

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

**MEMO TO:** J. Kent Fortenberry, Technical Director  
**FROM:** Timothy Hunt and Dave Kupferer, Pantex Site Representatives  
**DATE:** Friday, August 19, 2005  
**SUBJECT:** Pantex Plant Weekly Report

**Pit Cleaning Vessel Leak:** On Tuesday, while technicians were performing pit cleaning operations, fluid spilled from the wash vessel pump cart. Another copy of the cart was put into service and a similar spill occurred. During the subsequent engineering evaluation it was discovered that the air-driven diaphragm pumps had been plumbed incorrectly, which resulted in the fluid overflowing to the floor. Evaluation of other carts assembled during the same time period identified that intake air was plumbed into the exhaust side of the pump on two other copies. Deficiencies are evident in the lack of a requirement for functional testing the pumps prior to issuance and reliance on skill-of-the-craft instead of procedural direction to install and plumb the pumps.

**W70 Component Disposition:** On Thursday, the Board's staff participated in a teleconference with BWXT and PXS0 personnel to discuss proposed W70 component processing operations. Using the hazard categorization criteria from DOE Standard 1027, *Hazard Categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23, Nuclear Safety Analysis Reports*, which are based on the total quantity of special nuclear material involved in the operation, BWXT has determined that the proposed process falls below the threshold of a Hazard Category 3 operation. Nonetheless, BWXT plans to perform a contractor readiness assessment as part of the reviews to approve the start of operations. The Board's staff raised concerns regarding the assumptions used to support accident analysis calculations and questions regarding the functionality of the component's intended operation.

**Static Dissipative Flooring:** BWXT recently completed installation of static dissipative flooring in two nuclear explosive bays in support of the B61 SS-21 program startup. The physical properties of the floor material are designed to passively dissipate electrostatic charges for a minimum of 20 years. The weapons, tooling, hoists, equipment, and personnel are all grounded to the facility structure. Presently, electrostatic discharge (ESD) sensitive weapons rely on, sometimes numerous, bonding straps to mitigate ESD hazards. The flooring is presently undergoing a series of high explosive drop/skid tests and resistance tests to confirm there are no dead zones. Readiness reviews and a Nuclear Explosive Safety Study are planned for later this year.

**High Pressure Fire Loop (HPFL) Leak:** On Monday, HPFL piping failed for the third time in the past month. The failure occurred near two nuclear explosive cells, but neither of the facility fire systems were affected due to the leak or valve closures to isolate the leak. The failure was discovered by security personnel who witnessed a stream of water gushing from the underground piping. The leak did not create a large enough drop in pressure to actuate the diesel pump. The hole was found in piping identified recently by a PXS0 vulnerability study as the highest priority for replacement.

**B53 Dismantlement:** This week, two high explosive experts from Los Alamos National Laboratory (LANL) visited Pantex to view a B53 high fidelity trainer unit and tooling that would have been used for B53 operations during the 1990's. In general, the LANL representatives wanted to see the trainer unit first-hand to aid in brainstorming potential safety improvements to the proposed B53 disassembly processes.