

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

**MEMO TO:** Timothy J. Dwyer, Technical Director  
**FROM:** Timothy Hunt and Rory Rauch, Pantex Site Representatives  
**DATE:** 7 November 2008  
**SUBJECT:** Pantex Plant Weekly Report

**Human Performance Errors:** PXSO recently requested that B&W Pantex evaluate material move issues to determine whether corrective actions placed appropriate emphasis on personal accountability and attention to detail in performing work. B&W Pantex responded by identifying several process changes that would reduce the opportunity for human performance error (e.g., enhancements to the Move Right System that incorporate engineered controls for moves that are currently administratively controlled, and procedure revisions to improve usability). An explicit discussion of how personal accountability was treated in the corrective actions from recent material move issues is being prepared.

**W78 Electrostatic Discharge (ESD) Hazards:** B&W Pantex plans to install static dissipative flooring and modify tooling to establish a 5 kV voltage environment for W78 nuclear explosive operations. Program management is scheduling a nuclear explosive safety change evaluation, contractor readiness assessment, and NNSA readiness assessment for the proposed changes, with the intent to restart operations before April 2009.

**System Engineering (SE):** A PXSO assessment of the B&W Pantex SE program found improvements in many elements since its last review; however, weaknesses were identified in several areas. SE department staffing continues to fall, with at least six vacancies awaiting the FY09 budget resolution. Content and quality issues with design information summaries—used to consolidate design and safety basis information into a single document—were found. Weaknesses were also noted in the conduct of vital safety system assessments and backfit analyses.

**Special Nuclear Material (SNM) Transportation Cart:** An SNM cart has been designed—and two prototype units fabricated—with the goal of making available an alternative method for safely and efficiently moving pits around Zone 12 South. Performance requirements to protect the cargo against fuel fires and chemical spills have been met. Time-motion studies have shown the durations of loading and unloading can be reduced by as much as 75 percent—correlating to an equivalent drop in radiation exposure to handlers—compared to the current local move method consisting of AL-R8 containers on pallets. B&W Pantex is weighing the benefits and detriments of using the heavier and larger SNM transportation cart before implementation.

**Pit Storage Containers:** B&W Pantex is performing tests on five AL-R8 sealed insert (SI) containers—with high-wattage pits—using softwood fiber Celotex inserts to validate that the proposed use of these new inserts provides comparable thermal characteristics to the currently used cane-based Celotex. The sole manufacturer of the cane-based items no longer produces the product and approval of a substitute material must be granted before the inventory of AL-R8 SIs with cane-based Celotex inserts is depleted in a few months.

**Potential Inadequacies in the Documented Safety Analysis (PISAs):** B&W Pantex declared two PISAs this week. The first involved discrepancies in technical reports regarding thermal conductivity values used for cane-based Celotex and AL-R8 SI container fill gases. The second PISA was declared when B&W Pantex discovered the earth overburden for building 12-64 is less than that described in the documented safety analysis. B&W Pantex has determined that neither PISA requires compensatory measures.