

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 17, 2013

MEMO To: Steven Stokes, Acting Technical Director
FROM: Thomas Spatz, Pantex Site Representative
SUBJECT: Pantex Plant Report for Week Ending May 17, 2013

Board Staff Activities: This week, C. Martin was at the Pantex Plant to observe the Bays and Cells Nuclear Explosive Safety Master Study activities.

High-Mast Lights Positive Unreviewed Safety Question (USQ): B&W Pantex authorization basis personnel issued a Potential Inadequacy of the Safety Analysis (PISA) last week when ultra-sonic measurements of high-mast light towers indicated wall thickness measurements were below the minimum requirement. This week, following additional inspections, B&W upgraded the PISA to a positive USQ due to the increase in the probability of an accident previously evaluated in the Sitewide Safety Analysis Report (SAR). In May 2011, B&W experienced a failure of a support cable for the light assembly on top of a high-mast light tower. (See report for 5/20/2011.) As part of the extent of condition from that event, B&W is inspecting the high-mast light tower wall thickness on all existing towers. B&W identifies the design criteria for the light towers in the Sitewide SAR. The light towers are designed in accordance with the 1985 American Association of State Highway and Transportation Officials (AASHTO) criteria for a 100 mph wind zone.

After declaring the positive USQ, B&W management directed operations personnel to pause operations at prescribed stop points in the nuclear explosive operating procedures, verify that the units were in a safe and stable configuration, and evacuate the MAA. The evacuation did not include security personnel. B&W took corrective action to install barricades in all areas of the MAA that could possibly be impacted by a falling tower. B&W operations personnel resumed operations the following day in facilities that could be accessed without crossing a barricade.

Vacuum Hose Positive USQ: This week, B&W Pantex upgraded the PISA issued last week for an unprotected functional requirement in one weapon program Hazard Analysis Report (HAR), to a positive USQ. B&W authorization basis personnel identified hazard events related to electro-static buildup in a radiation vacuum hose, where the functional requirements of the hose were not protected in the HAR but were present on the actual vacuum hose. B&W has paused operations involving radiation vacuum hoses on the affected weapon program.

Causal Factors Analysis (CFA) Report: This week, B&W Pantex submitted the CFA report related to work being performed outside of the nuclear explosive safety (NES) authorized process, to the NNSA Production Office. The Board issued a letter to NNSA on March 2, 2012, related to the same event as the CFA report. The CFA team identified the failure to execute conservative decision making when faced with conflicting or sparse information, or differing opinions, as one of the primary causal factors. The CFA team identified thirty-three Judgments of Need that will be entered into the B&W Pantex Problem Evaluation Request system, have corrective actions assigned, and be tracked to closure. One of the Judgments of Need is that B&W should consider enhancing NES department proficiency requirements to include periodic review and understanding of existing NES study reports, involvement with NES studies, and periodic observation of line operations.