

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

**MEMO TO:** J. Kent Fortenberry, Technical Director  
**FROM:** Timothy Hunt and Dave Kupferer, Pantex Site Representatives  
**DATE:** 15 September 2006  
**SUBJECT:** Pantex Plant Weekly Report

**Tooling Vendor Qualification:** A recent BWXT evaluation of the Pantex tooling workload concluded that the special tooling backlog would continue to rise if staffing levels and processes remained unchanged. Tooling design and fabrication resources appear to be the most limiting constraint to meeting Seamless Safety for the 21<sup>st</sup> Century start-up schedules. As part of a tooling backlog reduction initiative, BWXT is attempting to establish Pantex tooling fabrication efforts at other NNSA sites in addition to increasing the number of qualified vendors. There are currently 12 vendors that fabricate Pantex tooling, including two new vendors that were recently qualified. The vendors are qualified to meet the criteria contained in the following standards and directives: 10CFR830.120, *Nuclear Safety Management - Quality Assurance*; DOE Order 414.1, *Quality Assurance*; ISO 9001, *Quality Management Systems*; QC-1, *NNSA Weapon Quality Policy*; and NQA-1, *Quality Assurance for Nuclear Facilities*. In addition to qualifying vendors to fabricate Pantex tooling, BWXT is in the process of qualifying vendors to perform some of the tooling verification processes currently performed at Pantex. To date, the vendors have had difficulty demonstrating a consistent capability to perform dimensional inspections.

**Blast Door Interlock (BDI) System:** The bay structure is a credited, preventive control designed to minimize the risk associated with external events and natural phenomena. There is a specific administrative control, contained in the explosive safety program, that requires at least one blast door per corridor to be closed, except for short durations. During the past ten months, while conducting fire protection system preventive maintenance activities, BWXT personnel have discovered that either both personnel blast doors or both equipment blast doors were able to be opened at the same time on eight separate occasions. BWXT systems engineering has been closely monitoring this surveillance trend, but has been unable to recreate the problem and has not yet identified the cause.

**Tri-lab Roles and Responsibilities:** Currently, there are 12 laboratory employees in the Tri-lab Project Office; five personnel from Los Alamos National Laboratory, four personnel from Sandia National Laboratories, and three personnel from Lawrence Livermore National Laboratory. Tri-lab personnel are generally responsible for approval of procedure changes, participating in weapon operations process development, participating in Nuclear Explosive Safety Studies, and keeping the laboratory single point of contact (POC) for each weapon system apprised of weapon specific Pantex operations information. It appears that Tri-lab personnel regularly communicate with the single POC's for their respective weapon program. It is unclear if the laboratory signature on procedure changes and authorization basis documentation represents a review for potential safety issues or simply reflects a review for potential weapon quality issues.

**High Explosives (HE) Machining:** During the past three weeks, there have been two separate, unusual events in the HE machining area. About three weeks ago, a cutter broke during HE milling operations. This week, during lathe operations, the HE part became detached from the vacuum fixture and fell approximately one foot onto an adiprene-coated work surface. Both events primarily involved insensitive HE (though minor quantities of conventional HE were present) and both were remote operations. During the first event, the operator observed the problem as it occurred and immediately stopped the operations. During the second event, the operator did not recognize that the cutting path was irregular and did not stop the operation until after the HE had come loose. BWXT is planning to utilize Human Performance Improvement techniques to prevent recurrence of the second event.