

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

MEMO TO: Timothy Dwyer, Technical Director
FROM: Tom Spatz, Pantex Site Representative
SUBJECT: Pantex Plant Report for Week Ending October 26, 2012

Deluge Fire System Failure: B&W Pantex continues to pause operations in several nuclear explosive facilities due to the failure of a solenoid valve on the deluge fire suppression system during preventive maintenance operations. (See report for 10/19/12.) B&W maintenance personnel are replacing approximately four solenoid valves per day, and bringing those facilities back to operational status.

Tooling Malfunction: This week, B&W Pantex received approval from NNSA Production Office (NPO) to resume lifting and rotating operations on all weapon programs. (See report for 10/19/12.) NNSA sent the Nuclear Explosive Safety Change Evaluation (NCE) report to the NPO, and the NPO approved the report. The NCE team deliberated on four topics, but did not report a finding or a minority opinion. Also this week, the NPO approved the Justification for Continued Operation (JCO) accepting the compensatory measures B&W Pantex plans to implement.

B&W Pantex tooling engineers determined that the fastener failed from the bending moment that was induced as a result of the pivot bolt loosening and that the situation was made worse by the condition of the elongated threads of the fastener. They also believe that if the pivot bolt had been secured as designed, the only mode of failure would have been shear and that the fastener would probably not have failed strictly from the shear load.

B&W Pantex is implementing three compensatory measures for continued use of this design of lifting and rotating fixture. First, all cap screws, including the pivot bolt, will be replaced and a medium strength locking agent will be applied to the cap screw and the mounting plate for all lifting and rotating fixtures. Second, during activation of the release bars, and during rotation, two production technicians (PTs) will maintain control of the unit until it is verified to be in the locked position and the PTs have installed support blocks between the rotation release bars. Third, B&W production tooling will inspect all lifting and rotating fixtures after the completion of operations on a single unit.

Failure of Fire Detection System: This week, B&W Pantex reported the performance degradation of a safety-class system when it is required to be operable. The Det-Tronics® relay module of the ultra-violet (UV) fire detection system failed for one facility. The facility representative placed the facility in maintenance mode and entered the appropriate Limiting Condition for Operations (LCO). B&W maintenance personnel replaced the Det-Tronics® relay module and exited the LCO. B&W Pantex has a limited number of spare relay modules. The modules are obsolete and the vendor no longer stocks them, but will build them upon request. Further, the relay modules currently on the warehouse shelf are older model relays and are not considered reliable. B&W supply chain is excessing the older model relays and replacing them with newer model relays (vendor built upon request), which should arrive on plant by November 5, 2012. B&W Pantex has a long-term plan to upgrade the Det-Tronics® UV fire detection system, which is based on the current rate of attrition of the existing modules. The last time B&W Pantex replaced a relay module was in early September, 2012.