

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 23, 2021

**TO:** Christopher J. Roscetti, Technical Director  
**FROM:** Mark Bradisse and Christopher Berg, Acting Resident Inspectors  
**SUBJECT:** Pantex Plant Activity Report for Week Ending July 23, 2021

**DNFSB Staff Activity:** A. Gurevitch began his tenure with the DNFSB, and after establishing site access will report for duty as Pantex Resident Inspector. Staff members T. Hutain and E. McCullough were onsite to observe the site emergency exercise and conduct facility walkdowns.

**Emergency Management:** CNS conducted a full-scale emergency exercise. The scenario involved two separate radiological incidents in two facilities (i.e., dropped pit and dropped tritium reservoir with fire), resulting in the radioactive contamination spread outside the facilities, along with minor injuries (but minimal personnel contamination). Per the exercise scenario, the radiation safety organization assumed initial command of the incident. The resident inspectors and staff members noted opportunities for improvement in the areas of exercise design and conduct, but generally observed adequate field response. Exercise evaluators noted some site employees did not receive notifications and therefore did not implement protective actions.

**High Pressure Fire Loop (HPFL):** Last Friday, the safety class HPFL—which services the nuclear and nuclear explosive facilities in Zone 12—experienced a major leak resulting in the activation of all four diesel pumps to maintain pressure in the water line. CNS facility representatives declared the HPFL inoperable, and entered the associated limiting conditions for operations for the HPFL and affected facilities. CNS suspended operations and placed nuclear material and nuclear explosive operations into safe and stable configurations.

The fire department responded and visually identified water emerging from below ground in Zone 11. Within 30 minutes of the diesel pump starts, the fire department isolated the leak. Current projections indicate several hundred thousand gallons of water was released. CNS subsequently restored HPFL operability, allowing operations to resume. CNS categorized the incident as a performance degradation of a safety class structure, system, or component when it is required to be operable. The resident inspectors note that residual HPFL system leaks significantly increased following this event. While the HPFL can remain operable with a simultaneous leak, the cumulative system leak rate peaked at 85% of the operability threshold.

**Special Tooling:** On Wednesday, CNS conducted an investigation and critique related to usage of expired special tooling in an explosive facility. Specifically, the tool was used for operations after its preventive maintenance expiration date. Pantex has experienced several recent events regarding the use of improper/expired special tooling (see 7/16/21 report). Typically, technicians inspect special tooling prior to use, or during pre-shift setup, to identify excessive wear or damage and verify that the tooling has not expired. Participants at the investigation indicated that the tool had not been inspected on five separate days following expiration. They also noted that the production tooling organization did not notify the technicians that the expiration date was upcoming. Participants further noted that less than one week prior to these events, the supervisor for these operations conducted a briefing to specifically highlight the importance of paying attention to details, as well as reinforce the process used for tool verification.