

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 26, 2022

TO: Christopher J. Roscetti, Technical Director
FROM: C. Berg and A. Boussouf, Acting Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending August 26, 2022

Staff Activity: C. Berg and A. Boussouf observed and evaluated an ongoing operational safety review (see 8/5/22 report), as well as the contractor readiness assessment associated with plutonium metal repackaging operations (see 1/14/22 report).

Technical Safety Requirement Violation: As part of the fire protection program within the technical safety requirements, CNS developed a specific administrative control (SAC) related to the parking of facility cranes within certain defense nuclear facilities. Specifically, the SAC requires that the facility crane is parked in an approved location when not in use and prior to exiting the facility. This control ensures that the crane will not interfere with the fire suppression system (i.e., inhibit the ability of the flame detectors). While conducting facility walkdowns over the weekend, an NPO facility representative observed the crane in one nuclear explosive bay parked in an unapproved location (i.e., about one foot from the designated location), potentially inhibiting the ability of the detectors to detect a facility fire. Production technicians had parked the crane in that location multiple days prior to this discovery. Given the failure to comply with the SAC, CNS categorized the incident as a technical safety requirement violation, as well as a degradation of a safety class system when required to be operable. As a result of the discovery, the crane was immediately placed in the appropriate location. Furthermore, as a corrective action, CNS plans to brief all production technicians, quality assurance technicians, and production section managers on the appropriate facility crane parking locations.

Nuclear Explosive Safety (NES): Last week, a NES evaluation concluded related to proposed operations on a nuclear explosive whose configuration differed from the expected condition (see 7/29/22 and 8/12/22 reports). The NES study group documented zero findings and nine deliberation topics in its report, noting no NES concerns with the proposed operations when limited to the unit assessed during the evaluation. However, the study group identified that conducting such operations—which include an electrical test—in a multi-unit environment could increase the risk of high-order consequences due to potential propagation scenarios. In its transmittal of the report to CNS, NPO did not direct action on this deliberation topic, permitting such operations to be performed in a multi-unit setting. CNS successfully executed the prescribed operations on this unit, within a multi-unit environment, earlier this week.

Fire Protection: Last month, CNS produced a report on resolution efforts for recurring faults within the new flame detection system (FDS). The previous FDS is undergoing a phased replacement effort due to component obsolescence. Shortly after replacement, the new system had a noticeable increase in fault occurrences, when compared to the existing system (see 3/20/20, 5/15/20, and 10/16/20 reports). After initial investigations, troubleshooting, and working with the product manufacturer, the causes for several faults could not be identified. The report provides a path forward for upgrades to the system, which will provide real-time remote monitoring for each FDS—to eliminate limiting condition for operation entry during certain faults—as well as a path forward for firmware changes to reduce the two prevalent fault types.