

# DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 6, 2003

**MEMORANDUM FOR:** J. K. Fortenberry, Technical Director  
**FROM:** W. White, Pantex Site Representative  
**SUBJECT:** Pantex Plant Activity Report for Week Ending June 6, 2003

**DNFSB Activity Summary:** W. White was at Los Alamos National Laboratory on Wednesday and Thursday and was on site for the remainder of the week. A. Matteucci was on site all week to provide site office support. W. Andrews, T. Hunt and R. Rauch were on site Tuesday and Wednesday to review inactive actinide materials and the on-site staging of nuclear materials.

**Inactive Actinide Materials:** The staff met with BWXT and PXSO personnel to discuss inactive actinide and legacy nuclear material staged at the Pantex Plant. The identified scope of material within the inactive actinide group is relatively small. Funding has been requested for three priority activities: two involve disposition of depleted uranium (DU) components and one involves radioisotope thermoelectric generators (RTGs). Funding for FY 2004 is expected to support only the disposition of some of the DU components (approximately 100 drums). The RTG storage vault is being modified to double the storage capacity to accept components from future dismantlement activities. The staff also noted that DOE Order 5660.1B, Management of Nuclear Materials, is not included in BWXT's contract, despite its applicability. Both BWXT and PXSO are working to address this issue. [II.A]

**Continuous Air Monitors (CAMs):** On Wednesday, BWXT identified an alpha CAM in 12-64, Bay 5, with an expired calibration date (5/28/03). Operations were performed in the facility after the expired calibration date; however, surveys performed in Bay 5 subsequent to the discovery of the expired CAM found no contamination. Subsequent calibration of the expired CAM revealed that as-found readings for the expired monitor were within the required limits and alarm circuits functioned as designed. Operations in Bay 5 do not credit the CAMs as a technical safety requirement (TSR).

The calibration tracking system for radiation monitors indicated that a different alpha CAM (5405) that had not exceeded its expiration date was located in Bay 5. The tracking system also indicated that the CAM (5663) actually in Bay 5 with the expired calibration date was available for use and not located in any facility. According to the facility log for Bay 5, CAM 5405 was placed in Bay 5 on January 7, 2003, but was replaced with another CAM toward the end of January. Documentation authorizing the replacement of CAM 5405 (although not properly completed, processed or captured in the tracking system for radiation monitors) indicates that CAM 5405 was replaced with CAM 5663.

The filters on these CAMs are periodically replaced by radiation safety personnel who are required to check the calibration date of the CAM. The filter for CAM 5663 was replaced on two different occasions after its expiration date with no apparent indication from the radiation safety personnel that the calibration date was exceeded. Pre-operational checks of facility performed by manufacturing personnel require verification of the operability of the CAM. The CAM is considered inoperable once the calibration has expired. Prior to Wednesday, there was no indication that pre-operational checks by manufacturing personnel identified the expired calibration clearly marked on the CAM.

It appears that several personnel errors contributed to the failure to properly track the status of the CAM in Bay 5. These errors include the failure to properly capture the replacement of the CAM in Bay 5 in the tracking system, the failure to verify the expiration date as required during maintenance by radiation safety personnel, and the failure to verify calibration of the CAMs during facility pre-operational checks. [II.A]