

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 3, 2020

**TO:** Christopher J. Roscetti, Technical Director  
**FROM:** Zachery S. Beauvais and Miranda McCoy, Resident Inspectors  
**SUBJECT:** Pantex Plant Activity Report for Week Ending January 3, 2020

**Material Staging Facility:** The NNSA Chief of Defense Nuclear Safety (CDNS) communicated concerns to NPO regarding the draft safety design strategy for the Material Staging Facility (MSF). CDNS performed a review of the draft MSF safety design strategy in October, and identified concerns with lack of specificity, including unclear references to DOE standards and lack of identification of critical interfaces of structures, systems, and components. Additionally, CDNS commented on both the decision for an active confinement ventilation system and the safety class designation of the system, stating that passive systems are preferable and safety class active systems are often resource-demanding. The MSF is currently in the critical decision one phase of project approval, with construction expected to begin within the next five years.

**Weapons Operations:** Last month, one unit failed an electrical test and a separate unit failed a vacuum test twice. Pantex is currently awaiting design agency input to finalize paths forward for both units; operations on both units are paused and they are in safe and stable configurations. Pending receipt of a special instruction engineering release, Pantex process engineering intends to re-perform the electrical test using a new copy of the same tester.

**Fire Protection System:** Last year, a welded joint in a fire riser servicing one bay partially failed, resulting in a leak. Repairs were completed on the fire riser this week, following minor delays resulting from difficulties ordering and receiving the correct flange. Last week, an infrared (IR) flame detector for the deluge fire suppression system in a different bay faulted. The CNS facility representative entered the appropriate limiting condition for operation and established a panel watch. Pantex has been undergoing a broad deluge system upgrade project, replacing ultraviolet (UV) flame detectors with IR detectors. The new IR detectors have experienced relatively few failures compared to the previous UV detectors (see 9/20/19 report). However, the same bay involved in last week's IR detector fault event experienced another IR detector fault in October of last year, prompting a fact finding and causal analysis as well as troubleshooting of the system (see 10/4/19 report).