

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 July 23, 2010

Flooding Event: PXSO issued a safety evaluation report (SER) approving B&W's evaluation of the safety of the situation (ESS) resulting from the flooding event of July 8. The SER contained one condition of approval resulting from PXSO's conclusion that B&W did not demonstrate an acceptable risk for the combined lightning and performance category (PC)-3 rainfall event during manifold operations. PXSO directed B&W to revise the controls for manifold operation such that adequate protection is provided for the aforementioned scenario. B&W plans to suspend manifold operations during lightning warnings until they can develop an electrical isolation feature that can survive a PC-3 rainfall event.

Subsequent to the issuance of the SER, B&W determined that an assumption in an engineering evaluation referenced by the SER is incorrect. The evaluation assumed the mass properties equipment would not remain energized if inundated by water. However, following the flooding event, system engineering observed that the equipment, despite being inundated by water, remained energized. B&W will have to revise and reissue the ESS to describe this scenario and add a compensatory measure requiring personnel to ensure the mass properties equipment is de-energized before contacting an installed unit with tooling or equipment.

Facility management completed its evaluation of the extent of flooding for all facilities in the Zone 12 South material access area by July 9. This week, B&W resumed operations in all facilities in which these evaluation teams found no water or limited amounts of water. For each facility, a multi-disciplined team of engineers documented the evidence they used to affirm that the facility was safe to resume operations. B&W expects to resume operations in the remaining nuclear explosive facilities next week.

W87 Nuclear Explosive Safety (NES) Change Evaluation (NCE): Last week, NNSA convened an NCE to consider a design agency (DA) proposal for an additional electrical test on a W87 disassembly and inspection unit. In proposing this continuity test, the DA intends to eliminate a specific open circuit as the cause of a mechanical safe and arm detonator (MSAD) function test anomaly (see 6/11/10 report). According to the DA, testing the unit in this configuration preserves information that would be lost during disassembly. The NCE group determined the proposed test meets the NES standards; however, they did identify several diagnostic improvements that could be made to the MSAD function test.

B83 NES: As previously reported, B&W is developing a new process that incorporates significant tooling upgrades and a static dissipative environment. These changes require revision of the documented safety analysis, B&W and NNSA readiness assessments, and a NES study, which is scheduled to occur April 2011. An operational safety review (required every 5 years for non-expiring NES studies) for the current process is required by November 2010. B&W recently requested a 10-month extension (until NNSA can convene a NES study for the new process) and submitted a remediation plan as required by DOE M 452.2-2, *Nuclear Explosive Safety Evaluation Processes*. Six post-start findings from the November 2005 NES study remain open.