

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

**MEMO TO:** J. Kent Fortenberry, Technical Director  
**FROM:** Timothy Hunt and Rory Rauch, Pantex Site Representatives  
**DATE:** 4 April 2008  
**SUBJECT:** Pantex Plant Weekly Report

**DNFSB Activity:** Dr. Thomas Spatz was onsite this week to observe the nuclear explosive safety study for W87 in situ mechanical safe arming device operations.

**Person-to-Person [M] Steps:** A systemic problem with the nuclear explosive procedure process regarding identification of steps requiring person-to-person coverage was discovered last year. B&W Pantex engineering has reviewed all 57 active procedures and has begun reformatting them so that the [M] is directly associated with the appropriate step when the procedures are revised. A total of 47 steps in 13 procedures were identified as having missing or misplaced [M] designators. All procedures are expected to be reformatted and revalidated by July 2009.

**Natural Phenomena Hazards (NPHs):** Evaluation of site-specific NPHs is required every 10 years by DOE standards and orders. The current Pantex seismic analysis from 1998 used 1996 data, which was revised in 2002 with increased bed rock accelerations. Wind and missile barrier requirements are also based on reports that have been superseded by more conservative criteria. An updated flood assessment is needed to evaluate the storm water management system, which was last studied in 1989. There is insufficient funding in FY2008 to perform the field studies necessary to support the seismic and flood analyses. B&W Pantex has recommended delaying the determination of compliance of facility structures, systems, and components with DOE requirements until field work and analyses are completed in FY2009.

**Disassembly Anomaly:** Production technicians (PTs) evacuated a bay after hearing a clicking sound and smelling smoke while removing a nuclear component during a non-nuclear explosive weapon disassembly operation. Radiation safety immediately surveyed the PTs and facility and found no contamination. Preliminary indications are that a valve on the component inadvertently actuated from an electrostatic discharge (ESD) event. Program personnel will radiograph the valve to determine its condition. The weapon safety specification for this program indicates that a similar event occurred four times previously, with the records of the final two events indicating the removal of supports as the likely origin of the ESD charge. The PT was bonded during the operation, but that would not have prevented charging from the supports.

**Nuclear Safety System Meetings:** In a January 2008 memo, PXSO requested periodic briefings by B&W Pantex on the status of credited safety systems—specifically, system availability performance indicators and the current safety system maintenance and USQ backlog. The first of these briefings was held this week. System engineering personnel attempted to tailor ongoing safety system tracking and trending activities to respond to the PXSO request, but the analysis presented during the briefing was preliminary and did not produce any actionable conclusions. System engineering plans to refine their analysis to better identify trends for future meetings.

**Degradation of Safety Class System:** Corrosion was found on a mechanical joint in the wet pipe fire system of a nuclear explosive facility during an annual preventive maintenance activity. The affected section of piping was wire-brushed, repainted, and returned to operational status. The pipe will be replaced at a later date.

**B61 Recovery Operation:** A B61 component that had been misaligned by about 5 degrees and jammed into its case in January was successfully extracted this week using a tool that had been specifically designed and fabricated for this operation. Use of the well-engineered tool and recovery procedure was approved by a nuclear explosive safety change evaluation. The case of the rebuild unit was damaged and will be replaced.