

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 7, 2020

TO: Christopher J. Roscetti, Technical Director
FROM: Miranda McCoy, Resident Inspector
SUBJECT: Pantex Plant Activity Report for Week Ending August 7, 2020

Safety Basis: NPO approved a justification for continued operations (JCO) for weapon response rule mapping discrepancies on one program. The weapon response rule previously applied did not match the actual orientation of the unit during operations. CNS previously implemented a NNSA-pre-approved measure to apply the existing personnel evacuation specific administrative control (SAC) for the affected operations; the JCO establishes the same SAC as the applicable compensatory measure (see 7/31/20 report). This is the second JCO published recently to address issues with weapon response rule mapping on this program, both including discrepancies between actual unit orientation and rule orientation. Both JCOs implemented the personnel evacuation SAC to control low order consequence events (see 7/24/20 report).

NPO approved a safety basis supplement outlining activities for one unit that deviate from the currently approved hazard analysis report (HAR) for that weapon program. Last month, production technicians (PT) encountered difficulty with unit disassembly. Silicone elastomer used in the assembly process had not been adequately removed to allow further processing of the unit. At that time, the PTs paused work and placed the unit in a safe and stable configuration. CNS received a special instruction engineering release (SIER) from the applicable design agency providing instruction for how to proceed safely with removal of the excess elastomer, and details for noting the conditions to which the disassembled components had been subjected. CNS process engineering incorporated the information into a nuclear explosive engineering procedure. The new process involves additional steps to remove the elastomer with plastic toothpicks and wooden sticks. These steps have not been evaluated in the issued HAR for the weapon program. NPO's safety evaluation report documents that for this operation, only one hazard is not bounded by the HAR; this hazard is controlled by the personnel evacuation SAC.

Satellite Facilities: Technicians used an incorrect gas cylinder during vacuum chamber operations. The process required a specific 35-account gas cylinder, which was specified in the procedure. However, multiple gas cylinders were available in the facility, and the technicians did not verify the cylinder used until after the operations were completed. Following the publication of a SIER and nuclear explosive engineering procedure, CNS re-ran operations with the correct gas composition. CNS has experienced a number of recent conduct of operations issues, and last year NPO identified an adverse trend in conduct of operations events (see 6/19/20 and 7/9/19 reports).

Facility Structure: A subcontractor performing work near high explosive facilities damaged a structural I-beam. Subcontractor personnel hung a strap and pulley on the I-beam and attached a winch to pull cable. This approach was not outlined in the permit but also not specifically disallowed. The additional loading on the I-beam deformed the I-beam flanges. CNS determined the need for an engineering evaluation to determine the extent of damage to the I-beam and its acceptability for continued service. CNS also developed a memorandum to all subcontractors outlining unapproved attachment points for pulling cables.