

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

**MEMO TO:** J. Kent Fortenberry, Technical Director  
**FROM:** Timothy Hunt and Dave Kupferer, Pantex Site Representatives  
**DATE:** Friday, April 29, 2005  
**SUBJECT:** Pantex Plant Weekly Report

**DNFSB Staff Activity:** J. Malen and R. Rosen observed B83 Nuclear Explosive Safety Study deliberations. J. Deplitch and Outside Expert R. Lewis reviewed the Pantex emergency management program.

**Conduct of Operations:** Disassembly operations resumed this week to recover from an anomalous event that occurred four weeks ago during which the unit separated unexpectedly in an undesirable location. On Monday, using an approved Nuclear Explosive Engineering Procedure (NEEP), a tooling safety feature prevented production technicians from applying the maximum force allowed per procedure to the high explosive main charge in an effort to separate the midcase from the unit. The unit was put in a safe and stable configuration. On Tuesday, disassembly operations resumed with a new, approved NEEP. Again, the same tooling safety feature prevented production technicians from applying the allowable load to the high explosive main charge. The production technician supervisor directed the production technicians to apply a quick force on a jackscrew to apply the maximum force allowed per procedure. The force was applied in an abrupt manner and the force gauge on the tooling showed that the maximum procedurally allowable force was exceeded by 350 pounds. Operating the jackscrew in an abrupt manner, as opposed to slowly and deliberately, allowed the safety feature to be bypassed and a load to be applied that was greater than intended by tooling engineering and the authorization basis. BWXT suspended operations three hours later and critiqued the event. Potential contributing factors to this event include the supervisor directing the production technicians to perform the operation in a non-standard and unpracticed way, the lack of a questioning attitude on the part of the production technicians when directed to perform an activity in an unusual manner, and the failure to obtain concurrence from the tooling and process engineers, who were observing the operation, prior to manipulating the tool in the manner described. BWXT management conducted stand-down briefings to both engineering and operations personnel to convey the lessons learned from recent events.

**Welding Program:** An independent baseline assessment of the BWXT welding program, with a focus on tooling operations, was recently completed and a report issued. There were findings in the areas of programmatic procedure adequacy and acceptance of welding activities. The assessment found that there was no consistent process in place to identify applicable governing codes and standards. Non-certified individuals were performing welding on plant components and using filler material that was not rigorously controlled. The report also indicated work packages did not contain adequate information to ensure acceptable control of welding, inspection, and testing of components. BWXT is drafting a Welding Program Improvement Project Plan to address the review team's recommendations.

**Preventive Maintenance:** During a walkdown validation of technical safety requirement controls, a PXS system engineer discovered that the system pressure and supply gauges on the wet-pipe sprinkler risers that service nuclear explosive cells were out-of-date (i.e., the current date exceeded the five year replacement date). As a quarterly surveillance requirement, the preventive maintenance procedure requires verification that the gauge maintenance stickers are current, i.e., within the five year window. If not, they are to be replaced. The technicians incorrectly assumed a grace period of 25 percent applied to the two gauges so did not replace them as procedurally required. The National Fire Protection Association code requirement that is the basis for the gauge maintenance does not allow for a grace period. The failure to replace the gauges within the required periodicity was a failure to satisfy the surveillance and operability requirement and resulted in a technical safety requirement violation. One other gauge was found with an expired maintenance sticker when the fire systems in all nuclear facilities were subsequently walked down.