

## 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 May 20, 2011

**DNFSB Staff Activity:** M. Dunlevy, B. Laake, C. Martin, and outside expert J. King were onsite to review the Nuclear Explosive Safety (NES) evaluation post-start finding tracking and closure process.

**Light Tower Damage:** On Thursday May 5, while performing an in-service inspection of a high mast light tower in Zone 4, system engineers discovered that the 800 lb. lighting assembly at the top of the tower had broken free from its support cables and was dangling by its power cord. Personnel immediately barricaded the area surrounding the light tower (including the entrance to the road running adjacent to the tower). Several days later, before B&W could gather the necessary equipment to remove the assembly, the power cord broke and the assembly fell to the ground. Nobody was hurt during the event.

Light towers such as this one are credited in the documented safety analysis (DSA) to withstand a performance category (PC)-2 wind event and a PC-3 seismic event. Per the B&W new information process, authorization basis (AB) personnel have 10 days to determine whether this information constitutes a potential inadequacy in the safety analysis. During this time, the evaluators were trying to determine whether the as-found configuration could compromise the ability of the light tower to perform its functional requirements, how the support cables failed, and whether this failure mechanism presents a credible hazard that has not been analyzed in the DSA. AB and system engineering personnel are also performing an extent of condition review to determine whether other light tower designs and locations could be affected by these issues.

**Conduct of Operations:** Last week, while loading a trailer with cased B83 canned subassemblies (CSAs), a transportation technician observed that one of the cased CSAs was not in alignment with the other units in the trailer. After further evaluation, manufacturing management discovered that the technicians installed this cased CSA in its handling gear backwards (in the direction required by procedure for the B83 ultimate user configuration). The B83 process engineer plans to revise applicable figures in the appropriate procedure to better differentiate between the two configurations. Program personnel are also considering tooling modifications that create a physical barrier to improper installations.

**Person-to-Person Coverage:** This week, B&W withdrew its request (originally submitted January 2010) for an NES Change Evaluation (NCE) to evaluate a proposal to modify the approach to executing person-to-person coverage during nuclear explosive operations. The new approach would have eliminated [M] designators from procedures and replaced them with procedural steps that direct the technicians to place standardized signs on configurations requiring person-to-person coverage. B&W suspended the initial NCE in February 2010 after the NCE group identified a concern that a formal human factors analysis of the new proposal had not been performed.

B&W had pursued this new approach in response to a 2008 mid-year NES assessment (conducted by the NNSA NES Division), which found that B&W had not implemented the two-person concept consistently enough to ensure that all configurations requiring two person control would be handled in a manner compliant with DOE Order 452.2C. B&W now believes the forthcoming modifications to the writer's manual for technical procedures, which will require process engineers to add notes with clear person-to-person entry and exit conditions in addition to the [M] designator, combined with enhanced technician training of person-to-person coverage, will address the issue identified in the 2008 assessment.