

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 April 27, 2012

DNFSB Staff Activity: M. Duncan completed his assignment as site representative this week.

Anomalous Unit: Technicians suspended a nuclear explosive operation late last week after observing an unanticipated crack in a high explosive charge. Personnel from the B&W nuclear explosive safety (NES), authorization basis, and process engineering departments, as well as a design agency (DA) representative, assessed the damage to the unit this week. Using the definitions provided in the interim guidance on anomalous units recently issued by NNSA (see last week's report), a B&W NES, B&W process engineering, and DA representative collectively determined that the unit met the definition of anomalous. Per the interim guidance, NNSA has formed a project team, led by an NNSA program engineer, to carry out the recovery effort.

B83 Tooling Upgrade Project: Last week, NNSA issued the final report of the readiness assessment (RA) for the restart of B83 operations with upgraded tooling. The RA team identified one pre-start finding related to a prior-to-use equipment inspection that could not be completed as required by the procedure. PXSO authorized the new B83 process this week and B&W expects to start operations next week.

Potential Inadequacies of the Safety Analysis (PISAs): B&W declared two PISAs this week. The first PISA captures an unanalyzed accident scenario in which the seismically-induced movement of a hoist parked within 2 ft. of a sensitive component creates an impact or lightning-coupling event. B&W submitted a preliminary evaluation of the safety of the situation (ESS) to PXSO this week. The ESS refers to an engineering evaluation, which concludes that the postulated impact event is bounded by the current weapon response information. The ESS also concludes that the lightning coupling scenario is sufficiently unlikely due to the combination of events (a hoist parked in an inappropriate location, followed by a simultaneous seismic and lightning event) needed to impart energy to a sensitive component. Therefore, the ESS concludes that compensatory measures are not necessary. However, B&W plans to revise the safety requirements for production and support activities to clarify management's expectation that a hoist be parked at the designated parking location (outside a hazardous proximity to any sensitive components) at the completion of each task in the operating procedure.

The second PISA involves an unanalyzed hazard created by the discharge of a riot control agent (either accidentally during storage or transportation, or intentionally during security training exercises). B&W did not identify any compensatory measures in the preliminary ESS for this PISA because the riot agent canisters are staged in stable environments and are not handled during non-emergency situations, making the likelihood of an inadvertent discharge sufficiently low. For the intentional discharge scenario, B&W plans to conduct a dispersion analysis to establish the impact of the exposure of the riot agent to the nuclear worker before performing any additional training exercises.