DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 10, 2002

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 10, 2002

DNFSB Activity Summary: H. Waugh and W. White were on site all week. B. Broderick, A. Gwal, and A. Matteucci were on site Tuesday through Thursday to review lightning protection, electrical safety, and safety-related electrical systems.

Lightning Protection and Electrical Reviews.: Members of the Board's staff were on site this week to review the lightning protection program, electrical safety program and safety-related electrical systems. BWXT is in the process of rewriting the lightning protection implementation plan. A new baseline will be established that will reflect, purportedly, a more realistic use of Sandia National Laboratories' resources for testing, analysis, and validation efforts. This new plan should be complete by the first of June. The staff will revisit the plan at that time to review how it addresses outstanding open items from the Lightning BIO and SER, the Nuclear Explosive Safety (NES) Lightning Master Study, and other related documents.

Over the past year, Sandia National Laboratories has completed all planned facility testing. Reports documenting the test results are due by the end of October. BWXT recently hired two personnel with doctorates in engineering and physics to enhance the internal, Pantex capability for evaluating lightning protection issues. Both the completion of the facility testing backlog and the enhancement of internal Pantex lightning protection expertise were suggested by the Board in its June 2001 letter to NNSA on lightning protection at Pantex.

BWXT has completed the bulk of its non-NRTL (Nationally Recognized Testing Laboratory) equipment identification project and has begun locally testing and approving non-NRTL equipment, with the expectation of project completion (5000 units) in September 2002. The progress made in this area over the past few weeks appears substantial; provided the program continues on its current pace, BWXT appears to be addressing adequately the issues raised with respect to non-NRTL equipment in the Board's June 2001 letter on electrical safety.

Electrical systems identified as safety-class systems for Pantex facilities do not comply with safety-class design requirements set forth by DOE orders and industry standards. In most cases these are existing facility systems that were reclassified as safety-class systems as part of the ongoing AB upgrade program. The staff also noted significant issues with the as-built condition of these safety-class systems during facility observations. A roof leak directly above a motor control center (MCC) appeared capable of impacting not only the normal power to nuclear explosive bays, but also the safety-class backup power supplied by nearby uninterruptible power supply (UPS) systems. A tarp and garden hose was being used to prevent water from pouring into the MCC. The staff also identified safety-related and safety-class UPS systems without adequate protection from water spray by overhead sprinkler systems, inadequate battery room ventilation, and the lack of an eyewash for some battery rooms. [II.A]

Enhanced Transportation Cart: On Wednesday a NES review group met at Pantex to determine whether a NES study would be required prior to implementation of the new enhanced transportation carts for the W76 (for both partial and full-up configurations). After observing demonstrations and hearing presentations on the new carts, the group concluded that the protection provided by the carts was at least as good as current equipment and that no study would be required. BWXT intends to implement these carts prior to starting the next W76 cycle and to use the carts to allow transportation of W76 units during lightning warnings. These carts will be implemented for most weapons programs over the next few months. [II.A]