

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

**MEMO TO:** Timothy J. Dwyer, Technical Director  
**FROM:** Timothy Hunt and Rory Rauch, Pantex Site Representatives  
**DATE:** 11 July 2008  
**SUBJECT:** Pantex Plant Weekly Report

**Radiological Contamination Release:** A small puff of depleted uranium material was released during a dismantlement operation. Technicians were using a pneumatic hoist to separate tight fitting weapon components, one of which had oxidized, when the accumulated pressure forced a small amount of contamination to become airborne. Radiation safety personnel responded and performed nasal swipes and area surveys, each of which indicated a low level release. Bioassay kits were given to the four technicians involved and the results should be available shortly. Measures are being evaluated (e.g., respirators, chain hoist, tooling redesign) to minimize the possibility of future releases and exposures.

**W76 Operational Suspension:** B&W Pantex indicates that funding is no longer the primary constraint in implementing the 5 kV environment, the preferred option to mitigate the electrostatic discharge (ESD) hazard that suspended W76 operations. The installation of static dissipative flooring in four facilities has been completed, and funding for as many as 11 additional floors is available. However, progress in installing these floors will be limited by facility usage from ongoing operations. B&W Pantex has formed a team that will determine the appropriate balance between floor installation and production demands and establish a schedule to transition to the static dissipative environment for all W76 operations. In the meantime, the W76 program will be restarted using an alternative control set in a 12 kV environment.

**Uninterruptible Power Supply (UPS) Anomaly:** Last week, anomalous flashing lights associated with the emergency lighting and radiation alarm monitoring systems were observed outside the 12-98 cells. The cause of this condition could not be immediately determined and the facilities were conservatively placed in the limiting condition of operation associated with an unplanned impairment of the fire suppression system. The anomaly was eventually traced to a blown fuse on the primary UPS, which subsequently failed repeated attempts to perform a static bypass and transfer its function to the secondary UPS. A preliminary assessment attributed the static bypass failure and blown fuse to the inability of the aging UPS system to handle credible off-normal environments. B&W Pantex system engineering will recommend that the UPS—a support system for the credited emergency lights—be modernized.

**W62 Anomalous Component:** Last December, a unit failed an electrical test, indicating the potential for a damaged component that could make the weapon more susceptible to ESD hazards. The dismantlement was subsequently completed and the suspect component was shipped to the design agency for analysis. Destructive evaluation confirmed that a wire in the component was missing, but the cause has yet to be determined. A compensatory measure to require testing of all units was implemented earlier this year to address the anomalous condition.

**LINAC Tooling:** A weapon was stuck in its cart last week when the mechanism that rotates the unit to allow it to be radiographed from different angles jammed. To preclude having to lift the weapon out of the cart with a hoist, tooling technicians used a pry bar to release the braking mechanism and turn the unit enough to allow realignment with, and reinsertion into, the transportation cart (ETC I). The LINAC cart was changed out and a modification is being done.

**Fire Alarm Control Panels (FACP):** B&W Pantex has completed replacement of 28 of the 103 FACPs supporting site operations. All of the FACPs servicing the nuclear explosive facilities have been upgraded and the panels have been converted to a single central fire receiving station system from the current two systems; one of which is largely obsolete.