**DEFENSE NUCLEAR FACILITIES SAFETY BOARD**

**MEMO TO:** Timothy J. Dwyer, Technical Director
**FROM:** Matthew Duncan and Rory Rauch, Pantex Site Representatives
**SUBJECT:** Pantex Plant Report for Week Ending October 30, 2009

**Conduct of Operations:** Technicians stopped a recent W88 disassembly operation when they discovered they had inadvertently skipped a quality-related measurement. The procedure reader had inadvertently read the step "perform steps 1-2.XY in procedure Z" as "perform steps 1-2X.Y in procedure Z". No safety issues resulted from the skipped measurement or the prematurely performed steps. Manufacturing plans to present the lessons learned from this event in standup briefings to other technicians.

**W76 Operations:** The Nuclear Explosive Safety Change Evaluation (NCE) to review the proposed recovery operation for the recent W76-1 issue was completed. There were no findings. A second NCE began this week to assess staging of additional containerized high explosives and a pit in cells during W76-1 assembly operations. These items would remain containerized until the nuclear explosive being processed has been transported from the cell.

**High Explosives Floor Mats:** For certain weapon programs, high explosives floor mats are credited in the documented safety analysis with specific properties to reduce the likelihood that impact events would result in a high explosive deflagration or detonation. They are typically one half inch thick. On some mats one side is beveled to allow carts to be rolled easily onto and off of the mat. A concern had been raised that the non-beveled sides of mats pose a tripping hazard, potentially resulting in a worker impacting a nuclear explosive or high explosive component. Although not required by the safety basis, the work instruction for these mats has been modified to require that all four sides of the mats be beveled. The mats will be replaced over the course of one year according to the pre-existing replacement schedule.

**Nuclear Explosive Safety (NES) Post-start Findings:** B&W reduced the backlog of open post-start findings from 62 to 41 in fiscal year (FY) 2009. Three of the closed findings—the hazard presented by the use of AC-powered equipment in lightning standoff areas, the lack of analysis for nearby explosion scenarios, and the hazard presented by lightning-induced spalling—had been open longer than five years.

Of the 41 remaining findings, 5 have been open longer than eight years, and 10 have been open longer than four years. The 5 findings that have been open longer than eight years all describe potential lightning-related hazards. Two of these findings involve bond wire inductance and multi-point grounding considerations and are being addressed by the Nuclear Security Enterprise Electromagnetic Committee. Two of the findings capture the threat presented by lightning induced common mode voltage on the W76 and W78 programs. B&W has submitted a closure plan for the W76 finding. The final longstanding finding requires an evaluation of the lightning threat to electro-explosive devices during battery-powered tester operations. This finding should be closed after a new lightning safety management program has been developed and approved, an action that PXSO has incentivized for FY10.