

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 28, 2017

MEMO TO: Steven Stokes, Technical Director
FROM: Ramsey Arnold and Zachery Beauvais, Pantex Plant Resident Inspectors
SUBJECT: Pantex Plant Report for Week Ending July 28, 2017

Electrical Testers: During a routine calibration of a category 1 electrical tester, a metrology technician found that one of the batteries in the tester had failed. The battery was discovered to have a bulging cathode terminal. Subsequently, CNS management paused all operations that utilize the tester. Tooling and Tester Design engineers developed an engineering evaluation to understand the discovery, determine the extent of the condition, and determine the potential impact to safety. The evaluation concluded that a battery failure will not cause a tester safety issue and will never be capable of causing a nuclear explosive safety issue. Consequences of battery failures were considered during the design of the tester and previously analyzed as a postulated fault scenario. CNS also evaluated the battery failure configuration to be in compliance with all elements of the Pantex Electrical Equipment Program. The design of the electrical tester, as well as the required calibration frequency and pre-usage testing, precluded any unanticipated energy from being applied to any unit under test. CNS has released two copies of the electrical tester back for use based on completing the tester calibrations and replacing all of the tester batteries.

Special Tooling: Based on observations from the resident inspectors and an inquiry from NPO (see 9/30/16 and 2/3/17 reports), CNS transmitted a letter that discusses the applicability of a technical safety requirement (TSR) related to special tooling in-service inspections (ISI). In the letter, CNS concluded that special tooling in use beyond its ISI interval and unable to be taken out of service should be addressed in accordance with the TSR, which requires CNS to justify its continued use and request an ISI extension from NPO. Additionally, CNS evaluated all special tooling ISI types to determine if the special tooling could degrade when active operations are not occurring due to a long-term delay (e.g., due to an encountered process issue and pause in operations after declaring the configuration as safe and stable). Based on the lack of tooling manipulations during long-term delays, CNS determined that special tooling degradations will not occur solely due to time-related aging, and that the special tooling will continue to perform its required safety function even if not verified with an ISI. CNS plans to identify all long-term process delays currently affecting in-use special tooling and to send an appropriate justification and ISI extension request to NPO.

Unreviewed Safety Question (USQ) Procedure: NPO transmitted a safety evaluation report to approve a revision to the CNS Pantex USQ procedure. NPO did not include any conditions of approval, but did include four editorial comments for CNS to incorporate prior to completing implementation of the revised USQ procedure. CNS submitted the revision, in part, due to the ongoing effort to consolidate the USQ processes between Pantex and Y-12. A notable change to the Pantex USQ procedure is the incorporation of a pre-approved list of administrative documents that are exempted from USQ review. With the implementation of the administrative documents exemption, CNS should be able to decrease some of its USQ backlog—a system health tracking metric that has been increasing since April 2016 (also the last time CNS met its USQ backlog goal of 30 or less). The USQ backlog is now greater than 250. Along with the exemption request, CNS has been working to qualify more personnel to the necessary level to be able to meet the USQ review workload.