

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

**MEMO TO:** J. Kent Fortenberry, Technical Director  
**FROM:** Timothy Hunt and Dave Kupferer, Pantex Site Representatives  
**DATE:** 5 October 2007  
**SUBJECT:** Pantex Plant Weekly Report

**High Explosive Transportation Cart (HETC):** As an improvement to process safety, BWXT implemented the use of the HETC this week on the W76-0 program. The cart had been an authorized option for use on three programs for several months but safety issues raised by the technicians related to maneuverability had delayed its implementation. The HETC is qualified to protect the conventional high explosive main charges from electrical and mechanical insults during transportation in ramps and corridors

**Potential Inadequacy in the Documented Safety Analysis (PISA):** There is a requirement in the Bays and Cells Safety Analysis Report that sump pit gratings in the cells be qualified to safely support the expected concentrated loads. The design feature analysis has been called into question. The suspect sump gratings are in the 12-98 cells; the grates in the other cells have much higher load ratings and are currently not affected by this discovery. The critical safety function of the grating to prevent mechanical impact to a unit or energetic component is potentially inadequate because the failure analysis does not accurately model operational conditions. The concentrated load is assumed to cover an area of one square foot, when in reality, it is possible for the wheels of the transportation carts, for example, to apply a load to a much smaller area of the grating. BWXT engineering is struggling with how to model the grate loading. Compensatory measures have been implemented to keep operational equipment off the grates pending a permanent resolution; possibly beefing up the grates or building a barrier around them to prevent cart intrusion.

**Sitewide Power Outage:** Starting today and continuing through next week, BWXT will be performing a series electrical shutdowns affecting several areas of the plant, including the Zone 12 material access area. The shutdowns are essential to conduct preventive maintenance on main electrical interconnects and substations, as well as individual high voltage switches and transformers. The objective of the controlled shutdown is to mitigate the risk of an unplanned outage in the event of a failure within the high voltage system. No production activities are scheduled for the nuclear explosive facilities during the shutdown. PXSO will provide facility representative and system engineering oversight during the electrical maintenance outage.

**W76-1 First Prototype Build (FPB):** BWXT completed the first of a limited number of W76-1 prototype builds last week. The second unit build must wait until the W76-1 disassembly and inspection (D&I) process is reviewed and approved—and the FPB subsequently disassembled—before it can begin. The contractor readiness assessment for the W76-1 SS-21 D&I is to begin next week. Tooling and other resource shortages may prevent the assembly and disassembly processes from running concurrently.

**Graveyard Shift Operations:** The W62 and W76 programs recently suspended graveyard shift operations due to reduced workload. All production work is now being performed during the day shift; likely to continue for at least the next three months. The B83, B61, and W80 will probably commence two-shift operations by end of fiscal year 2008.