

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 11, 2017

MEMO TO: Steven Stokes, Technical Director
FROM: Ramsey Arnold and Zachery Beauvais, Pantex Plant Resident Inspectors
SUBJECT: Pantex Plant Report for Week Ending August 11, 2017

Safety Basis: Pantex is currently operating with three evaluations of the safety of the situation (ESS) and nine justifications for continued operations (JCO). This is the highest combined number of ESSs and JCOs in effect since CNS assumed the role of management and operating contractor in 2014. Additionally, NPO issued safety evaluation reports to approve two additional JCOs, and CNS is awaiting approval of a third JCO.

- Five weapon programs are currently affected by approved, weapon-focused JCOs. An additional program is awaiting the approval of a unit-specific JCO.
- Facility-focused JCOs currently in effect include fire barrier deficiencies with the special nuclear material component requalification facility (see 11/4/16 report), crane coupling deficiencies (see 2/24/17 report), and ambient temperature deficiencies with the high pressure fire loop pump houses (see 3/31/17 report).
- Following implementation verification reviews, CNS will implement two additional JCOs that NPO approved this week. One JCO relates to increased worker safety weapon response information received from the design agency (see 7/14/17 report). The second JCO authorizes the resumption of inter-zone transportation of AL-R8 2030 containers (see 8/4/17 report). Compensatory measures include administratively preventing vehicle approaches during loading and unloading operations of the pit containers.
- NPO recently approved a change package that updated the safety basis of a weapon program and incorporated alteration operations into the approved scope of work (see 7/14/17 report). Once implemented via alteration start-up activities (i.e., contractor and federal readiness assessments), CNS will be able to close three JCOs.

Explosives Safety: During an ongoing contractor readiness assessment (CRA) to evaluate proposed weapon alteration operations (see 8/4/17 report), a CRA team member identified a procedure discrepancy for packaging of an explosive component into a pipe container. When unpackaged, the component is classified as a mass-detonating explosive; however, when packaged appropriately per the pipe container drawing (i.e., with cap tightened to at least five threads), the packaged component is classified as an explosive with no significant blast or fragment risk. A technical safety requirement states that no explosives can be staged in facility interlocks with the exception of explosives evaluated to be the latter case. The CRA team member identified that the proposed packaging procedure stated to hand tighten the cap, but did not prescribe the five thread requirement. Subsequent to an implementation verification review (see 2/17/17 report), CNS restarted non-alteration operations on the same program in March, which included the use of an analogous packaging procedure. Once packaged, the container is placed in the facility interlock. Based on the discrepancy found in the proposed procedure, CNS reviewed the authorized packaging procedure and found the same discrepancy (i.e., hand tighten). CNS paused all affected operations and verified that all packaging containers in use were appropriately tightened beyond the five-thread requirement. CNS is revising the procedure for currently authorized operations to clarify that pipe caps need to be tightened to at least five threads. Additionally, CNS is developing an engineering evaluation to show that all containers previously packaged since March 2017 were properly seated beyond the minimum five threads.