

## **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 December 16, 2011

**DNFSB Staff Activity:** M. Dunlevy, B. Laake, and W. Von Holle performed a review of the Pantex chemical control program. R. Rosen observed the fourth week of the nuclear explosive safety study for the B83 Tooling Upgrade Project.

**Nuclear Explosive Safety (NES) Change Evaluation (NCE):** Last week, NNSA convened an NCE to evaluate three changes to W84 disassembly operations. Two of the changes address newly identified electrostatic discharge (ESD) hazards involving two weapon configurations that were found to be electrically isolated from the workstand. Technicians are now required to apply copper tape (for one configuration) and a bonding strap (for the other configuration) from the unit to nearby tooling. These changes mitigate the identified ESD hazards by creating an electrical path to ground from the weapon configuration through the workstand to the dissipative flooring in the facility. The NCE group also evaluated a process change to address a newly postulated fault in an electrical tester that could result in an unanalyzed electrical insult to the weapon. Technicians are now required to install a dissipative pad under the tester prior to use. The pad functions as a current-limiting feature to mitigate the newly postulated electrical fault scenario. The NCE group found that the changes satisfy the NES standards and PXSO approved the NCE memorandum this week.

B&W formally entered the issue involving the newly postulated fault in an electrical tester into its new information process. Since this electrical tester is used on every weapon program, B&W is in the process of determining the extent-of-condition and whether the issue constitutes a potential inadequacy of the safety analysis.

This week, PXSO approved the safety basis change that incorporates the tester fault scenario and the ESD scenarios discussed above. In the approval letter, PXSO requested that future authorization basis change packages include enhancements to the “Adequacy of Controls” sections. For low likelihood, high consequence accident scenarios, PXSO wants additional discussion of the benefits provided by safety management programs and defense-in-depth controls. In addition, for accident scenarios with high consequences, yet very low probabilities where no safety-related controls are deemed required, PXSO wants additional detail describing the scenario to ensure that the reviewer can arrive at the same conclusion. These measures will occur in parallel with the documented safety analysis upgrade initiative.

**Tripping Technician Hazard:** As recently reported, B&W is planning to revise its analysis of the tripping technician hazard this fiscal year. This week, B&W provided PXSO an update to that effort. B&W has updated the design basis (95<sup>th</sup> percentile) technician weight to reflect the weight distribution of the current pool of technicians and found the corresponding change to be insignificant. B&W now plans to determine whether the tooling that is credited to protect against the insult from the design basis tripping technician will also protect against the insult from the heaviest technician. B&W also plans to determine whether associated weapon response information remains bounding for the hazard presented by an insult from the heaviest technician. B&W committed to provide the results of these efforts to PXSO by March 30, 2012.