

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 26, 2018

MEMO TO: Steven Stokes, Technical Director
FROM: Ramsey Arnold and Zachery Beauvais, Pantex Plant Resident Inspectors
SUBJECT: Pantex Plant Report for Week Ending January 26, 2018

DNFSB Staff Activity: C. Berg and M. McCoy observed and evaluated the first week of the nuclear explosive safety master study of special tooling and qualified containers (i.e., the approved equipment program, volume 2).

Cell Emergency Lighting: Last week, a fault occurred in the electrical power supply for a subset of the emergency lights installed in a nuclear explosive cell, preventing the lights from performing their credited safety function. A project was recently completed to install a surge suppressor and voltage regulator on the facility power circuit serving six impacted fixtures, the remaining two fixtures are supported by a power supply routed through the uninterruptible power supply system. Those on the surge suppressed circuit experienced the fault. Following the fault, operations were paused, an initial work order was generated, and the system was reset. This week, during daily checks of the emergency lighting system, production technicians discovered the same six fixtures to not be illuminated. Facility engineering walked down the system and concluded that the fault likely occurred in the newly installed components, but troubleshooting would be necessary to specifically determine the cause. Troubleshooting would require opening the cabinet where the surge suppressor and voltage regulator are installed, which is located in the cell facility, but outside the cell round room. CNS nuclear explosive safety (CNES) personnel evaluated an initial proposal and determined that broadly scoped system troubleshooting could not be performed within the requirements of the nuclear explosive safety checklist, used to evaluate maintenance work in nuclear explosive areas (NEA). Additionally, the electrical equipment that would be used for the troubleshooting activities have not been evaluated for use in NEAs. Operations in the facility are currently paused while CNES evaluates a modified troubleshooting work order, and facility engineering evaluates the electrical equipment.

Modular Vacuum Chamber: Last week, NPO released a safety evaluation report approving the safety basis change package for the new, modular vacuum chamber facility. In addition to implementing new pieces of special tooling and making minor modifications to existing safety controls, the change package introduces new specific administrative controls for the control of equipment during vacuum chamber operations and verification of the chamber height to prevent impacts during the movement of units and pieces of large equipment. CNS intends to conduct the contractor readiness assessment of operations in the facility in the coming weeks.

Packaging Operations: A production technician fractured a bone in his hand, and received lacerations requiring stitches while attempting to adjust the tines on a pallet jack. The injury occurred in the interlock of a nuclear explosive bay while the PT was preparing the pallet jack to move nuclear material containers, the design of which required the tines to be configured to the widest separation. While performing this, a tine fell off the jack causing the injury. The design of the jack did not include stops to prevent the tines from slipping off during such adjustments. While no nuclear or explosive material was present in the vicinity of the injury, the procedure that was being executed at the time of the accident and similarly designed jacks are routinely used for nuclear material packaging. As an immediate compensatory measure, CNS restricted the use of the jack across the plant.