DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 9, 2018

TO: Christopher J. Roscetti, Technical Director
FROM: Zachery S. Beauvais, Resident Inspector
SUBJECT: Pantex Plant Activity Report for Week Ending November 9, 2018

Safety Basis: Last week, CNS safety analysis engineering identified a discrepancy in the assumed weight of a gas bottle used on one bomb program. Design agency personnel subsequently confirmed this discrepancy, which changed the applicable weapon response rule for drop hazards involving the component. Safety analysis engineering determined this represented an unreviewed safety question and is preparing an evaluation of the safety of the situation (ESS) for NPO's review. CNS management is currently restricting operations where drops of the component could occur.

CNS mission engineering determined that the existing snow loading calculation for ramps connecting nuclear explosive facilities does not address the potential loads from snow drifts, and concluded that this situation represented an unreviewed safety question. Safety analysis engineering identified operational restrictions to prevent transportation activities in the ramps when there is a possibility of snow accumulation. When there is the potential for snow accumulation, facilities engineering personnel will be required to measure whether snow exceeds "e.g., 1-2 inches" in the area outside the impacted ramps. The operational restrictions do not specify how facility engineering will be notified that snow is accumulating at the plant or how transportation personnel will confirm the conditions before performing operations in impacted areas. CNS implemented similar restrictions last winter, currently captured in an ESS, for operations in nuclear material processing and special purpose facilities.

Equipment Standoff: CNS process engineering completed a temporary procedure to allow production technicians to resume work in areas where they had previously discovered standoff requirements could not be implemented for all operations (see 10/26/18 report). The temporary procedure specifies new bay layouts for applicable operations, which now require the rear wall of the facility to be free of freestanding equipment. Production management provided training to the technicians on the applicability of the new procedures.

Lightning Protection System: CNS completed their fact finding process for events leading to the discovery of a degraded pole supporting the catenary lightning protection system (see 11/2/18 report). The assembled team determined that electrical safety personnel first identified the need for additional support on the impacted pole in 2014, following the discovery of a loose guy-wire. While a work order was generated to tighten or replace the guy-wire, the work order was canceled when crafts personnel determined that additional penetration permits were necessary to complete the work. Electricians perform an annual preventive maintenance on the lightning protection system that includes visual inspections of the poles and guy-wires. They noted issues with the guy-wire each time they performed the maintenance between 2014 and 2017, but the condition was not addressed. CNS and an electrical subcontractor are preparing to replace the degraded pole in the coming weeks. CNS and NNSA are also planning a large-scale lightning protection system pole replacement project in the coming years, where the legacy wooden poles will be replaced by fiberglass poles that are not subject to the same environmental degradation mechanisms.