

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 25, 2018

TO: Steven A. Stokes, Technical Director
FROM: Ramsey P. Arnold and Zachery S. Beauvais, Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending May 25, 2018

DNFSB Staff Activity: J. Anderson, C. Berg, C. Scheider, K. Sullivan and the resident inspectors observed nuclear explosive operations, observed production stand-up meetings, and held discussions with a representative from the weapons training group. These activities were conducted as the first phase of a nuclear explosives operations review. The staff observed generally rigorous operations by the production technicians, but did note indications of incomplete or inaccurate execution of pre-operational checks, operational steps performed out of sequence, and deviations from verbatim execution of operational steps. The staff discussed these observations with CNS and NPO personnel. The staff plans to evaluate these observations in the broader context of the Pantex conduct of operations program.

M. McCoy observed and evaluated the bays and cells nuclear explosive safety master study.

Fire Detection and Suppression Control Panel: During the recent completion of a fire protection system preventive maintenance activity, electricians received a voltage reading below the minimum acceptable level on the battery banks serving as the secondary power source for the fire detection and suppression control panels (see 5/18/18 report). System engineering performed an operability evaluation (OE) of the secondary power source, given the known degradation. The OE compared the measured voltage to the voltage at installation, and concluded that there has not been a significant performance degradation in the system. The OE determined a minimum operating capacity for the system, qualitatively compared the observed degradation in voltage to this minimum capacity, and concluded that it is unreasonable to believe the batteries have degraded to below minimum requirements. The OE additionally noted that the activation voltage for the deluge solenoid, the limiting component in the system, is below the measured voltage of the secondary power supply. Based on the determination of system operability, facilities personnel exited the limiting conditions of operability and returned the impacted facilities to operational mode. Maintenance intends to replace the battery banks in the coming months.

Warhead Measurement Campaign (WMC): CNS recently completed the contractor readiness assessment (CRA) of operations related to the upcoming WMC. The CRA identified 24 findings, including 20 pre-start findings. The WMC involves work performed by CNS production technicians, based on measurement and experiment specifications provided by national laboratory personnel. The CRA team identified a prestart finding related to the control of work in this unique arrangement. Specifically, the CRA team concluded that there is no formal means to communicate the roles and responsibilities across all WMC team members to ensure there is clear understanding of what organization has management responsibility for control of safety. The CRA team identified additional findings related to the control and use of neutron sources including a lack of technical basis documentation to support the use of radiation safety measurement equipment with high energy neutrons and inadequate demonstration of neutron source handling. An NNSA readiness assessment is planned to evaluate the closure of the CRA findings and determine the plant's readiness to conduct WMC operations.