

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 3, 2003

MEMORANDUM FOR: J. K. Fortenberry, Technical Director
FROM: W. White, Pantex Site Representative
SUBJECT: Pantex Plant Activity Report for Week Ending October 3, 2003

DNFSB Activity Summary: W. White was on site Monday through Wednesday and was recruiting at Rice University for the remainder of the week.

Cell Leak Path: On Tuesday, PXS0 approved the resumption of operations in two of the nuclear explosive cells at the Pantex Plant. All of the cells had been shut down as a result of concerns regarding additional leak path areas not addressed in the current safety basis for the facilities. The cells were first shut down on September 17, 2003, when a concern was noted with the manner in which parts of the door frame were welded. An unreviewed safety question evaluation (USQE) was completed that characterized the additional offsite doses based on the increased leak path area and a restricted facility inventory. As a result of limiting the inventory considered in the calculations to the maximum allowed in current safety basis documents, the calculated off-site releases for postulated accident scenarios were only slightly higher than previously identified, despite the increased leak path area. Based on these calculations, PXS0 approved the resumption of operations.

However, prior to resuming operations, BWXT identified additional leak path areas in the cells. Many of these leak paths had been previously identified but were assumed to seal in the event of an explosion. BWXT could not identify, however, a documented technical basis for this assumption. The cells remained shut down until the USQE was revised to account for the additional increases in leak path areas. The potential increase in off-site dose consequences was more significant with the new leak path areas, but it remained below the evaluation guideline of 25 rem to the maximally exposed, off-site individual. The first program to resume operations did so following the PXS0 approval of the USQE on Tuesday.

W62 Operations: BWXT resumed operations on the W62 program Wednesday. The disassembly process in the bay had encountered difficulty in extracting the physics package from the first unit to undergo operations with the new seamless-safety tooling. Bore-down tooling was modified to allow correct seating over a slightly elevated physics package, and the maximum torque during the extraction process was increased to allow more force to be applied to the physics package. The physics package was extracted on Wednesday following an additional boring operation.

Once the physics package was extracted, it became clear that one or more of the cutting tools had damaged part of the physics package assembly. This resulted in an evacuation of the facility until radiation safety personnel determined that no spread of contamination occurred in the facility. BWXT is now evaluating potential tooling modifications to minimize the possibility of similar damage during future disassembly operations. [II.A]

High Efficiency Particulate Air (HEPA) Filters: On Wednesday, PXS0 submitted to NNSA Headquarters the BWXT response to the Board's most recent reporting requirement on HEPA filters at the Pantex Plant. This latest response identifies filters in three facilities that provide a habitability function and filters in two facilities that minimize the intake or exhaust of plutonium particles in postulated accident scenarios. The response also notes that the functional descriptions of certain HEPA filters in Chapter 2 of the *Sitewide Safety Analysis Report* will have to be changed to identify the actual functions provided by these filters at the Pantex Plant. For the filters identified as providing a habitability function, BWXT will provide a plan and cost estimate for upgrading and maintaining the filters as nuclear-grade (99.97% efficient) filters. [II.A]