

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 October 28, 2011

B53 Dismantlement: B&W completed the final B53 dismantlement this week.

Anomalous Unit Recovery: As reported last week, Los Alamos National Laboratory (LANL) issued weapon response information to support the development of an alternative process for continuing the disassembly of a unit with a detonator cable assembly (DCA) that could not be removed using the currently approved process. The weapon response information only addressed mechanical impact hazards because B&W and LANL personnel had previously considered the electrically-sensitive components on this unit, such as the DCA, pristine. However, in the weapon response information summary document, LANL weapon responders indicated that the DCA could be damaged. As a result, PXSO and B&W safety basis analysts decided that additional weapon response information for electrostatic discharge hazards was needed to support the continued disassembly of this unit. B&W now estimates that this unit will be processed sometime in late December.

Ignition Events: Last week, technicians had just completed removing a marking from a depleted uranium (DU) weapon part using a Scotch Brite™ pad and hydrofluoroether (HFE) solvent when they smelled smoke and observed glowing embers on the pad. The smolder quickly extinguished and the technicians set the pad on a table with a flame-resistant covering. They then contacted their supervisor, who in turn made notifications to nuclear explosive safety, process engineering, and manufacturing management. The fire department did not immediately respond to the event, but was notified and ultimately verified the absence of any sustained combustion on the pad within 30 minutes. A radiation safety technician was in the facility at the time of the event and he took the opportunity to survey the component and the surrounding area and found no removable contamination. Manufacturing management is currently prohibiting the use of Scotch Brite™ pads on radioactive parts. Meanwhile, process engineering personnel are working with design agency representatives to establish an alternative method for removing markings from DU parts. Applied technology personnel are analyzing the pad and the HFE to ensure the makeup of these materials is consistent with vendor specifications.

Last week, during an operation to extract a weapon component from its housing, technicians were removing DU threaded plugs—an anticipated spark-generating activity—when the foam insulation inside the housing ignited, creating a small flame. A technician immediately used his hand (protected by a leather glove) to extinguish the flame. This operation contains less than hazard category 3 quantities of radioactive material; accordingly, the associated hazards and controls are documented in a job safety hazard analysis (JSHA). Special Nuclear Materials Division management has placed this operation on hold until the JSHA has been updated to address the foam insert igniting during the spark-generating portions of the subject operation. In support of this update, B&W fire protection engineers plan to evaluate the Tyvek® anti-contamination clothing worn by the technicians to ensure that it is safe to use in proximity to a spark-generating activity. The fire department was not notified following this event because there was a week delay in reporting it after a miscommunication between the technician who extinguished the flame and his first line supervisor.