

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 16, 2019

TO: Christopher J. Roscetti, Technical Director
FROM: Zachery S. Beauvais and Miranda McCoy, Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending August 16, 2019

DNFSB Staff Activity: J. Anderson and C. Berg reviewed federal readiness assessment activities, participated in code management system training ahead of a series of upcoming nuclear explosive safety (NES) evaluations and observed electrical testing to support resolution of an open technical issue on one weapon program (see 1/18/19 report).

Conduct of Operations: NPO transmitted a letter to the CNS chief executive officer communicating their observation of a recent adverse trend in conduct of operations at Pantex (see 8/9/19 report). In the letter, NPO directed CNS to develop a formal corrective action plan and perform a causal analysis and an extent of condition evaluation related to the adverse trend. NPO intends for CNS's actions to address both Pantex and the Y-12 National Security Complex.

Two Person Control: As part of the normal assembly process on a warhead program, production technicians (PT) assemble certain non-nuclear components immediately prior to installation onto the nuclear explosive. Each of these sub-components, on its own, does not require two person control; however, NES rules require it on the full sub-assembly. Earlier this year, PTs moved operations out of a specific bay after they had built multiple sub-assemblies. The PTs understood that the sub-assemblies required two person control and maintained control of the items as they transported them to onsite staging warehouses. The operators of the warehouses were not aware of the coverage requirements and did not maintain two person control over the items while they were staged. Last week, PTs performing assembly operations received a subassembly back from the warehouse and questioned whether it had been under two person control. Plant personnel performed an immediate extent of condition review and discovered that two additional subassemblies had been staged outside of two person coverage. A fact finding held on this event identified that the electronic system used to manage part movements does not contain any rules to prevent this scenario.

Fire Pump Maintenance: While performing post-maintenance testing of a high pressure fire loop diesel pump, technicians inadvertently damaged the conductors that provided power to the block heater thermostat. The damaged conductors then contacted the block heater and heat gun used in the testing, damaging the heat gun and causing sparking and discoloration of the block heater. The technicians paused work and the appropriate notifications were made, with the exception of the plant shift superintendent, and an event notification was delayed a week while waiting for relevant management input. In the fact finding, personnel involved in the incident noted that the test, which involved heating portions of the diesel pump to verify operation of the thermostat sensor, did not have a prescriptive procedure for how to conduct the test. Technicians questioned the process to their supervisor, who unsuccessfully attempted to contact personnel from several departments, including engineering and fire protection. Despite their concerns, the technicians proceeded with the test, using a heat gun that was present in the facility for an unrelated surveillance requirement. Pantex management also noted the commercial grade dedication documents contained errors regarding the thermostat response to high temperatures.