

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 20, 2004

MEMORANDUM FOR: J. K. Fortenberry, Technical Director
FROM: T. Hunt and W. White, Pantex Site Representatives
SUBJECT: Pantex Plant Activity Report for Week Ending February 20, 2004

DNFSB Activity Summary: The site office was closed on Monday for President's Day. W. White and T. Hunt were on site for the remainder of the week. C. Martin was on site Wednesday and Thursday to discuss electrostatic discharge scenarios and cell leak path areas.

Pantex Tooling Concerns: BWXT briefed PXSO this week regarding an ongoing effort to improve the overall tooling program for weapon operations at the Pantex Plant. A team was assembled subsequent to recent tooling problems to develop a tooling improvement plan that is scheduled to be issued by March 15, 2004. A previously generated tooling verification plan was not entirely successful in preventing recurrence of instances where tools that did not meet design criteria were found in production areas. The BWXT presentation focused on establishing a program to put credited tools – defined as tools for which a design feature is credited in the authorization basis – through functional tests prior to use. These tests – in addition to continuing receipt and inspection requirements – will follow tooling fabrication, modification, repair, and maintenance. The current inventory of credited tools totals approximately 4000 copies (about 300 different types). Other tooling improvement initiatives to be addressed in the report include backlog reduction of modified tools, assessment of plan implementation and development of an automated tracking system. BWXT also expects improvement from an organizational restructuring that moves the tooling fabrication shop under the same management as design and testing. [I, E2, E4]

Cell Leak Path Area: The staff was briefed on recent progress and a path forward to reduce the amount of radioactive material which could potentially be released from gaps around doors, pipe penetrations, blast valves, and through structural cracks in the event of a high explosive violent reaction in assembly/disassembly cells. The use of epoxy and structural materials have reduced the potential leak path area in the cells of concern. While the calculated dose to the public has been reduced, the staff is evaluating the validity of the use of a reduction in the leak path factor based on testing by Battelle Memorial Institute. A potential leak path through the blast valves was also noted by the staff. The valves actuate at a certain overpressurization but a smaller explosion in the cell may allow radioactive material to bypass the unactivated safety feature and escape through the ventilation system. [I, W3]

Pit Contingency Planning: BWXT briefed PXSO this week on contingency plans for dealing with breached pits. Procedures are currently in place to double bag the pits to minimize the spread of radioactive material. For a breached pit identified during sealed-insert repackaging, current plant procedure is to repackage the pit into a sealed-insert container and then place the sealed-insert container into an MH2800 container. BWXT identified a path forward to develop procedures for repackaging most pit types, if breached, into FL containers, as off-site shipping would be more feasible using these containers. The FL containers would not be appropriate for a few pit types. These pit types would use a sealed-insert container packed into an MH2800 container. One particular pit type would use a DT-23 container. BWXT expects to have procedures and training in place for implementing this new approach by August 2004. A key action to implementing the contingency plan is getting approval for using the contingency container setups for offsite shipping. This would avoid having to repackage the breached pits. [I, NA]