

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 19, 2003

**MEMORANDUM FOR:** J. K. Fortenberry, Technical Director  
**FROM:** W. White, Pantex Site Representative  
**SUBJECT:** Pantex Plant Activity Report for Week Ending September 19, 2003

**DNFSB Activity Summary:** W. White was on site all week.

**W56 Seamless Safety Tooling:** Following discussions with PXSO on the W56 tooling concern discussed in last week's report, BWXT decided to suspend all cell operations until personnel could validate the correct assembly and the functionality of tools in use in the cells. The completion of this validation effort has been complicated by the issue with the cell leak path area discussed below. BWXT should complete this effort by early next week. [II.A]

**Cell Leak Path Area:** On Wednesday, BWXT identified that the leak path areas for cell doors were higher than identified in various safety basis documents. The leak paths from the cells are particularly important as the cells are credited with accident mitigation for scenarios involving a violent reaction of high explosives. For explosions which are not sufficiently large to lift the ceilings of the cell round rooms, a minimal leak path out of the cells is credited with reducing offsite accident consequences. Existing safety basis calculations, however, do not take into account the leak path area from a stitch weld around the door frames.

The increased leak path area was originally recognized in 1997, prior to implementation of the *Technical Safety Requirements for Pantex Facilities*. At this time, a work order was issued to modify a stitch weld in the cell door frame to a single weld. The stitch welding in the door frames for most of the cells at the Pantex Plant creates an additional 6.45 - 8.65 square inches of leak path area for the cells. The work order was originally issued with a high priority. However, personnel responsible for carrying out the work order reduced its priority. This led to the work order being placed on backlog and never being accomplished. Last month, BWXT personnel cancelled the work order. Earlier this week, the BWXT facilities personnel noted the work order had been cancelled and recalled the reason the work order had been submitted originally. BWXT had already suspended operations in the cells for reasons related to the W56 tooling concern. Operations in nuclear explosive cells will remain suspended until both issues are resolved.

The current path forward is to perform the off-site dose calculations with the increased leak path area, but with a reduced source term that credits current limits on the number of units allowed in each cell. These revised calculations are expected to show small (~1 rem) increases in the off-site consequences of certain accident scenarios. BWXT will submit a positive unreviewed safety question evaluation to PXSO that identifies the increased off-site consequences. BWXT will also provide a plan for completing the work to reduce the cell leak path areas. Provided the calculations do not show off-site consequences increasing above 25 rem, PXSO intends to allow BWXT to resume cell operations prior to completing the work to reduce cell leak path areas. [II.A]

**B83 Seamless Safety Program:** BWXT presented a schedule this week to the Standing Management Team for completion of the B83 seamless safety program. The implementation of this new tooling is a deliverable to the Board under Recommendation 98-2, *Safety Management at the Pantex Plant*. The commitment from the Secretary of Energy is to authorize start up of B83 seamless safety operations by May 30, 2004. The current schedule identifies July 30, 2004, as the date for authorization of the improved B83 seamless safety process, a slip of only two months from the original commitment. [II.A]