

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

**MEMO TO:** Timothy J. Dwyer, Technical Director  
**FROM:** Timothy Hunt and Rory Rauch, Pantex Site Representatives  
**DATE:** 15 August 2008  
**SUBJECT:** Pantex Plant Weekly Report

**DNFSB Staff Activity:** T. Spatz was onsite this week to discuss the W87 in- situ mechanical safe arming device operations safety basis and tester configuration management.

**Procedure Adherence:** A critical step in a procedure was incorrectly performed when a production technician failed to ensure that the proper protective cover was installed prior to transportation of a unit to radiography. The cover identified in the procedure—which provides Faraday cage protection and is not to be removed during the subject part of the process—had been replaced with a different cover that is to be installed later in the process. This resulted in a technical safety requirement violation because the weapon response for this particular transportation configuration was only applicable to the cover specified in the procedure. B&W Pantex is considering procedure modifications to reduce the potential for recurrence.

**B53 Electrostatic Discharge (ESD) Environment:** ESD subject matter experts (SMEs) from the design agencies and Pantex gathered this week to determine whether the refined voltage distribution developed by Pantex was appropriately bounding for the B53 SS-21 process. The SMEs found one charge-generating activity—involving the removal of tooling with anodized coating from a box with foam inserts—that may require mitigation. It should be noted that this activity only generated undesirable voltages when the SMEs performed the activity in a way that deliberately maximized the charge on the tooling. Controls that are currently being considered include the use of static dissipative footwear and the replacement of the foam inserts with a more conductive material.

**Pantex Research and Development (R&D):** PXSO approved 16 new Plant Directed Research, Development and Demonstration Program proposals for FY09. Examples of proposals for safety-related R&D include: detailed analysis and modeling of direct lightning strikes to facilities, evaluation and procurement of new technologies to measure the molecular weight of high explosive (HE) binders, effects of thermal cycling on HE, and evaluation of main charge HE response to severe electric field insults. Funding for these proposals will not be official until after FY09 appropriations have been made.

**Human Reliability Program (HRP):** Policies and procedures for the DOE HRP program are established in 10CFR712, *Human Reliability Program*. These include requirements for continuously evaluating the physical and mental suitability of employees assigned to nuclear explosive and/or Category I special nuclear material duties. Two B&W Pantex production technicians have been terminated since 2004 after failing a random drug tests; the contractor has a zero tolerance drug policy. In total, seven B&W Pantex employees have had a non-negative screening result in that timeframe (about 20,000 tests have been administered in that span).

**W76 Operations:** Authorization was granted this week to resume W76 operations in a 12 kV environment (with additional administrative controls) following a work suspension in May. A stand-up briefing was convened with the technicians where production management emphasized its expectations with respect to performing deliberate operations, focusing especially on procedure adherence and formal conduct of operations. Assembly of the first W76-1 began as well as the continued disassembly of three units that were in-process when work was suspended.