

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 23, 2018

**TO:** Steven A. Stokes, Technical Director  
**FROM:** Ramsey P. Arnold and Zachery S. Beauvais, Resident Inspectors  
**SUBJECT:** Pantex Plant Activity Report for Week Ending March 23, 2018

**High Pressure Fire Loop (HPFL):** Due to two prior HPFL leaks, a section of the HPFL is out of service. As a result, compensatory fire watches remain in place in several facilities as CNS works to replace two degraded valves (see 2/23/18). Last week, Pantex received replacements for the two degraded leaking valves, which CNS isolated and subsequently removed. During bench-top hydrostatic testing, crafts identified that one of the replacement valves had a crack in it and leaked, preventing it from being accepted. While the other replacement valve passed the bench test, personnel identified a blemish on the flange surface, requiring it to be resurfaced before use. Because one of the new valves could not be used, CNS plans to install the one acceptable new valve and reinstall the degraded valve, previously removed from service, for temporary use. The degraded valve is only broken and leaking on one flange, so Pantex plans to install it with the degraded side outside of the HPFL pressure boundary—this section of the HPFL will still be out of service including the leaking side of the degraded valve. CNS believes that by closing the degraded valve, it will still be able to provide an adequate system boundary. As part of the post maintenance testing, CNS will have to open the degraded valve to flush the system. CNS expects this process to result in only a minor, acceptable amount of water leakage for the short duration until the degraded valve is re-closed. CNS has ordered a replacement valve and plans to install it upon arrival and acceptance testing.

**Emergency Response Drill:** The resident inspectors observed the first in a series of emergency response training drills with Fire Department (FD) and Radiation Safety Department (RSD) personnel. CNS designed the drill to test the FD and RSD's ability to respond to an accident that involves radiological contamination spread and victims that are injured and contaminated. The drill series is follow-up to a 2017 series where CNS and the RIs identified issues, including communication breakdowns between the FD and RSD and lack of contamination control. Since the 2017 drill series, the FD received additional training to address the issues, and both departments have practiced interfacing and attempted to streamline their combined response (see 1/27/17, 3/3/17 reports). During the observed drill, FD and RSD interactions occurred smoothly.

**Special Tooling:** Production technicians (PT) paused operations in a nuclear explosive cell when they identified an issue with the assembly stand. The stand includes upper and lower trunnions that share a common drive screw, and is equipped with a mechanical switch to allow the PTs to alternate movement between the upper and lower trunnions. During a procedural step requiring the PTs to switch to the lower trunnions, they determined that the switch would not properly function. Upon further inspection, the PTs and tooling engineers questioned whether the switch had been installed properly. Production tooling had recently completed the periodic maintenance on the stand, and this was the first set of nuclear operations since it had been returned to service. Process engineering is developing a temporary procedure to perform the following operations in order: reassemble the unit to a transportable configuration, transfer the unit to a transportation cart, remove the current stand from service, and reinstall the unit into a new stand. Tooling engineering is performing an evaluation of the configuration to support the procedure, and, alongside production tooling, will troubleshoot the cause of the malfunction.