

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 5, 2017

MEMO TO: Steven Stokes, Technical Director
FROM: Ramsey Arnold and Zachery Beauvais
SUBJECT: Pantex Plant Report for Week Ending May 5, 2017

High Pressure Fire Loop (HPFL) Surveillances: Following issues identified during a walkdown of HPFL pump houses (see 3/3/17 report), a resident inspector reviewed several completed work orders for system surveillances completed in the HPFL pump houses. The resident inspector identified an inconsistency in the application of concurrent verification for completion of a valve alignment surveillance requirement. Pantex work instructions and implementing documents require second person verification for components that are essential for proper response to an emergency, including HPFL alignments. CNS fire protection engineers independently identified and subsequently revised the maintenance procedure to require verification of this alignment step. The review also identified inconsistencies in the flow-down of surveillance acceptance criteria into maintenance procedures, minor concerns with the clarity of maintenance procedure steps, and multiple concerns with the documentation of work authorization steps. The resident inspector discussed the observations with fire protection engineers this week, and plans to meet with infrastructure personnel as well. CNS has revised or plans to revise pump house maintenance procedures to address many of the observations.

Unreviewed Safety Question (USQ) Process: NPO transmitted the results of a recent assessment of the effectiveness and implementation of the Pantex USQ process, NPO oversight of the USQ process, and the safety culture implications of dispositioning new information and USQs. The assessment was requested by the NPO manager following various recent operational events (see 1/27/17, 2/17/17, and 2/24/17 reports) and was performed by personnel from NPO, the NNSA Office of the Chief of Defense Nuclear Safety, and the DOE Office of Nuclear Energy. The assessment identified four findings related to the Pantex process for determination and disposition of potential inadequacies of the safety analysis (PISA) and performance of USQ determinations. The team identified instances when the PISA/USQ determination process is not entered or appropriately administered, including the misuse of a USQ categorical exclusion and the failure to disposition assessment findings through the PISA/USQ process. The assessment team also identified four performance problems related to safety culture, including identification of evidence that production pressures and/or deviations from defined processes may impede the proper disposition of PISAs and implementation of compensatory measures. NPO requested CNS provide a corrective action plan to address the identified findings. The resident inspectors have noticed an improvement in the adherence to the defined PISA process since the initiation of the assessment (see 3/17/17 report).

Justification of Continued Operations (JCO): Last week, NPO issued a safety evaluation report approving a JCO to allow CNS to resume vacuum chamber operations for a particular nuclear explosive-like assembly (NELA) that can be collocated with other nuclear explosive assemblies. In March, CNS declared a PISA, and subsequently a positive USQ, when they identified that a lightning strike accident scenario had not been analyzed for the particular NELA during vacuum chamber operations. Compensatory measures included crediting existing lightning controls that are now applicable for NELA operations. Prior to JCO implementation, NPO directed CNS to implement the vacuum chamber safety analysis report annual update, approved in February, to allow the JCO changes to be consistent with the annual update changes.