

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 9, 2010

Flooding Event: B&W suspended operations and declared a potential inadequacy in the documented safety analysis (DSA) after heavy rainfall left up to one foot of standing water in certain ramps and as much as six inches of standing water in nuclear explosive facilities. The current analysis in the DSA concludes that flooding is not a potential event initiator because the “floor elevation of Pantex Plant production and staging operations building structures are above the 1×10^{-4} per year exceedance flood level.” Technicians were immediately assigned to the cleanup effort and ensured all nuclear material and nuclear explosives were in a safe configuration once the water had receded sufficiently to enter the facility. B&W is preparing an evaluation of the safety of the situation (ESS), which will show that no compensatory measures are required because operations will not restart until the facility is completely dry and utilities has determined that all safety and support systems are functioning properly. The ESS will also show that the standing water does not compromise lightning standoff or present an electrical coupling concern. B&W will prepare a justification for continued operations because the 10 year update to the flood analysis, which was recently completed by a subcontractor but not incorporated into the DSA, will not be ready for several months.

Relevant subject matter experts (e.g., design agency and tooling representatives) will assess all tooling, nuclear material, and nuclear explosive configurations that contacted water for any safety or quality implications. Offsite input will be transmitted using the engineering authorization system, which will in turn be reviewed by nuclear explosive safety.

Contractor Assurance System (CAS) Assessment: In early May, B&W Technical Services Group (TSG) performed a corporate validation of the CAS for B&W Pantex. The validation review team determined the B&W Pantex CAS is compliant with relevant requirements and provides an effective and maturing system for identifying and resolving deficiencies and weaknesses. The team identified 2 noteworthy practices, 1 finding, and 23 opportunities for improvement. The finding involved the fact that there was no metric in place to track the effectiveness of actions implemented from lessons learned. Of additional note, the validation review team identified several entries in the issues management database that had somewhat shallow causal factors determinations and weak corrective actions identified. B&W TSG will perform a validation of the B&W Y-12 CAS the week of July 17.

Onsite Transportation: A qualified commercial vehicle driver was moving an empty Safeguard Transporter in the Vehicle Maintenance Facility when the trailer detached from vehicle, causing severe damage to the trailer landing gear. Prior to moving the trailer, the driver completed a pull test, but failed to visually verify the kingpin of the trailer was fully engaged with the fifth wheel of the vehicle. Drivers that perform onsite transportation of nuclear material make the same type of connection, but use a checklist to ensure that all required verifications are performed before the move is initiated. Notwithstanding this enhanced formality, the department responsible for nuclear material moves stood down operations following the event until the parties involved could gather all relevant facts. Subsequently, the maintenance division determined the detachment resulted from a “false latch” scenario where the teeth of the clamp grip the larger diameter portion of the trailer pin and can come undone from a series of vehicle turns once the driver begins the move. The only way to ensure that a false latch has not occurred is to visually inspect an indicator on the fifth wheel. This inspection is currently part of the checklist used to by drivers prior to nuclear material moves. There have been four trailer detachment events at Pantex in the last 25 years.