

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 20, 2004

MEMORANDUM FOR: J. K. Fortenberry, Technical Director
FROM: T. Hunt, Pantex Site Representative
SUBJECT: Pantex Plant Activity Report for Week Ending August 20, 2004

Continuous Air Monitors. There have been several occurrences recently at the Pantex Plant where the operational clock on the alpha continuous air monitor (CAM) has frozen/locked up. Four of the malfunctions have occurred in the same bay. Source checks during this anomalous condition indicate the CAM is unable to detect airborne radioactivity and provide a local alarm to initiate evacuation of the facility. The initial conclusion is that the frozen clock without an accompanying fault alarm is unique to the subject bay due to a combination of substandard facility line voltage and 5V power supply problems in the alpha CAMs. It is the last bay in a series of nine on the same circuit and may be susceptible to power fluctuations. BWXT has issued guidance that alpha CAMs should be considered inoperable when in the frozen condition and recommended continued normal operations in all other facilities monitored by this particular CAM. Most of the nuclear material in the subject bay has been relocated. Proposed short and long-term corrective actions include evaluating additional compensatory measures to verify alpha CAM operability, conducting a detailed evaluation of the bay power supply, confirming acceptable line voltage in balance of nuclear facilities serviced by alpha CAMs, modifying the CAMs to address reliability of the power supply, and receiving authorization to begin a replacement project for all alpha CAMs. [I, M8, E1]

Hoisting Equipment. BWXT discovered this week that three limit switches on the linear accelerator (LINAC) hoist in one of the bays were not operational. Two of the switches were designed to sense slack in the load-bearing cables and the third switch was designed to prevent overloading the system. Crafts personnel found the concern when they went to the bay to observe and compare limit switch settings to support manipulator work they were assigned to perform in a similar bay. When the technicians manually operated the two slack sensing limit switches, they found the switches were not electrically connected. The overload limit switch killed the power to the manipulator when activated, but it was recognized that this switch would not function properly during normal operations as it was improperly adjusted. During a subsequent assessment of the situation, the electrical and mechanical drawings for the hoist could not be found. The functionality of the limit switches on other manipulators are being verified and the preventive maintenance process is being re-evaluated. All LINAC hoists have been locked and tagged out of service pending issue resolution. [I, E1, E2]