

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 31, 2003

MEMORANDUM FOR: J. K. Fortenberry, Technical Director
FROM: W. White, Pantex Site Representative
SUBJECT: Pantex Plant Activity Report for Week Ending October 31, 2003

DNFSB Activity Summary: W. White was on site all week. C. Martin and R. Quirk were on site Monday through Thursday to discuss software quality assurance.

Software Quality Assurance: The staff met with BWXT and PXSO personnel this week to follow up on the Board's March 2003 reporting requirement related to software quality assurance at the Pantex Plant. BWXT has made significant improvement in this area, although room for continued improvement remains. In particular, the latest revision to BWXT's software quality assurance standard represents a significant improvement to its predecessor. The standard lacks the level of detail necessary to assure effective implementation, but BWXT is in the process of developing more detailed manuals for use with the standard.

The primary focus of the staff review was on the software quality assurance program for the new interactive electronic procedures planned for use in nuclear explosive operations. The software quality assurance program for this system is much more mature than it was in March. In an effort to trace safety-related requirements through to the associated detailed test procedures, the staff did find that additional test cases were needed for four of the six requirements reviewed.

The staff also reviewed the software quality assurance program for the Move Right System. Unrelated to the staff review, BWXT identified a system deficiency during the week that allowed a nuclear explosive to enter the ramp while high explosive moves were in progress. This was a violation of an administrative program in the technical safety requirements. Alert BWXT personnel (both personnel in the operations center and personnel handling move) realized that the Move Right System had authorized a move incorrectly while the nuclear explosive was still in the vicinity of the originating facility and coordinated the return of the unit to that facility. Production personnel had opened up a dispatch screen while the move right flag for explosive moves was turned off. The system continued to use that flag for the authorization, even though the flag had changed while the dispatch window was open. BWXT initiated a code change to correct this error and implemented it following appropriate system testing. BWXT also intends to complete a failure modes and effects analysis to identify other failure modes that may have been overlooked. [II.A, E4]

Manufacturing Drill Program: In April 2002, the Board sent a letter to NNSA noting several potential areas for improvement in the training program at the Pantex Plant. One of the areas noted was an inadequate drill program for production personnel. In response, BWXT developed a new manufacturing drill schedule that increased the number of planned drills and committed to schedule at least one drill annually for each active weapons program and a portion of the satellite operations.

This week, the site representative met with BWXT and PXSO personnel to discuss the fact that few of the planned drills have actually occurred. BWXT provided a revised schedule for FY04 that identifies at least one drill for every active weapon program (although not necessarily for satellite facilities as committed in the BWXT response). BWXT also noted several corrective actions being taken to ensure actual performance of the drills in FY04. These include increased accountability for responsible personnel and reassignment of the responsibility for the drill program to the weapons training department. The first two drills for FY04 have occurred as scheduled. [II.A, P1]