

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 24, 2017

**MEMO TO:** Steven Stokes, Technical Director  
**FROM:** Ramsey Arnold and Zachery Beauvais  
**SUBJECT:** Pantex Plant Report for Week Ending February 24, 2017

**DNFSB Activity:** Board Member Daniel Santos and staff members C. Berg, J. Deplitch, and M. Helfrich were on-site to observe an emergency preparedness exercise, and to discuss and observe broken hoist components, safety related fire-barriers, and maintenance activities.

**Hoist Components and Ceiling-Mounted Appurtenances:** CNS management released more than half of all facilities impacted by safety concerns related to falling hoist components or electrical safety of light fixtures (see 2/17/17 report). Prior to the release, CNS completed a noncompliance report related to the facility light fixtures that allows continued operations until fixtures are returned to compliance with the national electrical code. Maintenance personnel have replaced couplers in over two-thirds of facilities where couplers could fall to the floor upon failure. NPO approved the justification for continued operations (JCO), and CNS completed an implementation verification review and issued a standing order for affected facilities. DNFSB staff observed system engineering personnel conduct a hands-on inspection of hoist components and participated in a reconvened causal analysis and corrective action development meeting.

**Emergency Exercise:** Pantex conducted a site-wide emergency exercise that simulated multiple events including an onsite vehicle accident resulting in multiple casualties, an explosion causing a radiological release, and an active shooter. The exercise presented the most complex scenario in recent history. A Board Member and staff observed multiple elements of the simulated response including activities at the operations center, emergency operations center, incident command, and two of three event scenes. The simulated radiological consequences included an offsite release. This was the first time Pantex deployed offsite emergency responders in an exercise to perform radiation field monitoring. The radiation field monitoring team included assistance from the newly chartered contingency response support team.

**Fire Suppression:** Last week, NPO transmitted the results of an assessment of the safety-class high pressure fire loop (HPFL). Assessment results included four findings against the HPFL safety functions and performance criteria, three findings against the HPFL maintenance processes, and one finding related to configuration management, in addition to various performance problems and one noteworthy practice. The NPO assessment team determined the 99% reliability of the HPFL, as stated in the approved documented safety analysis, does not account for operational history specific to the Pantex system or aspects of the current configuration that reduce the system reliability. Specifically, the stated reliability assumes parallel feeds to all facilities. This assumption is not currently valid for all nuclear facilities. CNS determined that a previous finding regarding the adequacy of the technical basis for a weekly surveillance requirement to check that pump house temperatures are maintained above 40°F, along with an additional discovery that engine coolant heaters are required for fire pump operability, represented a previously unanalyzed failure mode which could reduce the reliability of the HPFL. Originally declared as a Potential Inadequacy of the Safety Analysis, CNS has since declared this as a Positive Unreviewed Safety Question. Additional measures to monitor and respond to low temperature alarms, originally implemented in a February 2015 standing order, remain in place and allow the HPFL to remain operable while CNS develops a JCO.