

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 12, 2016

MEMO TO: Steven Stokes, Technical Director
FROM: Zachery Beauvais, Pantex Site Representative
SUBJECT: Pantex Plant Report for Week Ending February 12, 2016

DNFSB Staff Activity: M. Sautman was onsite to provide site representative support. R. Arnold was onsite to attend a training course.

Anomalous Unit (AU) Update: The NNSA Production Office (NPO) issued a Safety Evaluation Report approving the Justification for Continued Operations (JCO) allowing two AUs to be removed from their current locations and placed in interim storage. Additionally, a Nuclear Explosive Safety (NES) Study Group (NESSG) performed a NES Change Evaluation (NCE) and determined that the proposed operations do not violate the NES standards. The AUs had previously experienced out-of-tolerance readings on initial and subsequent, specially approved, Detonator Cable Assembly resistance tests (see 4/17/2015, 8/14/2015, and 11/6/2015 reports). Protectors and covers are currently installed on the unit that allow it to function as a Faraday cage. The operation proposed by CNS includes loading the units into Enhanced Transportation Carts, Type I (ETC I), and transporting them to interim staging locations. According to an Information Engineering Release issued by the cognizant design agency, lightning hazards to the AUs screen when loaded in the ETC I in the specified configuration. While briefing the results of the NCE to NPO management, the NCE chair suggested that Consolidated Nuclear Security, LLC (CNS), take precautions to prevent the AUs being inadvertently mistaken for other units and that CNS minimize further movement of the AUs to the extent practicable. Interim staging will allow CNS to return to operations in the facilities where the AUs are currently located while the AU project team develops a process for the complete disassembly of the units.

Cracked High Explosive Update: A NESSG performed, and the site representative and a member of the Board's staff attended, an NCE of the operation proposed to complete disassembly of a unit with a cracked conventional high explosive charge (see 1/15/2016 and 2/5/2016 reports). The NESSG concluded that the operations do not violate the NES standards. The Nuclear Explosive Engineering Procedure (NEEP) developed for the operation directs Production Technicians (PTs) to separate the charges along the equator and cease operations if the charges do not separate at this location.

Loss of Vacuum During Assembly Operations: The site representative and a member of the Board's staff observed PTs perform nuclear explosive assembly operations in a cell facility. The PTs experienced an out-of-tolerance gage measurement following the installation of a cap component. The Nuclear Explosive Operating Procedure allows the PTs to realign the unit in order to achieve an acceptable measurement. While performing the realignment, the PTs noticed a loss of vacuum pressure to a piece of special tooling installed during the operation. The PTs appropriately paused the operation and notified their section manager. During discussions with their section manager and various subject matter experts, the PTs demonstrated extensive knowledge of the system and procedure. The assembled personnel determined that the vacuum was not required to perform a safety function, and that the Pantex weapon assembly requirements allowed them to back-out of the step in order to successfully perform the measurement with a different copy of the gage. Tooling and Machine Design plans to evaluate the cause for the loss of vacuum.