

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 31, 2018

**TO:** Christopher J. Roscetti, Technical Director  
**FROM:** Ramsey P. Arnold and Zachery S. Beauvais, Resident Inspectors  
**SUBJECT:** Pantex Plant Activity Report for Week Ending August 31, 2018

**DNFSB Staff Activity:** C. Berg was onsite to participate in discussions on proposed weapon response consequence definitions and walkdown nuclear explosive areas.

**Preventive Maintenance:** While conducting maintenance on a toolbox within the nonnuclear tooling warehouse, area mechanics hoisted the special tooling to verify the torque of the toolbox caster attachment bolts. Area mechanics typically use cribbing or jack stands to support the load during this activity but did not do so in this case. While suspended, the special tooling shifted and fell approximately three feet. No injuries resulted from the event. Of note, these are the same facilities and personnel who perform preventive maintenance on special tooling utilized during nuclear explosive operations. Tooling maintenance is performed to work orders and data sheets that specify the inspections to be performed. These documents do not contain any steps to hoist the toolbox, instead CNS relies on training and skill of the craft. Additionally, this work was performed without a job-specific hazards analysis. Work on suspended loads during normal conditions is prohibited by DOE Standard 1090-2011, *Hoisting and Rigging*. DNFSB staff previously identified concerns with the preventive maintenance procedures used to verify the functionality of safety related special tooling (see 8/4/17 and 9/8/17 reports).

**Lightning Standoff Implementation:** During a control owner assessment of lightning protection program implementation in Zone 4 magazines, CNS engineers discovered a nuclear explosive to be in violation of the lightning standoff distance required by the technical safety requirements (TSR). The TSR specifies a 1.6 inch standoff from magazine walls and metallic penetrations for units in their transportable configuration. The control is implemented through taped off markings on the facility floor, however the taped markings are often covered in dirt or otherwise ineffective. Upon discovery, CNS restored compliance and initiated an immediate extent of condition review in other similar facilities. CNS transportation personnel and an NPO facility representative walked down more than 90 percent of potentially impacted facilities and did not find additional non-compliances. They noted additional instances where the taped standoff was difficult to see or peeling up. CNS will initiate issues management activities related to this event next week.

**Weapon Response Consequence Definitions:** Members of the DNFSB staff met with representatives from various NNSA offices, the design agencies, and CNS, to discuss proposed changes to weapon response consequence definitions. The proposed changes would subdivide events currently categorized as high explosive violent reactions and are being considered as an interim revision to the safety basis safe harbor methodology for nuclear explosive operations. The DNFSB staff has provided NNSA their initial feedback on the content of the proposed revision. While currently draft, the proposed definitions have been used to support the development of safety basis documents submitted to NPO for review and approval. This week, NPO rejected the first of these submittals—a re-write of the hazard analysis report for one weapon program. NPO noted that there was insufficient consequence analysis to support categorization of technical safety requirement controls.