DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 10, 2004

MEMORANDUM FOR: J. K. Fortenberry, Technical Director
FROM: T. Hunt, Pantex Site Representative
SUBJECT: Pantex Plant Activity Report for Week Ending September 10, 2004

W56 Cell Operations Restart. The BWXT report titled *Investigation of W56 Cracked Explosive* (the analysis and cause determination) was published this week. The report concludes, based on analysis of the diffusion of silicone along the crack surface, that the crack likely occurred 3-12 months ago. This coincides with the beginning of high explosive removal operations on this unit. BWXT has received design agency concurrence with the conclusions of the report that, although data indicated a recent separation, a unique determination of the cause of cracking cannot be ascertained.

PXSO, with support from the Albuquerque Service Center, performed a validation of the applicable corrective actions from the *Improvement Plan for Addressing W56 Judgment of Needs*. Several findings were noted that require resolution by the contractor prior to restart. Before signing the Master Authorization Agreement to allow BWXT to resume dismantlement operations, PXSO will brief the Board on its corrective actions validation.

Technical Safety Requirement (TSR) Violation. Last Friday, BWXT personnel discovered unbonded metallic penetrations above the false ceilings in several cells. The two electrical conduits in each cell feed round room lighting. The conduit originates at a power panel within the cell staging area but its path to the round room is unknown. Affected cells are in maintenance mode to correct the unbonded penetrations. Past discoveries of unbonded penetrations (e.g., between sheetrock panels of non-structural walls a few months ago) have not resolved this issue. The TSR requires that all cells used for nuclear explosives operations have at least one bond for all metallic penetrations or provide unbonded standoff.

Analyses of Lifting Fixtures. Based on a recent Joint Nuclear Explosive Safety Review Team's conclusions, PXSO approved recommencement of unit processing using lifting fixtures that meet a modified analytical model. To reduce the bending moment created when the pin or hook is substantially smaller than the lifting eye hole, five strongbacks were redesigned to replace the lifting eye with a slotted plate and commercial hoist link. Also, tooling analyses now include a more comprehensive stress evaluation. Since current tool analyses rely heavily upon the judgment and skill of the designer and reviewer to select appropriate models and calculations, PXSO has tasked BWXT to issue written guidance that assures completeness and reliability of tool analyses.

Materials Requirements Planning (MRP) System Replacement. Last week, BWXT approved a path forward to replace the CAS software which controls material inventory and movement (e.g., Move Right), tooling, and the non-conformance system. The software was installed in 1989 and has become obsolete. In addition, the current hardware and operating system will not be supported by the vendor after March 2007. An independent consultant will be contracted to research, provide replacement options, and make recommendations to BWXT by the end of the year.