

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 January 20, 2012

Anomalous Unit: As recently reported, PXSO approved a revision to B&W's unreviewed safety question (USQ) procedure. Through approval of this revision and additional discussions with B&W to clarify certain aspects of the procedure, PXSO has established a new expectation that weapon anomalies be declared potential inadequacies of the safety analysis (PISAs). Accordingly, last week, B&W declared a PISA and completed an evaluation of the safety of the situation (ESS) for the unit with a detonator cable assembly (DCA) that could not be removed using the currently approved disassembly process (see 8/12/11 and 10/28/11 reports).

For the last several months, B&W has been working with the design agency (DA) responsible for this weapon program to develop a recovery operation for the anomalous unit. The DA recently transmitted the weapon response information that B&W needed to complete the justification for continued operations (JCO) for the subject unit. PXSO approved the JCO last week. The proposed recovery operation directs the technicians to cut the DCA, apply polyimide tape to certain exposed portions of the DCA, install a protective cover on the portion of the DCA that cannot be removed, and return to normal operations. The primary compensatory measure for the operation is the protective cover, which is credited to protect against mechanical impact and electrostatic discharge events.

B&W cannot perform inspections of certain credited safety systems with a nuclear explosive in a facility. Therefore, due to the time it has taken to develop the recovery operation for this unit, B&W was unable to perform the in-service inspection (ISI) for the static dissipative flooring in the facility within the time frame prescribed by the safety basis. As a compensatory measure for the lapsed ISI, technicians will perform the recovery operation on a conductive velostat material, which will be installed in a 3 ft. radius around the base of the workstand. This material is credited to provide a dissipative path to ground in the event that there are areas of the dissipative flooring that exceed the maximum resistivity specified in the safety basis (100 M Ω). B&W is awaiting nuclear explosive safety (NES) approval of the proposed recovery operation.

Tripping Technician Hazard: This week, B&W formally updated the analysis of the hazard presented by the 95th percentile tripping technician. The purpose of the update was to recalculate the 95th percentile technician mass. Using data from the current pool of technicians, the value increased from 280 lbs. to 281.35 lbs. B&W subsequently declared a PISA and positive USQ. The associated ESS stated that no compensatory measures were needed because the weapon response parameters remained bounding and the tooling credited to withstand the event could continue to perform its credited safety function. Concurrently, B&W is performing a separate analysis to determine whether the credited tooling and applicable weapon response information remain adequate for the technicians that exceed the 95th percentile mass.

W87 NES Study: NNSA headquarters formally approved the NES study of W87 physics package assembly operations on December 19. NNSA concurred with the two pre-start findings and three post-start findings identified by the NES study group. Last week, the PXSO manager formally directed action on the findings. The more notable pre-start finding involves an unanalyzed drop hazard, for which B&W is implementing a protective cover. B&W anticipates starting its readiness assessment for this operation next month, pending closure of the pre-start findings.