

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 10, 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 10, 2020

**DNFSB Staff Activity:** C. Berg and T. Hutain provided oversight of an emergency exercise, attended meetings with NPO and CNS personnel, and walked down nuclear explosive areas.

**Emergency Exercise:** The CNS Emergency Management Department (EMD) conducted a no-notice emergency exercise. The exercise scenario tested the site's response to an electromagnetic pulse (EMP) and subsequent national emergency scenario. The scenario assumed that the site lost offsite power, lost the vast majority of its communications and transportation capabilities, and that these capabilities would not be restored for an extended duration. Personnel from the NNSA Office of Emergency Operations, onsite to observe the exercise, noted that this was the first known example of an exercise at a defense nuclear facility focused on response to an EMP. EMD conducted the exercise as a structured tabletop discussion among the emergency response organization (ERO) executive team. Given the severe and unique nature of the event, the DNFSB staff observed that the ERO executive team did not make explicit decisions on some response actions and priorities, and required prompting from the exercise directors to consider key topics. However, the discussion that ensued allowed EMD to gather valuable information on the site's readiness for an event with similar consequences. CNS participants in the exercise hotwash noted that the ERO did not have the opportunity to demonstrate some objectives of the exercise, likely due to the complicated nature of the scenario. Additionally, they noted that the site could benefit from drilling smaller aspects of their response to an EMP. The DNFSB staff shared their initial feedback on the exercise with NPO and CNS.

**Safety Basis:** While reviewing a hazard analysis report (HAR) for one weapon program, Pantex safety analysis engineers identified three mechanical impact hazards that were not adequately captured in the HAR, and subsequently declared a potential inadequacy of the safety analysis (PISA). All three impact hazards involve drops of tooling or components. This follows a separate mechanical impact PISA discovered on this program during a recently completed review of the sitewide safety analysis report (see 8/30/19 report). Operations on this program remain paused for an unrelated issue (see 12/20/19 report).

**Facility Structure:** CNS held a fact finding to investigate concerns regarding rebar in the construction of a nuclear explosive cell. The cell has been out of service for facility upgrades, which involve replacing the high-pressure fire loop lead-in. The subcontractor performing the lead-in replacement noted that the rebar they had exposed did not look as expected, and contacted CNS. CNS facility engineering and project engineering personnel examined the rebar configuration and determined that the field configuration did not meet the as-built drawings for the facility. Additionally, CNS engineers determined that the roof design mirrors the floor in the affected area. To determine if the discrepancy poses a broader concern to either the floor or roof, CNS engineers completed radar scanning of a cell with a similar design, and found that the similar cell was unaffected. CNS personnel are currently scanning the affected cell to confirm the rebar locations.