

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

**MEMO TO:** Timothy Dwyer, Technical Director  
**FROM:** Matthew Duncan and Rory Rauch, Pantex Site Representatives  
**SUBJECT:** Pantex Plant Report for Week Ending February 25, 2011

**DNFSB Staff Activity:** D. Kupferer was onsite to augment the site rep office.

**Immediate-action Procedures (IAPs):** Representatives from the B&W process engineering and nuclear explosive safety (NES) departments, PXSO, and the NNSA NES division recently met to resolve issues related to the implementation and application of IAPs (see 12/17/10 report). The meeting attendees came to an agreement that response actions embedded as in-sequence steps in nuclear explosive operating procedures are not IAPs. B&W process engineers are no longer restricted by the specific IAP wording defined by NES and plan to tailor embedded response actions for logical consistency with actual process conditions. The NES-defined IAPs will remain in the appendix of all nuclear explosive operating procedures for reference, but the NES community will primarily rely on training to ensure that technicians effectively execute IAPs any time they observe a reduced state of NES during a nuclear explosive operation.

B&W process engineers plan to reflect this new IAP implementation philosophy in the upcoming revision to the writer's manual for technical procedures, which should be issued in the next two months. B&W anticipates that implementing the procedure changes driven by the upcoming revision to the writer's manual could take up to two years. NES change control evaluators will review each of these procedure revisions to verify that IAPs are being implemented and applied in accordance with the NES community's expectations.

**Lightning Protection:** Last week, B&W was unable to take custody of a shipment of nuclear explosives when transportation personnel discovered a discrepancy with the part number of a connector cover on the units. This connector cover is credited in the documented safety analysis (DSA) as part of the Faraday cage for the ultimate user configuration of this particular nuclear explosive. B&W suspended the custody transaction and Office of Secure Transportation (OST) personnel staged the units in accordance with applicable OST requirements. The following day, Sandia National Laboratories issued an Information Engineering Release confirming that these connector covers are functionally equivalent to the covers already specified in the DSA. Subsequently, PXSO issued a directed change to the applicable technical safety requirement to add the new connector cover as an acceptable feature of the Faraday cage. B&W transportation personnel completed the custody transaction the following day.

**Conduct of Operations:** Last week, while preparing for a loading operation involving nuclear material, a B&W transportation department driver backed a modified safe-secure trailer into the tractor connected to a safeguards transporter. The driver was not using a spotter, as required by the B&W procedure for handling and transporting nuclear explosives, nuclear material, and nuclear explosive-like assemblies. Both vehicles experienced minor damage. Neither vehicle was loaded with material nor were there any open magazines when the accident occurred.

**High Reliability Organization (HRO) Implementation:** The Performance Evaluation Plan includes a Performance Objective for B&W to submit an HRO Implementation Plan to PXSO by April of this year. As part of this effort, B&W recently issued the following two documents: (1) a list of pinnacle and plateau events (e.g., inadvertent nuclear detonation and loss of special nuclear material) and (2) a barrier analysis process description. B&W is planning to use its barrier analysis process to identify the specific barriers that are critical to preventing the pinnacle and plateau events and to evaluate the effectiveness of these barriers.