

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 28, 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 June 28, 2002

**DNFSB Activity Summary:** H. Waugh was out of the office for the week. W. White was out of the office on Thursday and Friday. A. Gwal and B. Broderick were on site Monday through Thursday to walk down the Paint Bay facility, attend lightning protection training, and discuss the latest revision of the lightning protection project plan. C. Keilers was on site Wednesday and Thursday to observe W88 operations and attend the Standing Management Team (SMT) meeting.

**Seamless Safety (SS-21) Project:** This week, the SMT approved Milestone 1 for the W88 Step 2 project (i.e., the baseline) and Milestone 0 for the B83 project.

The approved W88 project schedule includes a slip from the Integrated Weapons Activity Plan (IWAP, rev. H) for project completion, from 4/18/04 to 7/29/04. The slip results from scope growth due to (a) accelerating bay tooling by about a year (5/03) and (b) incorporating a new in-cell process specified by the Design Agency (LANL) last month. Bay tooling constitutes about a quarter of the new tooling required. Accelerating tooling for the bays improves safety, but not as much as would accelerating tooling for the cells. The SMT chose not to pursue the latter because, as presented, incorporating the new in-cell process appears incompatible with accelerating cell tooling. BWXT will likely propose changes to the IWAP at the next SMT meeting.

B83 Project uncertainties include the assumptions that B83 features will result in minimal tooling requirements (to be confirmed during hazard analysis) and that the project can be run concurrently, with minimal interference, with evaluation cycle and rebuild readiness activities.[II.A]

**Lightning Protection Implementation Plan:** BWXT revised its *Project Plan for Lightning Protection Authorization Basis Post-Start Implementation*. A draft of the revised plan was briefed to the Board's staff this week. Work scheduled to be performed includes the systematic qualification of facility Faraday Cages (including shipping containers and transportation carts) using criteria previously developed by Sandia National Laboratories, the evaluation of electromagnetic effects introduced by bond wire inductance, and the performance of a more detailed investigation of lightning induced spalling hazards. Another important component of the revised plan is the rebaselined schedule for generation of final reports documenting low-voltage facility test results. All planned facility testing has been completed, however final reports for all facilities will not be completed until July 2003. The BWXT plan does not currently contain any work elements that seek to quantify the effects of indirect magnetic coupling caused by significant currents that could reside on large diameter bonded penetrations such as HVAC ductwork. This magnetic coupling could introduce lightning energy into Faraday Cage interiors. [II.A]

**B83 Electrical Test Failure:** On Monday, a B83 unit failed an electrical test, subsequently determined to be caused by faulty test equipment. This failure required entering into immediate action procedures which were specifically, to turn off and disconnect electrical equipment from the nuclear explosive, notify the operations center, and suspend further operations on the nuclear explosive until a release was obtained from the BWXT Nuclear Explosive Safety Department. BWXT Standard 7-5000, *General Safety Requirements - Production and Support Activities*, also requires the operations center to make a general plant announcement that immediate action procedures are being performed and to notify nuclear explosive safety personnel. The plant announcement did not occur and notification to nuclear explosive safety personnel was delayed. [II.A]