

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 29, 2011

W87 Operational Safety Review (OSR): In an April 25 memo, the PXSO manager directed B&W to address several draft findings from the W87 OSR that impact ongoing operations. The draft pre-start findings identified in the memo included (1) the unacceptable hazard presented by the part of the process that requires manual lifting of insensitive high explosive charges and (2) the lack of a fully independent verification of the position of a component critical to nuclear explosive safety during radiography operations. The memo also described draft post-start findings involving an assembly press that applied more force than permitted by procedure (see 4/1/11 report) and the lack of stability of the primary in the workstand (see last week's report). The PXSO manager requested that B&W address these issues prior to resuming W87 in situ mechanical safe and arm detonator operations.

B53 Operations: This week, a technician was removing bolts in preparation for tail removal on a B53 assembly and inadvertently knocked off one of the parachute actuator covers. The actuator covers are credited as a safety significant control in the B53 hazard analysis report to protect against the worker safety hazard presented by initiation of the parachute actuator. The first line supervisor for the operation immediately contacted authorization basis and nuclear explosive safety personnel to determine the safest recovery action. All parties involved concluded that it would be safer to immediately reattach the actuator cover than to keep the actuator exposed for several hours while the process engineer developed a recovery procedure. The technicians reattached the cover and continued operations.

Seismic Planned Improvements: This week, PXSO approved a B&W plan for completing the seismic-related planned improvements in the Sitewide Safety Analysis Report. By the end of this fiscal year, crafts personnel plan to install the remaining onsite inventory of ASME NUM-1B hoists (these hoists are qualified to withstand a performance category (PC)-3 seismic event without dropping the rated load). This would leave seven nuclear explosive cells and six nuclear explosive bays with legacy hoists that do not meet PC-3 seismic requirements. B&W estimates it will cost approximately \$3.2 million to procure and install the additional 20 hoists (one per bay and two per cell). Procurement of the hoists requires a lead time of about 12 months, at which time it will take an additional two years to complete the installations.

Another seismic-related planned improvement involves the analysis and facility modifications needed to prevent facility appurtenances from falling during a PC-3 seismic event. B&W estimates it will cost approximately \$150 thousand to complete the facility modifications required to ensure all ceiling-mounted appurtenances can withstand a PC-3 seismic event (about 20 bays remain). The plan assumes it will take crafts personnel approximately 3.5 years to complete the remaining work. By contrast, B&W has made no progress to date towards completing the planned improvement for wall-mounted appurtenances. B&W management deferred work on wall-mounted appurtenances based on an engineering evaluation which shows that wall-mounted appurtenances cannot fall within the bounding operating area for nuclear explosive facilities and thus would not contact impact-sensitive components. B&W estimates that performing the analysis to identify the wall-mounted appurtenances that require reinforcement and the work required to complete the reinforcements (53 nuclear explosive facilities total) would take nine years at a cost of approximately \$2.5 million. B&W hopes to utilize the Capability Based Facility Infrastructure Project to fund these (and other) safety system upgrades; however, funding from this program likely will not be available until fiscal year 2013.