DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 25, 2005

MEMORANDUM FOR: J. K. Fortenberry, Technical Director
FROM: Timothy Hunt and Dave Kupferer, Pantex Site Representatives
SUBJECT: Pantex Plant Activity Report for Week Ending March 25, 2005

Disassembly Abnormality. Production technicians encountered a programmatic issue during a disassembly process in a cell. During performance of a procedure step to remove a detonator assembly, the cable was pulled out of the detonator. The unit was placed in a stable configuration and laboratory personnel, process engineer, and nuclear explosive safety representative were contacted and evaluated the situation. A nonconformance was generated and the path forward will likely be to continue with the alternate process – use of a detonator puller tool – outlined and approved in the operating procedure. The current procedure does not provide details on how much force should be applied to the detonator cable to facilitate manual removal.

Cracked High Explosive. BWXT has developed an engineering procedure that includes steps not in the currently approved process and a justification for continued operation to complete disassembly of the unit with cracked HE. The proposed operation includes rotation of the damaged assembly and hand lifting for packaging of the cracked charge. A Nuclear Explosive Safety Change Evaluation is scheduled for next week to review the modified process.

Component Evaluation Facility. The Washington Group International recently executed the 60 percent complete conceptual design review of the CEF. The 7-bay facility will increase existing capacities and provide new capabilities for the surveillance ands requalification of weapons and components. The design and build strategy is to select a construction management contractor during the preliminary design phase. The construction contractor will work with the project architect-engineer to develop construction work packages for sub-contract bidding. The use of steel plates lining the bay interior surfaces to provide Faraday cage protection and installation of single-leaf, non-venting bay roofs are among the unique design concepts being considered.

Special Tooling Acceptance. It was discovered this week that 12 pieces of "legacy" special tooling were issued to the production line prior to the required review of the vendor's certificate of conformance. Legacy special tooling is defined in a standing order as having been ordered, fabricated, or received at Pantex before February 18, 2005, and thus not subjected to the rebaselined testing and inspection processes implemented at that time. Subsequent review of the certificates found the subject tooling to be acceptable. Ambiguous requirements for filling out the work order allowed the tooling to be issued without all acceptance criteria being met. BWXT is evaluating the possibility of other legacy tools in process without validated certificates of compliance.

Microwave Technology. BWXT has requested PXSO concurrence to pursue a research and development project that would enable the site to comply with NNSA directives for sanitization and disposal of weapon components. The microwave technology initiative would be used to melt/sanitize classified components and remove radioactive material. Four sets of tests on different materials would be performed in FY2005 with the design of a portable microwave facility commencing in FY2006. BWXT has also expressed an interest in possibly using microwave technology to manufacture and debond explosives.