

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

**MEMO TO:** Timothy Dwyer, Technical Director  
**FROM:** Tom Spatz, Pantex Site Representative  
**SUBJECT:** Pantex Plant Report for Week Ending September 21, 2012

**DBFSB Staff Activity:** D. Boyd (Outside Expert), T. Hunt, and J. Mercier were at Pantex this week to perform a conduct of maintenance review.

**Isolation Valve Failure:** This week, B&W Pantex held a critique for an event where less than 20 gallons of water was dumped into a facility during the mechanical semi-annual fire system planned maintenance. B&W crafts personnel perform a deluge system alarm test by isolating the deluge system and activating the manual deluge switch in the facility. The piping downstream of the deluge diaphragm valve is normally dry, and no water should flow from the deluge heads in the facility during this test. The B&W crafts personnel performing the test noticed a partial flow of water from the deluge heads shortly after the deluge diaphragm valve was opened. The B&W crafts personnel took immediate action to stop the flow by activating the deluge diaphragm valve at the fire alarm control panel. The facility contained a trainer unit and two sealed sources at the time of the event. B&W plans to remove and inspect the large valve upstream of the deluge system.

**Tooling Requirements Potential Inadequacy in the Safety Analysis (PISA):** B&W Pantex issued a PISA this week when the NNSA Production Office (NPO) questioned whether tooling requirements communicated in the weapon response were protected by a control in the weapon Hazard Analysis Report (HAR). The Design Agency issued mitigated weapon responses for mechanical insults based on the composition/attributes of tool material, tool covering material, or floor mat material. For example, the Design Agency specified the thickness of floor mats as well as cleanliness criteria. B&W tooling engineers did capture these requirements in the tooling specifications, however the B&W authorization basis department did not capture these as functional requirements in the HAR. B&W has paused operations in the affected facilities and is performing an Unreviewed Safety Question determination. B&W Pantex submitted an Evaluation of the Safety of the Situation to the NPO.

**Tooling Malfunction:** This week, B&W Pantex paused nuclear explosive operations in a facility due to a tooling malfunction. B&W tooling engineers design lifting and rotating fixtures which lock into position to prevent the unit from rotating while nuclear explosive operations are being performed. This particular lifting and rotating fixture is designed with two release handles that need to be squeezed together to release the anti-rotation pins. Two production technicians (PTs) were in the process of rotating a unit when the unit started rotating without the release handles being squeezed. The PTs secured the unit in the horizontal position, paused work, and made the proper notifications. B&W tooling engineers will perform an engineering evaluation of the lifting and rotating fixture.