DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 25, 2020

TO: Christopher J. Roscetti, Technical Director
FROM: Miranda McCoy, Resident Inspector
SUBJECT: Pantex Plant Activity Report for Week Ending September 25, 2020

DNFSB Staff Activity: C. Berg provided onsite resident inspector augmentation and conducted interviews on the topics of training and conduct of operations.

Shipping Material Release (SMR): Last week, NPO received an SMR from the Kansas City Field Office (KCFO) that identified thousands of components that had been manufactured with the incorrect alloy, compared to that specified in their design definitions. The components include 72 different connector, cap, or cover designs. CNS paused operations on multiple programs, and Pantex received special exception releases (SXR) for each affected component in order to release the paused programs. In the SXRs, design agency subject matter experts assert the incorrect alloy has no effect on fit, form, or function of the components. The resident inspector notes that the differing alloys have extremely similar material properties. Pantex has received nearly 40 SMRs this year.

Safety Basis: NPO approved a number of safety basis change packages, including one regarding seismic qualifications of forklifts and one regarding a planned improvement for weapon response for a specific process hazard on one weapon program. CNS safety analysis engineering (SAE) personnel updated the technical safety requirements (TSR) to include two functional requirements for forklift seismic qualifications.

Maintenance: During preventive maintenance activities on a newly installed linear accelerator (LINAC) within a nuclear explosive facility, quality assurance technicians rotated the LINAC head forward in order for area mechanics to verify functionality of the LINAC tilt forward limit switches. While rotating the LINAC head, the equipment cabling did not have sufficient length and was pulled taut, potentially damaging the cables. Sufficient cable slack was not verified to ensure these operations could be performed without damage during either installation or while performing maintenance per the procedure. Additionally, in the event critique, personnel noted that during these maintenance activities, the technician manipulating the LINAC head cannot see the cabling and must rely on others to notify them of complications. CNS will apply lessons learned while installing a new LINAC in a separate facility.

35-Account Material: CNS identified that approximately 15 different types of 35-account gloves had not passed all electrostatic dissipative (ESD) testing requirements. The Pantex safety basis permits the use of these gloves for ESD operations, and the gloves had been issued to the production line. Previously, CNS 35-account scientists had modified the measurement plan for the gloves to remove a resistivity testing requirement. CNS is performing an extensive causal analysis, and will determine the level of SAE review performed on the plan and whether CNS employs additional implementing documents. In response, CNS issued a stop work event for operations with the affected gloves and subsequently removed them from the applicable facilities. The event was categorized as a violation of the TSRs. CNS is pursuing additional resistivity measurements, as needed, to allow resumption of the operations with these gloves.