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 April 6, 2012

DNFSB Staff Activity: J. Anderson was at Pantex this week to observe the first week of the NNSA readiness assessment of B83 operations with upgraded tooling.

Conduct of Operations: This week, operations center (OC) personnel declared the lightning detection and warning system inoperable after connectivity was lost to both the satellite and web-based weather radar system. The applicable limiting conditions of operation (LCO) actions require OC personnel to contact the Amarillo National Weather Service and obtain a clear weather forecast immediately and every three hours thereafter unless lightning warnings are issued. OC personnel obtained the initial clear weather forecast as required, but did not obtain the subsequent clear weather forecast until four hours had passed. B&W declared a technical safety requirement violation for failing to perform the LCO action within the required completion time.

Ignition Event: This week, during an operation to extract a weapon component from its housing, technicians were removing depleted uranium threaded plugs—an anticipated spark-generating activity—when they observed sparking and the presence of a flame around one of the openings in the component. A technician immediately used his hand (protected by a leather glove) to extinguish the flame and notified his supervisor and radiation safety personnel, who were in the facility at the time. After the supervisor notified OC personnel (who in turn notified the emergency dispatch center and the fire department) and pulled the fire alarm, all personnel evacuated the facility. The evacuees doffed their personal protective equipment (full body anti-contamination clothing and respirators) outside the facility. Radiation safety personnel surveyed the evacuees and found no contamination. The fire department issued an "all clear" within 30 minutes of being notified of the ignition event.

This is the same spark-generating activity that led to the generation of a flame on a foam insert inside the housing last October (see 10/28/11 report). B&W instituted several corrective actions following that event, such as installing fire-retardant barrier paper over the foam insert in the housing, using a non-flammable lubricant to reduce friction during removal of the threaded plugs, and requiring the technicians to wear fire-resistant anti-contamination clothing. B&W plans to further evaluate this activity for additional measures that could be taken to minimize spark generation.

Weapon Processing Difficulties: This week, technicians encountered another unit with a detonator cable assembly (DCA) that could not be removed due to the presence of excessive adhesive around the DCA. This is the ninth unit to be declared stuck since late January when B&W trained its technicians to remove only incidental amounts of high explosive while attempting to extricate the DCA. To date, the responsible design agency (DA) has only issued weapon response information for each stuck unit individually. Therefore, B&W has had to develop and receive approval for a specific justification for continued operations for every stuck unit before proceeding with the recovery operation (to cut the DCA and install a protective cover). Recently, the DA issued weapon response information that can be applied to all stuck units generically. This allowed B&W safety basis personnel to develop a safety basis change proposal that will enable the process engineer to implement the recovery operation as a permanent procedural contingency. The safety basis change proposal is awaiting PXSO approval.