

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 10, 2003

MEMORANDUM FOR: J. K. Fortenberry, Technical Director
FROM: W. White, Pantex Site Representative
SUBJECT: Pantex Plant Activity Report for Week Ending October 10, 2003

DNFSB Activity Summary: W. White was on leave Wednesday and on site for the remainder of the week.

Pit Repackaging: For FY2003, BWXT repackaged 2414 pits into sealed insert containers. This is the second straight fiscal year for which BWXT has successfully maintained the repackaging rate for pits to which the Secretary of Energy committed in the Implementation Plan for Recommendation 99-1. As of the end of this week, BWXT has repackaged approximately 8000 pits into the improved storage environment recommended by the Board.

As part of the repackaging program, two of the technicians involved were found to have exceeded their administrative control levels for radiation exposure for the calendar year. Their exposures were slightly above the 750 mrem administrative level set by BWXT. The manufacturing supervisor had noted the technicians were approaching the administrative control level for annual radiation exposure and identified this as a concern to radiation safety personnel. Radiation safety personnel recommended restricting the work of these technicians to activities with lower potential radiation dose rates to minimize exposure. However, the recommended work restrictions (particularly those related to the handling of bare pits) do not appear to have been fully implemented.

Over the past fiscal year, BWXT has implemented several changes to process systems to minimize radiation exposure. These include the implementation of an integrated imaging station as well as an automated purge and backfill station. For this calendar year, BWXT is considering whether to raise the administrative control level for technicians involved in pit repackaging to 950 mrem. [II.A, W4, M8]

Vital Safety System Assessments: Last week, BWXT finalized its report summarizing baseline assessments of the reliability and operational status of vital safety systems at the Pantex Plant. The assessments were conducted over a four month period beginning in May 2003 and covered all eleven vital safety systems at the Pantex Plant. The assessments were conducted as part of the response to the Board's Recommendation 2000-2, *Configuration Management, Vital Safety Systems*.

The assessment identifies significant problems with three of the eleven systems. The uninterruptible power supply (UPS) systems and the RAD-safe system (used to provide safety interlocks for LINAC facilities) were identified as having a 'yellow' status. The concern with the RAD-safe system related to the obsolescence of certain key components (programmable logic controllers). The concerns with the UPS systems included the failure to close design change packages in a timely manner, the need to evaluate potential embedded software failures that might impact the operation of the UPS systems, and the failure to plan, schedule and close UPS-related work orders in a timely manner. The Radiation Alarm Monitoring System (RAMS) was the only system identified as having a 'red' status. The most serious problem noted with this system related to inaccurate calibration procedures, particularly for the tritium monitors, that impact the ability of the monitors to meet their design specifications (although they should be able to detect significant releases of radioactive material).

There were several additional concerns identified for most of the other systems on the vital safety system list. BWXT has not yet developed specific corrective actions to resolve the identified concerns. [II.A, E1, E2, E4]