

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 4, 2018

**TO:** Christopher J. Roscetti, Technical Director  
**FROM:** Zachery S. Beauvais, Resident Inspector  
**SUBJECT:** Pantex Plant Activity Report for Week Ending October 5, 2018

**Vacuum Chamber:** NPO conducted the federal readiness assessment (FRA) for operations in the modular vacuum chamber facility. The resident inspector observed demonstrations, an operational drill and various personnel interviews conducted for the FRA. The operational drill required the production technicians to demonstrate their ability to respond to a missing electrical cover on a nuclear explosive, a condition that would be in violation of the plant technical safety requirements. The nuclear explosive operating procedure contains explicit directions on how to address the scenario, and the PTs followed the prescribed steps with little issue. Members of the FRA team and the resident inspector noted minor procedural changes needed for completeness in the appendix addressing the scenario. Similar to previous assessments, members of the FRA team questioned the ability of PTs to hear procedure steps and public address announcements over the noise from operating equipment. The FRA team included NNSA personnel normally stationed at Y-12 and the Albuquerque office, in addition to personnel normally at Pantex. From the observed portions of the FRA and reviewed documentation, the resident inspector found the assessment to be thorough. At the time of this report, the FRA team had not finalized their conclusions.

**High Pressure Fire Loop (HPFL):** CNS fire protection engineers, special mechanic inspectors and impairment and restoration technicians conducted a flow test of sections of the HPFL. The flow test was performed to validate the results of a WaterCAD® hydraulic model used to demonstrate the capabilities of the HPFL to meet minimum flow requirements in limiting configurations (see 2/9/18 report). CNS fire protection and safety analysis engineers intend to use the results of the model to propose a new limiting condition for operations strategy for the HPFL, relying on only two pumps to be operable. The current strategy, as implemented by standing order, requires three functional pumps for the system to be fully operable. The test required impairment of the HPFL system and entry into limiting conditions of operability for fire suppression systems throughout the plant. This was completed by facilities personnel and confirmed by walkdowns prior to conducting the test. The test consisted of two sets of deluge and hydrant flow tests to demonstrate the respective ability of the 15-33 and 15-34 pump houses to provide sufficient water pressure at the highest demand locations. Fire protection engineers recorded pressure and pump speed measurements at specified intervals and will perform further analysis based on the results. All impacted facilities have been returned to service and the plant continues to operate under the provisions of the standing order.

**Nuclear Explosive Safety (NES):** The resident inspector attended the NES study group's out-brief to the NNSA deputy administrator for stockpile management and the NPO manager on their conclusions from the recent bays and cells master study. The study resulted in no findings against the NES standards, but did identify a compliance issue with fire protection requirements in the DOE facility safety order. The study included notable senior technical advisor comments on the plant's lightning protection strategy, documentation of positive measures, and scoping of master studies. The NNSA manager responsible for NES indicated that he plans to reevaluate the alignment of specific study topics based on the comment.