

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 4, 2001

MEMORANDUM FOR: J. K. Fortenberry, Technical Director
FROM: H. Waugh and W. White, Pantex Site Representatives
SUBJECT: Pantex Plant Activity Report for Week Ending May 4, 2001

DNFSB Activity Summary: H. Waugh and W. White were on site all week. F. Bamdad, C. Coones, A. Matteucci, and R. West were on site Tuesday through Thursday to review the W78 Step 1 Project.

W87 Electrical Test: BWXT conducted the repeat electrical test for the W87 unit which had failed an electrical test in January. This time, the unit passed the electrical test. Based on radiographs of the unit, design agency personnel assume the cause of the original failure is a short pin which makes an intermittent connection. [II.A]

High Pressure Fire Loop: A leak in the safety-class high pressure fire loop interrupted all nuclear explosive operations in Zone 12 this week. The leak was identified as impacting 12-98, Cell 1, and was isolated, allowing most operations to return to normal. This was the second leak detected in the high pressure fire loop system over the past month. The apparent cause of the leaks is corroded piping. The corrosion appears to be galvanic and is enhanced by the proximity of the pipes to the copper counterpoise surrounding the facilities. A project to add cathodic protection to the system was stopped due to a lack of funding. The only facility with cathodic protection is 12-104/104A. The extent of corrosion in the piping entering most facilities is unknown. BWXT is developing cost estimates for replacing the high pressure fire loop piping, but no funding is available to replace the piping or to continue the cathodic protection program. Completing the cathodic protection program may not be adequate. Cathodic protection will slow down the rate of future corrosion, but it will not correct existing problems. [II.A]

Procedure Adherence: For the second time in the last few weeks, BWXT personnel inadvertently skipped required sections of a nuclear explosive operating procedure. This incident occurred during operations for a B83 unit. Two procedure pages with clear plastic overlays stuck together. Personnel then skipped the sections of the procedure that were stuck together. At some later point, personnel realized that certain operations for the unit had not yet been done. During a search of the procedure to locate those operations, personnel noted the procedure pages stuck together. Personnel ceased operations immediately. The B83 program engineer wrote a back-out procedure to allow the missed operations to be performed. After nuclear explosive safety review, the procedure was completed. Immediate corrective actions involved notifying all programs to be more diligent about ensuring pages with plastic overlays were clean and not stuck together. Long-term corrective actions include exploration of enhanced place-keeping alternatives. [II.A]

W78 Step 1 Project: As part of the W78 Step 1 Project, the BWXT contractor delivered the W78 Hazard Analysis Report (HAR) and proposed technical safety requirement (TSR) changes to DOE/AAO in mid-April. Board staff members met with contractor and DOE personnel to review the HAR and to discuss the current status of the W78 Step 1 Project. Several potential inadequacies were noted in the HAR: the Fire BIO is referenced as providing analysis for fire events not covered in the Fire BIO, in service inspections and acceptability criteria appear inadequate for certain design features, and the verification of the position of certain weapons components is not required as a TSR-level control even though the position of those components is credited in developing the weapons response. Also, considerable risk exists in the project schedule since the W78 control scheme relies on implementation of the Fire BIO and the development of several site-wide administrative control programs. [II.A]