

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 29, 2020

TO: Christopher J. Roscetti, Technical Director
FROM: Miranda McCoy, Resident Inspector
SUBJECT: Pantex Plant Activity Report for Week Ending May 29, 2020

Special Tooling: Last month, NPO approved the staging of one weapon component and associated tooling in an enhanced transportation cart (ETC) beyond the in-service inspection (ISI) grace period for the ETC due to COVID-19 related delays (see 4/28/20 report). This week, NPO approved a safety basis supplement (SBS) for additional special tooling that may exceed their ISI grace periods. The scope of the SBS comprises specific copy numbers of assembly carts, ETC-Is, and ETC-IIs. The majority of the copies evaluated by the SBS have since been processed, leaving three copies of the above tooling at risk of exceeding their ISI 25% grace periods; each of these three has a grace period expiring in July. CNS completed an engineering evaluation—similar to the evaluation for last month’s ETC ISI—that considered the tooling’s design features and determined that none of them were susceptible to degradation given the controlled environment and lack of operation of the tooling. NPO’s safety evaluation report concluded that this assessment was accurate and continued use of the tooling for weapon component staging could be accomplished safely. NPO identified no conditions of approval.

Nuclear Explosive Procedures: Late last year, CNS safety analysis engineering declared a potential inadequacy of the safety analysis (PISA) for specific hazards for one weapon program, including an unanalyzed hazard related to rolling equipment impacting nuclear explosives in the ultimate user configuration (see 11/8/19 report). CNS subsequently implemented operational restrictions—one requiring a standoff distance between specific equipment and units—via short term Nuclear Explosive Engineering Procedures (NEEP). The expectation was that the relevant Nuclear Explosive Operating Procedures would later be updated to include the operational restrictions. CNS upgraded the PISA to a positive unreviewed safety question, and NPO subsequently approved a justification for continued operations that included the operational restrictions as compensatory measures.

This week, CNS process engineering noticed that the NEEP outlining the standoff distance compensatory measure had expired approximately two weeks earlier. When procedures expire, production technicians (PT) lose access to the document, and therefore were no longer working to the procedure that implemented the compensatory measures. CNS categorized the event as both a technical safety requirement violation, due to PTs no longer working to a procedure that implemented the compensatory measures, and a general nuclear explosive safety rule (NESR) violation, since one NESR requires that nuclear explosive operations be performed in accordance with approved written procedures. Fact finding participants noted that the PTs had been trained to the compensatory measures prior to the expiration of the NEEP, and, during CNS interviews with the PTs, none of the technicians recalled bringing disallowed equipment within the standoff distance. Following the event, CNS took action to issue a revision of the expired NEEP and perform an extent of condition evaluation to ensure no other procedures implementing operational restrictions or compensatory measures had expired.