

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

**MEMO TO:** Timothy J. Dwyer, Technical Director  
**FROM:** Timothy Hunt and Rory Rauch, Pantex Site Representatives  
**DATE:** 19 December 2008  
**SUBJECT:** Pantex Plant Weekly Report

**Natural Phenomena Hazards (NPH):** Based on a recommendation from the 10 year site-specific NPH update for wind and tornado loadings, PXSO directed B&W Pantex to evaluate performance category-3 (PC-3) structures, systems, and components (SSCs) against the criteria for PC-4 wind driven missiles. An initial impact assessment indicates additional analysis will be needed to demonstrate that PC-3 SSCs meet the criteria for PC-4 wind driven missiles, but physical modifications to the SSCs will not be necessary. B&W Pantex committed to completing the analysis and associated documented safety analysis changes this fiscal year.

Fiscal year (FY) 2009 budget constraints have delayed the 10 year updates for flood and seismic NPH until FY10. The delay will allow B&W Pantex to utilize the Central and Eastern United States (CEUS) Seismic Source Characterization project to support the seismic NPH update, a cost savings in performing the seismic update of approximately \$200K. This project; utilizing subject matter experts (SMEs) from industry, academia, and government; is scheduled for completion in July 2010 and will provide a consistent basis for computing probabilistic seismic hazard analyses for any site in the CEUS. The flood and seismic NPH updates are now scheduled for completion in November 2010 and December 2011, respectively.

**Lightning Safety:** Members of the Nuclear Weapons Complex Electromagnetic Committee (NWCEMC) met last week with lightning protection subject matter experts from the Atomic Weapons Establishment (AWE) of the United Kingdom to discuss lightning protection strategies. The AWE participants solicited feedback from the NWCEMC on the lightning protection scheme for a new £800 million nuclear weapon assembly/disassembly facility, which is scheduled to begin operation in 2016. Currently, the new facility is designed with three lines of defense to protect against direct lightning attachment to sensitive components: an overhead air termination catenary system, a Faraday cage comprising the facility outer walls and rebar, and a 1.2m standoff from the inner walls of the operating cells. The NWCEMC received feedback on the analyses performed to date to screen Lawrence Livermore National Laboratory weapon systems for the hazard posed by indirect lightning effects.

**Special Tooling:** A W76 operation was suspended this week when a safety latch on a disassembly fixture failed to engage. This problem has occurred previously and has been attributed to a slight misalignment of the fixture as it is mated with the component undergoing disassembly. An engineered solution to this issue—to lengthen the safety latches on the fixture—had been identified approximately eight months ago, but the modification, considered only a process enhancement, had not been completed. B&W Pantex has re-prioritized the modification and will begin processing the work order immediately. Meanwhile, production technicians will receive a briefing on techniques to ensure proper alignment of the fixture.

**Material Move Error:** During the relocation of thousands of depleted uranium parts, material handlers had difficulty dispatching one of the parts in the material tracking system and decided to exclude it from the move. This change was captured in the tracking system, but the part was never physically removed from the pallet and was ultimately relocated. No material limits were violated in this instance. Corrective actions include 100 percent inventory verification of the affected facilities, and a comparison of the cause analysis exercise from this event with the material move causal factors analysis investigation completed last October.