

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

**MEMO TO:** J. Kent Fortenberry, Technical Director  
**FROM:** Timothy Hunt and Dave Kupferer, Pantex Site Representatives  
**DATE:** 27 April 2007  
**SUBJECT:** Pantex Plant Weekly Report

**DNFSB Staff Activity:** F. Bamdad, R. Layton, C. Martin, and R. Rauch were at Pantex to assess safety basis documentation with PXSO and BWXT personnel. The staff also met with BWXT engineering to discuss the interactive electronic procedures project.

**Special Nuclear Material Component Requalification Facility (SNMCRF):** BWXT completed processing the first three W76 pits through the ten workstations needed to requalify them for Mod-1 production. Equipment problems with several of the workstations have been resolved. The data from the first eight pits will be sent to Los Alamos National Laboratory for evaluation and, if found to be acceptable, a Qualification Evaluation Release will be issued to authorize the process to go into unrestricted production.

**W62 Validation:** During the W62 nuclear explosive safety study (NESS) in 2003, there were many issues with trainer fidelity, tooling, and facilities. A subsequent validation was requested by the NESS group and project team. The Transition to Operations Plan states "The Nuclear Explosive Safety group will have the opportunity to perform [a] validation of the process any time during the first five (5) units." This did not occur and the validation—subsequently rolled into an Operational Safety Review—is being postponed further; and possibly canceled entirely.

**Approved Equipment Program (AEP):** On 19 April, NA-12 approved the 3 October 2006 report documenting the nuclear explosive safety master study of the AEP (e.g., special tooling, electrical testers) at Pantex. Approval had been delayed while NA-12 reviewed the deliberate unauthorized use portion of the report. The one pre-start finding has been closed. The 11 post-start findings, some modified or deleted by NA-12, are to be closed by 11 May 2007. A minority opinion took exception to the categorization of five post-starts, believing they should have been deliberation topics. Three of these have been addressed and the other two remain as findings.

**Gas Sampling and Leak Check Technology:** Power-free leak checking and gas sampling technology is currently under development at Sandia National Laboratories. This technology has the potential of performing leak checks and gas sampling during disassembly and inspection operations without the large AC-powered equipment currently used at Pantex. If successful, either technology would eliminate longstanding nuclear explosive safety and operational issues associated with the current equipment (e.g., qualification of electrical equipment connected to a weapon, disconnecting during lightning warnings). Fielding of the power-free leak check equipment is a near-term site goal; power-free gas sampling is expected to follow on later.

**Zone 4 Magazines Overburden:** Last September, during an in-service inspection, BWXT discovered that 11 storage magazines located in Zone 4 did not have the minimum earth overburden depth required by the safety analysis to protect against external impacts. This deficiency has been resolved with the application of more soil. This week, a potential inadequacy of the safety analysis was declared when it was found that several magazines had earth overburdens that exceeded upper bounds by a few inches. The snow loading and saturated soil calculations have a margin of safety that well exceeds that required by code. The seismic impact of the additional weight still needs to be evaluated.