

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

MEMO TO: J. Kent Fortenberry, Technical Director
FROM: Timothy Hunt and Rory Rauch, Pantex Site Representatives
DATE: 22 February 2008
SUBJECT: Pantex Plant Weekly Report

Material Movement Failures: There have been two recent incidents in which an on-site inter-zone movement of material was not properly conducted. In the first incident, material arrived at a facility that was locked and unattended, leading to a custody overdue condition. In the second incident, a move was initiated without proper authorization in the Move Right material tracking system. Eventually, Move Right authorization was obtained while the move was in progress. In both incidents, the appropriate move windows had been opened. B&W Pantex management has combined both incidents into the same cause analysis and mistake-proofing exercise. In the interim, a B&W Pantex manager will accompany all material moves to ensure that on-site transportation activities are conducted properly.

Nuclear Explosive Safety (NES) Change Evaluation (NCE): Last week, an NCE was performed to evaluate the use of the power-free pump module (PPM) during B61 operations. The DC-powered (one 9 volt and four AA standard dry cell batteries) and pneumatically driven PPM would perform leak check operations in place of the AC-powered phoenix cart. The NCE group concluded that incorporation of the PPM would be a NES improvement because the PPM is not connected to the facility electrical system and requires a lower energy source. The NCE group also concluded that PPM operations during lightning warnings presents no credible NES threat. Operations involving AC-powered equipment making a mechanical connection to a thermally sensitive component must be suspended during lightning warnings.

Special Tooling: During transfer of a unit from a transportation cart (ETC I) to an assembly cart, production technicians (PTs) noticed that one of the interlocking handles on the lifting and rotating fixture, which prevents the unit from rotating, had not completely engaged. Tooling engineering issued an evaluation to authorize continued operations after finding no visible indication that the tool malfunctioned or was damaged. The unit has been removed from the fixture and engineering is further evaluating its design, maintenance, and performance. In a separate incident, operations on a different weapon program were suspended when the PTs heard an unexpected noise while rotating a unit in a workstand. A tooling evaluation indicated that teeth had broken from a gear in the workstand. Operations involving workstand rotations for this program have been suspended until the faulty gear is either redesigned or manufactured using a more robust material.

Battery Bank Locations: During a recent B&W Pantex independent assessment, it was discovered that battery banks throughout the Zone 12 material access area do not meet some requirements of NFPA 70E, *Standard for Electrical Safety in the Workplace*, Article 320. For example, the standard requires that batteries be installed in dedicated rooms, areas only accessible to authorized personnel (e.g., maintenance electrician), or a locked enclosure. Battery banks are currently located in unlocked mechanical and electrical rooms with other equipment or in the ramps. They support such equipment as the public address system, computer terminals in nuclear explosive facilities, and uninterruptible power supplies.

Pit Holding Fixtures (Birdcages): In late-2007, all on-site transportation of pits and repackaging of pits into sealed insert (SI) containers was suspended due to welding issues associated with the birdcage holding fixtures. Restart of these operations was authorized last week after B&W Pantex and tooling vendors corrected several deficiencies. All suspect birdcages currently in SI containers may need to be replaced before off-site shipment if analyses by the design agencies determine they do not meet specifications for transport.