

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 6, 2017

MEMO TO: Steven Stokes, Technical Director
FROM: Ramsey Arnold and Zachery Beauvais, Pantex Plant Resident Inspectors
SUBJECT: Pantex Plant Report for Week Ending October 6, 2017

Safety Basis: Last week, safety analysis engineering (SAE) declared a safety basis noncompliance in two nuclear material facilities due to the discovery of displaced light fixture gaskets, resulting in the lights not meeting a safety-class functional requirement to remain in place following a design basis seismic event (see 9/29/17 report). This week, SAE declared a potential inadequacy of the safety analysis (PISA) and subsequently determined the lights to represent a positive unreviewed safety question (USQ). Per procedure, this re-categorization was made because the degraded light fixtures could not be repaired within three days of discovery.

Separately, SAE determined PISAs previously declared related to the use of 35-account pneumatic hose restraints and the use of discrepant pressure relief discs in the compressed air system (see 9/22/17 report) represent negative USQs.

Maintenance: Pantex infrastructure personnel began a maintenance turnaround on a set of facilities, including nuclear explosive facilities. The resident inspectors observed maintenance work on safety systems including electricians performing a corrective maintenance procedure to resolve a fire alarm control panel trouble signal and a portion of the annual fire suppression system preventive maintenance. During the execution of the preventive maintenance on the fire suppression system, the resident inspectors identified a typographical error in a step and brought it to the attention of special mechanic inspectors (SMI) performing the work. The step implements a safety basis specified surveillance requirement to test the function of the post indicator valve (PIV) for the facility. As written, the step referenced the wrong PIV. The SMIs performed the surveillance requirement on the appropriate PIV and made a pen and ink change to the step after the procedure error was identified. The SMIs contacted their supervisor who discussed making a request to have the procedure revised. Pantex will continue the turnaround maintenance work and enter a planned electrical outage at the end of this week.

Falling Man Hazard: Last week, NNSA issued the finalized Weapons Complex Falling Man Committee report. The report documents a multi-year effort by the design agencies, Pantex, and NNSA to develop a unified, comprehensive model to be used for the postulated falling man hazard developed in the Pantex safety basis and in design agency weapon response analyses (see 5/15/15 and 12/11/15 reports). NNSA is considering an implementation plan for utilizing the model to evaluate existing special tooling and assess future operations.

Procedural Adherence: The resident inspectors attended a causal analysis and mistake proofing (CAMP) meeting held to address a weapons quality issue on a non-nuclear, joint-test-assembly. The timeline established by the CAMP team noted that the issue was partially caused by the failure to perform all provisions of a step in a critical use procedure, which stipulated multiple actions as part of a bulleted list. This procedural level-of-use category, also used for nuclear explosive operations, requires strict procedural adherence and placekeeping. Participants at the CAMP discussed the expectations for the reader-worker-checker routine and expectations for placekeeping in bulleted lists—both of which are critical to the safe execution of nuclear explosive operations at Pantex. CNS is finalizing corrective actions for this event.