

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

MEMO TO: Timothy J. Dwyer, Technical Director
FROM: Matthew Duncan and Rory Rauch, Pantex Site Representatives
SUBJECT: Pantex Plant Report for Week Ending November 13, 2009

W76-1 Operations: Technicians attempted to execute the recovery procedure to disassemble a primary with minor high explosive (HE) cracking (see 8/28/09, 10/2/09, and 10/23/09 reports). During HE separation, the lifting fixture supporting one of the charges was unable to maintain vacuum and the recovery operation was suspended. The fixture passed the vacuum decay test, but failed to maintain control of the charge as soon as the separation activity began. No HE was dropped during the activity. Technicians had been having difficulty achieving vacuum during prior steps in the recovery procedure. The assembly tooling, which had been approved for one time use to conduct this special disassembly, has tighter tolerances than the disassembly tooling and may have contributed to the difficulty achieving and maintaining vacuum. Engineering is evaluating potential recovery options.

Stretched Pit Tube: Radiation safety continues to verify the absence of contamination daily while the procedure to recover from the stretched pit tube event (see 11/6/09 report) is developed. During one such visit this week, visible changes to the configuration were observed and the facility was exited. Radiation safety, after donning appropriate personal protective equipment, re-entered and found no contamination. This is the second time this facility has been evacuated in response to the visible changes to the subject configuration. Applied technology is working to understand the cause of these changes.

Limiting Condition of Operation (LCO) Entry: All nuclear explosive facilities are equipped with safety-class deluge fire suppression systems that use Det-Tronics control panels. They are designed to actuate solenoid valves upon receipt of signals from ultraviolet or infrared detectors. The control panels are powered by AC power and each has a battery for backup. The LCO requires that certain required actions be taken if any planned or unplanned impairment of the primary or secondary power supply occurs. Early one morning, a trouble signal (low direct current) was received on the battery charger. The on call fire protection engineer determined that the system remained operable. About 30 hours later the system was determined inoperable and the LCO was entered. Fire protection engineering is working on an operability statement to document whether the system should have been declared inoperable when the original trouble signal was received.

Unreviewed Safety Question (USQ) Program Assessment: The NNSA service center issued its fiscal year 2009 assessment of the Pantex USQ program. The review team determined the implementation of the USQ process at Pantex was generally adequate. However, a deficiency was identified regarding the fact that the Pantex USQ procedure does not explicitly require the submission of an evaluation of the safety of the situation (ESS) to PXSO following a PISA declaration, as required by 10 CFR 830. The review team found that ESSs had not been clearly documented and submitted to PXSO in all appropriate instances last fiscal year. B&W believes they had been meeting the intent of the ESS requirement by performing safety evaluations as a component of the USQ determination that follows the PISA declaration. The review team disagreed, believing the ESS is intended to be separate from the USQ determination. A clarification on the form and function of ESSs will be made in the upcoming revision to the DOE guide supporting the USQ process. B&W is in the process of revising its USQ procedure to align with the forthcoming revision to the DOE guide and correct the deficiency from this assessment.