

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 3, 2019

**TO:** Christopher J. Roscetti, Technical Director  
**FROM:** Zachery S. Beauvais, Resident Inspector  
**SUBJECT:** Pantex Plant Activity Report for Week Ending May 3, 2019

**DNFSB Staff Activity:** M. McCoy augmented the resident inspector coverage.

**Special Tooling:** CNS tooling and safety analysis engineers identified that the weight of a general-use cart used on multiple weapon programs exceeded the weight analyzed in the documented safety analysis. CNS management paused all operations until the carts could be removed from service. CNS engineering released the carts' use on two bomb programs after verifying compliance with the specific program hazard analyses and is considering additional tooling modifications to restore compliance on the other impacted programs.

**Nuclear Explosive Operations:** While performing assembly operations in a nuclear explosive cell last December, production technicians (PT) identified that a portion of a detonator cable assembly (DCA) extending outside the unit was three inches shorter than was expected. Initially assuming that this represented a weapons quality issue but did not fall outside the authorized safety analysis, CNS engineering developed, and PTs executed, a process to place the unit in an enhanced transportation cart as they developed a disassembly process. In an engineering release, design agency personnel indicated that the observed configuration could indicate potential damage to the DCA that would necessitate further safety controls. While reviewing a proposed operation with this unit, CNS engineering evaluated the design agency information and determined the condition represents a potential inadequacy of the safety analysis. CNS and design agency personnel determined that the unit should be treated as anomalous. The unit remains segregated in a cell as CNS and the design agency develop a process to address the unit.

**Control of Material:** Pantex uses the Integrated Production Planning and Execution System (IPRO) to assist in material control and accountability and implement material limits established for safety. Pantex has experienced two recent events related to the use of this system. In one event, PTs inadvertently selected the wrong part number in IPRO while preparing to move a physics package from a mechanical bay to a radiography bay. Production personnel subsequently moved the physics package to the radiography bay, from the radiography bay to a staging bay, and from the staging bay to a disassembly cell before the anomaly was discovered. The Pantex move authorization procedure requires multiple production personnel to verify that the move paperwork matches both the physical item and the IPRO record before each facility move. These verifications each occurred but failed to catch the discrepancy. In a separate event, production personnel initiated moves of explosive hazard division 1.1 and 1.4 material between operating areas internal to an explosives facility. Based on established rules, IPRO should have prevented the movement of division 1.1 material into the receiving area. However, due to a software issue uncovered by this event, IPRO allowed the movement. Production personnel discovered the discrepancy before physically moving the material. Production support personnel determined that there are three other areas of the plant where this type of issue could also occur. Production management paused all material moves following the discovery of these separate issues. Prior to reauthorizing moves, they briefed all personnel who could perform material moves reiterating the procedural expectations for move verification.