

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 6, 2019

**TO:** Christopher J. Roscetti, Technical Director  
**FROM:** Zachery S. Beauvais and Miranda McCoy, Resident Inspectors  
**SUBJECT:** Pantex Plant Activity Report for Week Ending December 6, 2019

**Protective Covers:** The Pantex technical safety requirements (TSR) includes a specific administrative control (SAC) to ensure that units are assembled into a transportation configuration, as specifically defined in a design feature described in the TSR and documented safety analysis (DSA). As part of a major safety basis change package approved by NPO in March, the transportation configuration for one weapon program was modified to remove a specific protective plastic cover and replace it with a different design. The design change was based on component availability and not any safety deficiencies with the legacy cover. When the safety basis change was implemented, CNS did not verify whether copies of the legacy cover were still in use. While reviewing a procedure for a proposed operation this week, CNS safety analysts identified that the legacy cover was still installed on an off-normal unit that has been in interim staging at the plant since 2014 (see 6/20/14 report). When the safety basis changed, the unit's configuration no longer met the requirements specified in the DSA. Production technicians (PT) have moved the unit between staging facilities on four occasions since the configuration became non-compliant. The operating procedure used to perform nuclear explosive moves does not require verification that a unit is in a compliant configuration before it is transported between facilities. CNS management determined that the situation represented a DSA non-compliance but did not violate the SAC. Additionally, CNS safety analysis engineering declared a potential inadequacy of the safety analysis related to the presence of the legacy cover. The resident inspectors note that this event presents a potential deficiency in the Pantex TSRs, as the control set requires initially implementing the transportation configuration but does not require that it is maintained during transportation.

**Carts:** Last week, safety analysis engineers noted an incorrect assumption for an impact analysis on one weapons program. The impact analysis considered impacts from a cart designed to hold a gas cylinder; however, the weight of the gas cylinder itself was not included in the total weight. (see 11/29/19 report) This week, Pantex safety analysis engineering determined that this incorrect assumption applied to three additional weapons programs as well as two facility-specific safety analyses. One program prohibited operations involving the cart; all other programs and facility safety bases had already adequately controlled the hazard.

**Disassembly Operations:** Earlier this year, PTs paused assembly operations on a unit upon discovery that the portion of a detonator cable assembly (DCA) protruding from the case was shorter than expected (see 5/3/19 report). CNS mission engineering developed, and PTs executed, a procedure to perform electrical testing on the unit, which indicated that the DCA was likely intact (see 8/30/19 report). The responsible design agency analyzed the testing data and confirmed that the weapon response rules applicable to normal weapons operations could be applied to this specific unit. This allowed CNS safety analysis engineering to develop an evaluation of the safety of the situation (ESS) to seek NPO's authorization to proceed with disassembling this unit without additional safety controls. NPO is currently reviewing the ESS. The unit remains in interim staging in an enhanced transportation cart.