

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

MEMO TO: Timothy Dwyer, Technical Director
FROM: Matthew Duncan and Rory Rauch, Pantex Site Representatives
SUBJECT: Pantex Plant Report for Week Ending October 22, 2010

Special Tooling: B&W took several steps towards resuming operations on the weapon programs affected by the potential inadequacy of the safety analysis (PISA) declared last week. As of early this week, engineering had determined that four tools would not meet the electrical resistance requirement ($< 10^8$ ohms) given in the documented safety analysis (DSA): a cabinet used in B61 operating bays, and workstands used on the W76/ W78, W80, and W84 programs. B&W decided to suspend operations on the B61, W76, and W80 programs because they were processing units at the time the PISA was discovered. B61 operations resumed after additional testing on available copies of the potentially affected cabinet gave the responsible engineers confidence that the coating on the specific copy of the cabinet in the bay with the in-process unit would meet DSA requirements. Authorization basis personnel performed the unreviewed safety question (USQ) determination, found it to be negative, and submitted an informational evaluation of the safety of the situation (ESS) to PXSO.

Testing of the resistance of the base of available copies of the W76 and W80 workstands indicated that both tools may not have the required resistance properties. For the in-process units on both programs, B&W declared a positive USQ and submitted an ESS describing the compensatory measures required to complete the affected operations. For the W76 unit, B&W is proposing to bond the technicians to the portion of the workstand that has a known path to ground. For the two in-process W80 units, technicians will apply strips of copper tape at two inch intervals across the base of the workstand such that it contacts a known path to ground. NNSA convened a nuclear explosive safety (NES) change evaluation to evaluate both proposals and found no issues with the path forward. PXSO should approve both ESSs shortly. After completing these units, B&W will replace the questionable workstands with compliant copies.

The W78 and W84 programs were not operating at the time the PISA was discovered and therefore were not subject to any operational restrictions. However, the next W84 disassembly operation, which was scheduled to begin Monday, will be delayed because there are currently no copies of the W84 workstand that meet the electrical resistance requirement. Conversely, compliant copies of the W78 workstand are available and the W78 disassembly and inspection schedule should not be affected by the PISA. B&W plans to perform a resource-intensive causal factors analysis investigation of the breakdowns that led to these discrepant as-found coatings.

B83 NES: As previously reported, B&W is developing a new process that incorporates significant tooling upgrades and a static dissipative environment for the B83 program. These changes require revision of the DSA, B&W and NNSA readiness assessments, and a NES study. An operational safety review (OSR, required every 5 years for non-expiring NES studies) for the current process would normally be required by November 2. B&W had previously asked that PXSO request a 10-month extension and had prepared a remediation plan. However, implementation of the new process is now expected to be delayed such that the NES study would not occur until September of next year. NNSA has currently funded a small number of B83 operations this fiscal year and B&W is scheduled to complete them by February 2011.

PXSO wrote a letter to NA-122 requesting an extension based on the argument that performing an OSR would be of little to no value for the four months of planned operations in excess of the 5-year timeline specified in DOE M 452.2-2, *Nuclear Explosive Safety Evaluation Process*. The NES Branch plans to provide increased oversight during this interim period.