

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 7, 2022

TO: Christopher J. Roscetti, Technical Director
FROM: C. Berg, Acting Resident Inspector
SUBJECT: Pantex Plant Activity Report for Week Ending October 7, 2022

Recommendation 2019-1: As part of Recommendation 2019-1, the Board identified concerns with several legacy open conditions of approval (COA) that existed at Pantex for over a decade. In its implementation plan, NNSA committed to disposition these legacy COAs, including replacing wood-framed false ceilings in two nuclear explosive cells (see 4/8/22 and 7/15/22 reports). Of note, the false ceiling replacement also permits removal of a secondary wet pipe fire suppression system within these two facilities.

CNS has completed construction activities in one of the cells—replacing the wood-framed false ceiling with one fabricated of metal—and is preparing to place the facility into an operational status within the next few weeks. In addition, this week, CNS placed the second nuclear explosive cell into repair mode and does not plan to transition it back to an operational status until the false ceiling replacement is completed. These efforts represent a significant safety improvement, removing unnecessary combustible and impact hazards from these facilities. CNS safety analysis engineering (SAE) submitted a proposal to NPO requesting removal of the COA and planned improvement associated with the false ceiling replacement from the safety basis upon completion of these construction activities.

Fire Alarm Control Panel (FACP): While executing a weekly preventive maintenance procedure on a diesel fire pump, CNS maintenance personnel identified that FACP signals were not received at the emergency services dispatch center. Upon this discovery, the CNS facility representative entered the appropriate limiting condition for operation (LCO) for the high pressure fire loop (HPFL), requiring immediate manual verification of the water tank level and pump house temperature. CNS performed this required action and found both were within acceptable limits. Per the technical safety requirements, HPFL operability is dependent on having at least two functional diesel fire pumps with water supply tanks. At the time of the event, two pump-tank configurations were operational. Subsequently, CNS returned another pump-tank configuration to service—allowing the affected diesel fire pump to be placed into an inoperable status—and exited the LCO. CNS facility management categorized the incident as a performance degradation of a safety class structure, system, or component when required to be operable. At the time of the event investigation, participants indicated that a cause for the loss of communication was not known; however, personnel indicated that the pump house and equipment age could have contributed to the event. This is the oldest pump house at Pantex, and CNS has plans to upgrade the equipment in the future.

Safety Basis: Over the past month, SAE declared multiple potential inadequacies of the safety analysis (PISA) when identifying discrepancies in the safety basis with the following: (1) the Assembly Cart Platform weight (see 9/9/22 report), (2) various hazard scenarios within the safety analysis report for vacuum chamber operations (see 9/23/22 report), and (3) the Strongback weight and a hazard scenario during hoisting operations (see 9/30/22 report). CNS subsequently determined that each of these PISAs represented an unreviewed safety question.