DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 27, 2018

TO: Christopher J. Roscetti, Technical Director
FROM: David K. Andersen (Acting), Ramsey P. Arnold, Rahsean L. Jackson (Acting), and Zachery S. Beauvais, Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending July 27, 2018

DNFSB Staff Activity: D. Andersen and R. Jackson provided resident inspector coverage throughout the week and attended weapon familiarization training on a specific program.

Infrastructure Walkdowns: The resident inspectors performed various infrastructure walkdowns across the Zone 12 material access area. The individuals observed high pressure fire loop upgrade construction activities. This included observing trenching and excavation for lead-in water lines for nuclear explosive bays and examining a laydown area for safety-related construction materials. In addition, the resident inspectors observed hydrostatic testing to qualify fire riser trim for a nuclear explosive bay and reviewed calibration records for a pressure gauge used in the test. The resident inspectors also observed concrete pad construction activities associated with the installation of a back-up electrical power diesel generator. The resident inspectors also performed structural walkdowns of select special nuclear material facilities and nuclear explosive bays. During walkdowns, CNS personnel provided the resident inspectors updates on progress of infrastructure improvements.

Training and Qualification: The resident inspectors observed a CNS re-qualification oral board for a production section manager. This oral board in conjunction with a comprehensive written exam are the final steps in the candidate becoming re-qualified. The oral board was divided into eight separate topics, e.g., radiation safety and documented safety analysis. One scenario question per topical area is required during the oral board. Each category is graded individually as satisfactory, marginal, or unsatisfactory. At the conclusion, the board collectively discussed the grade scored for each topic to determine the pass/fail and if any required remediation was necessary.

Cell Emergency Lights: Upon entry into a nuclear explosive cell, technicians identified that multiple emergency lights were not illuminated in the cell round room. CNS believes this failure was caused by a faulty voltage regulator upstream of the lights. As defined in the technical safety requirements, following a loss of normal power to lighting, emergency lights provide sufficient illumination during operations to place nuclear material and bare conventional high explosives in a safe and stable configuration and allow safe personnel egress. Since the affected facility was in maintenance mode this week with no special nuclear material or high explosive present, the event was categorized as a performance degradation of a safety class structure, system, or component when not required to be operable. This event marks an additional failure of a voltage regulator and the emergency lighting system within a nuclear explosive cell (see 1/26/18 and 5/11/18 reports). CNS plans to continue performing tracking and trending of emergency light issues until the voltage regulators can be replaced.