose whip event prevention per a recent update to local procedures (see 7/1/16 report). For the observed operations, the layout of the bay and a SAC to secure excess air hose with safety-credited plastic cable ties preclude a high order consequence due to a hose whip if the two air hoses disconnect at their junction. The site representatives note that it would be a best practice to use a single, longer hose in lieu of the two hoses connected together with a safety restraint. Pantex is in the process of ordering additional longer hoses.

**Vacuum Chamber:** Personnel from NNSA, the design agencies, and CNS performed a hazard analysis task team (HATT) walkdown of operations on two weapon programs to be performed in a new modular vacuum chamber facility. A site representative observed portions of this activity. The HATT follows completion of considerable facility upgrades, procedure development, special tooling design and fabrication, and vacuum chamber system development (see 6/13/2014 report). Additional HATT walkdowns will be required to develop the safety basis, and a Nuclear Explosive Safety Study will be required. Startup is scheduled for Summer 2017.

**Special Tooling:** During bay nuclear explosive operations, production technicians paused when they noticed a holding fixture pin that interfaces with the workstand was partially unthreaded. Upon further investigation, the production manager also identified that a support plate was bent on the piece of special tooling. After operations were paused, CNS personnel declared the configuration safe and stable. Tooling and process engineering personnel evaluated the configuration and determined that the operation can continue safely with the loose pin and bent tool for several additional steps until they can be safely removed.