

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 18, 2011

Nuclear Explosive Safety (NES) Change Evaluation (NCE): NNSA recently convened an NCE to evaluate self-diagnostic upgrades to the PT3669 mechanical safe and arm detonator (MSAD) tester. B&W added these diagnostics to increase the likelihood that the cause of test failures—such as the one described in the June 11, 2010, site rep report—can be definitively determined. The NCE group determined the changes to the tester did not pose a threat to NES, but did identify a potential point of confusion between the tester procedure and a lightning safety requirement. In the event of a tester malfunction, the tester procedure requires the technicians to turn off power to the tester but maintain all cable connections (to maintain the integrity of the test setup for further evaluation). However, one applicable lightning safety requirement provides potentially confusing instructions by requiring the technicians to disconnect the tester from the unit if the tester malfunctions while lightning warnings are in effect (this action would take priority over actions to maintain the test integrity). B&W responded to this concern with a procedure change that directs the technicians to read the lightning safety requirement just prior to performing the MSAD surveillance test. The NCE group was satisfied that this procedure change, along with technician training, would be sufficient to remind the technicians to disconnect the tester from the unit in the event of a tester malfunction during lightning warnings.

High Pressure Fire Loop (HPFL): Last week, a subcontractor was cutting a section of pipe in support of the HPFL replacement project when water began to pour effusively from the abrasion he had created on the valve. He immediately stopped work, exited the excavation site where he was performing work, and contacted the B&W subcontractor representative, who subsequently notified his management and the operations center. After approximately two hours, the impairment group was able to stop the flow of water by closing a nearby valve.

After evaluating the event, fire protection engineering believes the drawings that were used to establish the lockout/ tagout (LO/TO) boundary for this operation were discrepant. HPFL project personnel have stated that the HPFL drawings are generally adequate to support the LO/TO process (this was the first instance of an ineffective LO/TO boundary since the project began approximately 18 months ago); however, they are considering adding a second verification of absence of energy to compensate for potential discrepancies between HPFL drawings and as-found configurations in the future. PXS0 has also expressed concern that HPFL drawing discrepancies could lead to a LO/TO valve alignment that inadvertently interrupts the water supply to credited fire protection systems in operational nuclear facilities. B&W is considering potential compensatory actions in response to this concern.

W78 Operations: B&W is still awaiting weapon response from Los Alamos National Laboratory to support disassembly of the unit with the damaged detonator cable assembly (DCA, see 12/24/10 and 1/7/11 reports). In the meantime, manufacturing personnel have evaluated the cause of the damage and have implemented corrective actions to prevent recurrence of this event. The corrective actions involve procedure changes that alter the manner in which technicians remove the parts that cover the DCA. B&W revised the procedure this week and began disassembling the remaining W78 units in a different facility.