**DEFENSE NUCLEAR FACILITIES SAFETY BOARD**

July 16, 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 July 16, 2004

**Contaminated Waste Isolation Valves**. On Wednesday, BWXT suspended operations in certain cells at the Pantex Plant following the identification of a potential inadequacy in the safety analysis. For operations in these cells, a safety-class contaminated waste isolation valve is in place to ensure the drain lines from a sump to a contaminated waste storage tank remain closed during nuclear explosive operations. The normally closed valve minimizes the leak path from the facility that might exist in the event of an internal explosion and also minimizes potential overpressures in adjacent facilities sharing the same contaminated waste system.

A sump level switch automatically opens the valve when the water reaches a certain level. This would typically occur during certain fire system testing operations. BWXT determined this week that they could not ensure the level switch would not fail in a manner that would open up the valves immediately following an explosion. BWXT is evaluating a proposal to disable the level switch and allow only manual operation of the valves. Operations in these cells will remain suspended until the level switches are disabled. [I, E4]

**W78 Seamless Safety Process**. Last week, BWXT suspended operations on the W78 program when questions arose concerning the implementation of the authorized equipment program, which is a required administrative program in the *Technical Safety Requirements for Pantex Facilities*. On Tuesday, BWXT resumed operations on the program. On Thursday, BWXT suspended operations again based on continued questions related to the scope and the training for the same program. BWXT will revise the administrative program to clarify the scope of the program and ensure appropriate personnel are trained prior to resuming operations. [I, W4]

**Unauthorized Material**. BWXT discovered this week that a container of silicone compound labeled for training use only had been used twice on a weapon program. The label had not been noticed by production technicians prior to use as the canister was installed inside a grease gun and not readily visible. The grease gun is not designated as special tooling so it is not required to be sent from the training bay through the warehouse for review prior to reissuance to a production facility. Controls to prevent certain equipment and materials authorized for use only in training from reaching the production line need to be strengthened. [I, E2, P3A]

**High Explosive (HE) Tooling**. A BWXT investigation following the discovery of cracked HE resulted in several judgments of need, one of which was to examine process tooling that could have contributed to the cracking. To reduce forces experienced by the HE during removal, the HE holding tool was modified and a new tool – HE puller – was designed. The primary intent of the new design was to suppress the reaction that caused the popping sound by eliminating the gap created during previous separations. A Joint Nuclear Explosive Safety Review (JNR) to evaluate the new tooling was conducted this week with generally positive results. There was no gap, or popping, evident during the demonstration. The new tooling appears to be a significant safety improvement over the earlier version. The JNR team unanimously recommended approval of the process; concluding that no new hazards were introduced from a nuclear explosive safety standpoint. [I, E4]