

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 28, 2018

TO: Christopher J. Roscetti, Technical Director
FROM: Zachery S. Beauvais, Resident Inspector
SUBJECT: Pantex Plant Activity Report for Week Ending December 28, 2018

Safety Basis: Last week, CNS safety analysis engineering declared a potential inadequacy of the safety analysis related to explosive hazards during radiography operations impacting adjacent facilities. While the safety analysis previously addressed the potential for explosive accidents in radiography facilities to jar wall-mounted appurtenances in adjacent facilities, the energies related to that hazard had not been evaluated against current weapon response thresholds. After further evaluation, safety analysis engineering determined that the situation represented an unreviewed safety question. CNS engineering has proposed operational restrictions to implement a standoff from facility walls, de-inventory adjacent facilities, or remove wall-mounted appurtenances from adjacent facilities. Radiography operations with energetic nuclear explosive-like assemblies are currently paused while CNS engineering works to implement the proposed operational restrictions.

2018 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 developed, and NPO approved, a corrective action plan to address quality issues with Pantex safety basis documents (see 10/12/18 report). NPO and CNS intend the corrective action plan to address a far-reaching set of issues with the safety basis, including a number of legacy issues identified by the DNFSB staff.
- CNS tested their radiological field monitoring team during various drills and exercises (see 1/19/18, 10/26/18 and 11/16/18 reports). The team was established as a direct result of DNFSB Recommendation 2015-1.
- The Pantex Plant experienced several issues related to the development and implementation of operational restrictions and pauses. In response to these issues, NPO and CNS made various changes to the operational restriction process (see 5/4/18, 5/11/18 and 11/30/18 reports). The most recent of these changes requires the direct consent of a senior manager prior to resuming operations following a management initiated pause.
- NPO and CNS completed startup activities related the modular vacuum chamber facility, the warhead measurement campaign, the Confined Large Optical Scintillator Screen Imaging System 2, and additional special nuclear material surveillance capabilities (see 6/15/18, 7/20/18, 8/24/18, 9/14/18, 10/4/18 and 11/1/18 reports).
- Following coordination between CNS, the weapons design agencies, and various NNSA elements, NNSA published a revision to the safe-harbor standard for preparing hazard analyses for nuclear explosive operations (see 8/31/18 report). This revision changed the weapon response consequence definitions for certain events involving violent reactions of high explosives.