

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 14, 2015

MEMO TO: Steven Stokes, Technical Director
FROM: Zachery Beauvais, Pantex Site Representative
SUBJECT: Pantex Plant Report for Week Ending August 14, 2015

DNFSB Staff Activity: Mr. Beauvais began service as the Board's Pantex Site Representative on August 10.

High Pressure Fire Loop (HPFL): On August 13, 2015, a Consolidated Nuclear Security (CNS) facility representative discovered water on the floor of a nuclear explosive cell. Following further examination, CNS personnel determined the source of the moisture to be a leak in the HPFL lead-in to the facility, part of a safety class system. CNS had been aware of losses in the system since June, and had recently begun a series of inspections intended to identify the leak site by systematically isolating sections of the HPFL, but had not yet identified a specific location. Upon discovery of the leak, CNS entered limiting conditions of operation (LCO) for the safety class wet pipe and deluge fire suppression systems. Per the LCOs, CNS reduced the combustible materials in the area and placed the facility in maintenance mode. Prior to discovery of the HPFL leak, CNS Production Technicians (PTs) had completed the first portion of cut and cap operations on a unit located in this facility (see 7/24/15 report). Further operations on that unit, required to complete the cut and cap process, are paused. It is currently unknown whether the leaked water displaced the soil below the facility and created a void space. CNS structural engineers are preparing an evaluation to determine the effects of a potential void.

Failed Electrical Test: On August 11, 2015, PTs suspended a nuclear explosive disassembly operation and placed the unit in a safe and stable configuration, after observing an out-of-tolerance measurement on a detonator cable assembly. CNS tester design engineering verified the tester was functioning properly. The out-of-tolerance measurement occurred during the same test as the unit determined to be anomalous in April 2015 (see 4/17/15 report). CNS and Design Agency personnel have scheduled a meeting to determine if this unit meets the anomalous unit criteria. In the interim, CNS has restricted access to the facility.

Shear Wire Removal: Last week, a shear wire used to attach pieces of a unit's case together broke during its removal, leaving pieces unable to be removed. Shear wires from this specific program modification have a history of breaking, but had not previously broken in a manner such that they could not be removed. The nuclear explosive engineering procedure (NEEP) developed to remove the wires directs PTs to attempt to drive the broken shear wire pieces out using a punch and plastic mallet until enough of the shear wire is accessible to allow attachment of locking pliers. PTs executed the NEEP on August 12 but were unable to remove the broken pieces of shear wire. Additionally, one of the PTs performing the NEEP sustained a minor injury to his hand, requiring first aid applied by onsite medical personnel. CNS process engineering is developing an additional NEEP to remove the shear wire pieces using a different method.

Procedure Modifications: This week, CNS published revised Nuclear Explosive Operating Procedures for one program. Specifically, CNS revised multiple steps to require two-person lifts to reduce the risk of lifting bulky tools. The changes follow a July 2015 instance where a PT lost his balance while lifting special tooling (see 7/17/15 weekly report).