

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 24, 2020

TO: Christopher J. Roscetti, Technical Director
FROM: Zachery S. Beauvais and Miranda McCoy, Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending January 24, 2020

DNFSB Staff Activity: The resident inspectors attended a briefing to the NPO manager regarding CNS's proposed control strategy for impact hazards posed by transient materials present in ramps and corridors. Early last year, NNSA invoked the exigent circumstances provision in the safe harbor standard for impact hazards present during onsite transportation activities, including transient material impacts (see 2/8/19 report). Following the briefing, CNS personnel conducted a walkdown of ramps and corridors, observing common transient materials and equipment and noting explosive containers used for some transportation configurations.

Electrical Distribution: Areas of the plant experienced a brief electrical interruption this weekend. While bringing power back up following maintenance for a previous loss of power event (see 1/17/20 report), two breakers tripped. One pump house servicing the high pressure fire loop briefly lost power, and CNS facilities personnel entered the appropriate limiting condition for operations to address the loss of the pump house capability. This loss of power follows two previous events (see 1/17/20 and 12/20/19 reports) that were likely due to end of life failure of electrical connections and resulted in visible smoke from electrical manholes. While investigating the cause of the most recent failure, CNS engineers identified an unrelated manufacturing defect on a recently installed automatic transfer switch. The same defect was discovered in a separate, uninstalled switch as well. In addition to investigation into the automatic transfer switches, CNS personnel are working to survey each connector in the affected area to determine any potential location of component failure. This area of the plant is currently operating without its typical redundant electrical feeds.

Criticality Safety: After discovering that several legacy container types were not analyzed in a broadly-scoped nuclear criticality safety evaluation last November (see 11/15/19 report), CNS mission engineering implemented a series of compensatory measures via a standing order. The compensatory measures included extending the bare item material limits for canned subassemblies (CSA) to items packaged in legacy containers, prohibited moving CSAs in MH2800 containers and prohibited moving other special nuclear material (SNM) within 10 feet of CSAs in MH2800 containers. The standing order's scope extended to all fissile material operations and handling. CNS management briefed the terms of the standing order to production stores personnel and technicians working in SNM operations but did not specifically brief the controls to technicians performing nuclear explosive operations; however, relevant details from the standing order were included in procedures used by production technicians (PTs). Last week, PTs performed NEOs that required packaging a CSA into an MH2800. After being asked to move the item, production stores personnel identified that they were not allowed to move that material. The PTs paused their operations. CNS criticality safety and process engineers conducted an immediate extent of condition to determine whether other nuclear explosive packaging procedures directed use of restricted container types and revised the standing order to reduce the restrictions on the MH2800 within nuclear explosive areas, allowing the PTs to resume operations.