DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 12, 2013

MEMO TO: Steven Stokes, Acting Technical Director
FROM: Thomas Spatz, Pantex Site Representative
SUBJECT: Pantex Plant Report for Week Ending April 12, 2013

Board Staff Activities: This week, J. Mercier was at the Pantex Plant to observe the Bays and Cells Nuclear Explosive Safety Master Study activities and meet with Operations Systems Development and Integration (OSD&I) project personnel.

Tooling Failure: This week, B&W Pantex paused all nuclear explosive operations on one weapon program due to a tooling failure. As part of the normal process for disassembling this weapon, B&W production technicians (PTs) install tooling which imparts a compressive load on the unit. The load path for the assembled tooling passes through three bolts used to fasten two pieces of tooling together. At approximately 60% of the compressive load required by the process, one of the three bolts failed. The PTs notified the production shift manager who directed them to remove the compressive load from the unit and pause operations. Subsequently, B&W process engineering, nuclear explosive safety, and authorization basis personnel determined the unit was in a safe and stable configuration. At the event critique, B&W tooling engineers stated that the load path for this tool was never tested and there is no requirement for a periodic inspection of the tool because the tool does not support the unit. B&W tooling engineers already have a new design for this tool that will be approved for nuclear explosive operations.

Potential Inadequacy of the Safety Analysis (PISA) for Incomplete Analysis: This week, B&W Pantex declared a PISA for one weapon program because there was no falling man impact analysis for a specific configuration. Nuclear Explosive Safety personnel, performing an Operational Safety Review, inquired about the load rating for a component of the work stand when the trunnions are rotated in the horizontal position. B&W tooling and tester design personnel did not perform a falling man impact analysis for this configuration because the unit is only rotated from vertical-to-vertical during assembly operations. B&W authorization basis personnel determined that the documented safety analysis for the work stand is incomplete because there are disassembly operations performed with the work stand trunnions in the horizontal position. B&W Pantex has paused disassembly operations on this weapon program.

Fire Penetration Seals Update: This week, NPO issued a Safety Evaluation Report (SER) approving an authorization basis change package that revises the Justification for Continued Operations (JCO) in a majority of remaining facilities with suspect fire penetration seals. The revision changes the combustible material standoff distance in the ramps outside the facilities from 8 feet to 5 feet, to allow an electric cart to travel through the ramp. The SER contains a condition of approval that electric carts must be attended at all times in the ramps outside these facilities. The expiration of this JCO remains June 30, 2013. (See reports for 8/24/2012 and 2/1/2013.)

Tooling Tolerance Stack-up Issue: This week, B&W Pantex paused nuclear explosive operations in one facility when a specific tool would not attach to the nuclear explosive due to a tolerance stack-up issue. B&W process engineering, nuclear explosive safety, and authorization basis personnel determined the unit was in a safe and stable configuration. B&W tooling engineers are redesigning the tool.