

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 September 30, 2011

DNFSB Staff Activity: B. Broderick was onsite this week to observe operations.

Nuclear Explosive Safety (NES) Change Evaluation (NCE): This week, NNSA convened an NCE to evaluate the proposed process for disassembling the remainder of a unit with a detonator cable assembly (DCA) that had been damaged in one section (see 9/9/11 report). The primary question at hand during the NCE was whether technicians could continue disassembly operations without applying polyimide tape to the damaged section of the DCA. The design agency for the DCA on this weapon program issued weapon response last week stating that the 100 V mitigated electrostatic discharge environment for this operation posed no hazard to the damaged DCA. Using this information, the NCE group concluded that disassembling the remainder of this unit without polyimide tape on the damaged area posed no threat to NES. PXSO approved the NCE report, the operation restarted, and technicians have completed DCA removal on this unit.

Nuclear Material Inventory Tracking: This week, technicians were performing nuclear material accountability walkdowns when they discovered a discrepancy between the quantity of nuclear material listed in the electronic material inventory system and the actual quantity of material present in a facility. Manufacturing personnel have identified the facts surrounding the event and determined that a weakness exists in the process that they rely on to ensure that the nuclear material and explosive facility limits specified in the safety basis are not violated. B&W ensures compliance with material limits using a software-based electronic material move system and various independent checks to verify consistency between the material move paperwork, the electronic system, and the actual component. However, once the component has been packaged, technicians are completely reliant on a barcode card (containing the level of assembly, part number, serial number, etc...) as the source of information for the electronic material move system. Several of these cards can be present in a facility at a time since the cards are created and assigned to components and different levels of assembly as a unit transitions through an assembly or disassembly process. This material inventory discrepancy was introduced when technicians inadvertently swapped the barcode cards for different levels of assembly prior to moving an item. The discrepancy has since been resolved. Manufacturing management plans to conduct a formal cause analysis of the event with the objective of identifying corrective actions that would eliminate this vulnerability from the B&W material tracking process.

Special Tooling Acceptance: Some task exhausts in nuclear explosive bays are mounted on stands that have a technical safety requirement-level functional requirement to provide a dissipative path to ground through the static dissipative floor to the facility rebar. This requirement is satisfied by design and electrical continuity testing upon initial acceptance, modification, or repair of the stand. This week, while preparing to modify several task exhaust stands, production tooling support personnel reviewed a year-old work order to modify one copy of the stand. They could not find evidence in the paperwork for the work order that the electrical continuity measurement or the quality reacceptance tasks had been performed (this stand was in service at the time of the discovery). Crafts personnel have since performed the electrical continuity measurement on the stand and found that it met the dissipative functional requirement. Production tooling support personnel are in the process of reviewing the latest work packages for the other task exhaust stands and have found no missing tasks thus far. B&W plans to conduct a formal cause analysis of the event.