

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 27, 2019

**TO:** Christopher J. Roscetti, Technical Director  
**FROM:** Zachery S. Beauvais and Miranda McCoy, Resident Inspectors  
**SUBJECT:** Pantex Plant Activity Report for Week Ending December 27, 2019

**Fire Protection System:** NPO recently approved documented safety analysis (DSA) change packages regarding upgrades to the fire suppression system in cells. CNS safety analysis engineers previously modified and implemented changes to the DSA regarding upgrades to some bay fire suppression systems, particularly high-pressure fire loop lead-in and flame detector improvement projects. However, this is the first similar upgrade to a cell. NPO included one comment and one directed change in their approval documentation; the directed change removes requirements for crane parking locations in facilities with completed upgrades.

**2019 Year in Review:** NNSA and CNS completed the following activities this year, related to safe nuclear and nuclear explosive operations at the Pantex Plant:

- CNS achieved readiness to conduct operations in support of a new special nuclear material staging mission, a nuclear explosive (NE) life extension program, a NE modification, and a NE alteration (see 1/11/19, 2/22/19, 4/5/19, 6/21/19, and 8/23/19 reports). To authorize operations, NPO approved safety basis changes reflecting whole-sale rewrites of two hazard analysis reports (HAR). Through this review, NPO identified the need to address legacy seismic issues impacting onsite transportation (see below).
- CNS developed and NNSA approved a safety basis addendum to address the potential collapse of a loading dock and various ramps following a design basis seismic event (see 2/8/19 report). NNSA used the exigent circumstances process to approve continued operations with this known issue, the second such instance complex-wide since the process was developed. CNS implemented immediate actions to expand the use of enhanced transportation carts and is executing an action plan for facility upgrades, including the installation of cross-bracing to prevent seismic collapse of the loading dock.
- The Pantex Plant experienced an atypically high number of conduct of operations related issues this summer (see 8/9/19 report). NPO identified this adverse trend and directed CNS to develop an action plan to address its causes (see 8/16/19 report). In response, CNS completed an extent of condition review and identified actions to improve safety basis development, identification of root causes to events, and improve the questioning attitude of personnel in key roles (see 10/18/19 and 11/1/19 reports).
- Following the 2018 approval of a Safety Basis Supplement for Legacy Issues, CNS completed reviews of HARs and safety analysis reports for the majority of weapon programs. Through this review, CNS safety analysts identified a number of potential inadequacies of the safety analysis, including a hazard related to internal charge generation on one weapon program (see 1/18/19 and 12/20/19 reports). As set forth in the safety basis supplement, CNS implemented a new suite of compensatory measures to reduce the likelihood of falling technician events (see 3/1/19 report).