

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 15, 2022

TO: Christopher J. Roscetti, Technical Director
FROM: C. Berg, Acting Resident Inspector
SUBJECT: Pantex Plant Activity Report for Week Ending July 15, 2022

Staff Activity: D. Andersen, W. Dumayas, and Y. Li were onsite to conduct walkdowns and support headquarters reviews, including discussing recent activities from an ongoing probabilistic seismic hazard analysis update and visiting a special nuclear material storage container warehouse. The staff also conducted walkdowns of facility fire protection systems, as well as a high pressure fire loop (HPFL) pump house. In addition, the staff observed the status of wood-frame false ceiling replacement—as committed to in NNSA’s implementation plan for Board Recommendation 2019-1 (see 4/8/22 report)—in one nuclear explosive cell facility.

Fire Suppression System: CNS started construction activities associated with the HPFL lead-in replacement for a nuclear material facility. The project includes replacing the underground fire water piping from the HPFL to the fire suppression riser within the facility and establishing an above-ground temporary lead-in. While the permanent HPFL lead-in undergoes replacement, CNS will supply fire water to the facility via the above-ground temporary lead-in from a nearby fire hydrant, which is also serviced by the HPFL (see 7/8/22 report). The headquarters staff examined the status of this construction project while onsite. At this time, the above-ground temporary lead-in is constructed and operational.

Emergency Exercise: This week, Pantex conducted a functional emergency exercise involving a lightning strike on a staging magazine, which for exercise purposes did not have a functioning lightning protection system. The lightning strike resulted in an explosion, spread of uranium, personnel injuries, and a subsequent wildland fire. In this exercise, CNS added further realism by requiring response actions to use actual weather conditions (e.g., wind speed and direction). To further complicate the scenario, the exercise plan called for the Emergency Operations Center Director to require medical attention during the middle of the event. In a recent exercise, participants and the resident inspector observed that inter-organizational communication breakdowns delayed fire department response (see 4/1/22 report). This exercise helped test these communication channels and assess department response times to the event scene.

Electrical Outage: CNS commenced a planned power outage for a significant portion of the site, including various nuclear explosive and explosive-only facilities. During the outage, CNS will conduct necessary corrective and preventive maintenance on the electrical system. Given the extended length of the outage, CNS strove to enhance safety by either removing nuclear explosives from these facilities or placing them into transportation-approved configurations.

Emergency Lighting: Last month, CNS facility management identified six emergency lights were not illuminated in a nuclear explosive cell. This specific situation did not require entry into a limiting condition for operation, as the facility was in maintenance mode and did not contain a nuclear explosive or nuclear material. However, CNS declared the event as a degradation of a safety class structure, system, or component when not required to be operable and initiated a work order to troubleshoot the voltage regulator system, which supplies power to the lights.