DEFENSE NUCLEAR FACILITIES SAFETY BOARD

MEMO TO: Timothy J. Dwyer, Technical Director
FROM: Matthew Duncan and Rory Rauch, Pantex Site Representatives
SUBJECT: Pantex Plant Report for Week Ending November 20, 2009

Board Visit: Mr. Joseph Bader, Mr. Larry Brown, Dr. John Mansfield, and Dr. Peter Winokur, along with staff members T. Dwyer, B. Laake, and M. Moury, were onsite to meet with plant personnel to review the safety of nuclear and nuclear explosive operations. Specific topics of interest included the adequacy of technical procedures, the timeliness of the transmission of information associated with a component performance issue on the W76-1 program, the actions following the detachment of a canned subassembly from a lifting fixture during a W78 nuclear explosive operation, and the status of vital safety system (VSS) upgrades. Of particular note, B&W and PXSO indicated that funding shortfalls have limited the site's ability to perform certain VSS upgrades (e.g., hoist replacements, high pressure fire loop lead-in replacements, and physical modifications to qualify seismic outliers in nuclear explosive facilities). Site management expects that future funding for such upgrades will remain limited. As a result, completion dates for the upgrades could not be provided. B&W continues to monitor the functionality of these safety systems to ensure that the risk of performing operations in the absence of these upgrades remains acceptable.

W76 Operations: Technicians suspended a W76 disassembly operation this week after observing minor high explosive cracking. B&W requested a nuclear explosive safety (NES) change evaluation (NCE) to evaluate the proposed recovery operation—to apply red vinyl tape to the affected area and continue the operation normally. The NCE group determined the proposed recovery operation was safe. In addition, B&W asked the NCE group to consider whether approval of the path forward for this unit could be applied to units that experience a similar anomaly in the future. The NCE group determined that any attempt to provide unambiguous advance guidance would likely be incomplete. This judgment was in part based on the fact that Los Alamos National Laboratory (LANL) attempted to provide advance guidance on this topic in a 2006 information engineering release (IER). The IER was met with varying perceptions during a March 2007 NCE and the W76-1 NES study. LANL has committed to revising the IER to provide further clarification; however, in the meantime, the NCE group concluded that each occurrence of such an anomaly should be assessed individually.

Stretched Pit Tube: B&W submitted a justification for continued operations (JCO) to PXSO that described the modified process to disassemble the nuclear explosive with a stretched pit tube. As a precautionary measure, radiation safety personnel set up a contamination area and technicians had to wear anti-contamination clothing. As a contingency, the technicians were prepared to wear respirators. An NCE was conducted this week. The group was briefed by a representative from the design agency who explained that any release of radioactive material to the cell was very unlikely. The group also determined that the issue with the pit tube was not a direct threat to NES, but wanted the technicians to demonstrate the process using respirators. While communications were more difficult, they observed no effect on safe performance of the disassembly. The NCE group finished their evaluation and PXSO approved the JCO for the process changes. The disassembly operation was successfully performed this week with no contamination detected.