

## **DEFENSE NUCLEAR FACILITIES SAFETY BOARD**

**MEMO TO:** J. Kent Fortenberry, Technical Director  
**FROM:** Timothy Hunt and Dave Kupferer, Pantex Site Representatives  
**DATE:** 3 August 2007  
**SUBJECT:** Pantex Plant Weekly Report

**DNFSB Staff Activity:** R. Rauch was onsite to augment site representative coverage.

**Lightning Hazards:** More than a month ago, BWXT retracted its submittal of the W80 Hazard Analysis Report (HAR). Prior to the retraction, PXSO informally provided BWXT with preliminary conditions of approval (COA), one of which stated that the operations involving the task exhaust did not consider multipoint grounding scenarios (an indirect lightning hazard). Since that time, BWXT has been working to resolve this issue. Last week, NNSA concluded the Bays and Cells Nuclear Explosive Safety (NES) Master Study, pending approval of the final report. The NES study group has drafted 1 pre-start and 11 post-start findings. The pre-start finding was very similar to the aforementioned COA; specifically, induced voltage in a coupled circuit, which includes the task exhaust, is not sufficiently analyzed or controlled. To resolve both of these findings, BWXT plans to issue an analysis that demonstrates the aforementioned scenario is extremely unlikely and the risk is acceptable.

**Radiological Controls:** Title 10 Code of Federal Regulations Part 835 (10 CFR 835) defines a high radiation area (HRA) as “any area ... in which radiation levels could result in an individual receiving a deep dose equivalent in excess of 0.1 rem in 1 hour at 30 centimeters from the radiation source...” PXSO recently communicated to BWXT that the controls applicable to HRAs are not conservative as required by 10 CFR 835. PXSO is concerned that BWXT does not consistently (1) monitor exposure rates during access into HRAs, (2) utilize dosimetry devices that are capable of providing immediate estimates of deep dose equivalent exposures during access into HRAs, and (3) formally utilize physical controls to maintain positive control of access to HRAs. In addition, PXSO is concerned that there is a chronic lack of radiological information in bays and cells, which inhibits communication of radiological conditions.

**W76-1 Operations:** Last week, NA-12, the Assistant Deputy Administrator for Military Application and Stockpile Operations, authorized BWXT to proceed with the following activities: (1) minimal production of subassembly components to avoid having to perform vendor restart and re-qualification activities and (2) fabrication and disassembly of W76-1 prototype units to exercise the assembly and disassembly processes. The prototype units will not be delivered to the Department of the Navy and instead will be used for retrofit evaluation system test (REST) surveillance activities. The engineering and qualification of the Canned Subassembly has not yet been completed.

**Documented Safety Analyses Planned Improvements:** Last year, PXSO directed BWXT to submit a resource loaded schedule for completing the planned improvements identified in the documented safety analyses. BWXT recently issued a revision to that schedule. There are 100 planned improvements identified in the documented safety analyses; 30 have been completed, 35 are expected to be resolved during the next annual updates of the applicable documents, and 12 are handled by other projects (e.g. the lightning project plan and SS-21 startup projects). All of the remaining 23 items are scheduled to be completed by September 2008. Examples of the planned improvements include additional analysis of lightning hazards, analysis of the fire suppression system to determine availability and identify single point failures, seismic upgrades for ceiling mounted equipment, installation of seismically qualified hoists, and verification of assumed weapons responses.