

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 March 18, 2011

Special Tooling: Technicians suspended a W87 disassembly operation on two separate occasions last week when they experienced an abnormal amount of resistance while applying force to the unit using an assembly press (a different copy of the press was used on each occasion). On both occasions, the technicians stopped work before they achieved the maximum force gage reading specified by the procedure. Tool designers evaluated one of the copies of the press and found that one of the pieces in the load path was contacting a piece of the tool that was not part of the intended load path. This was causing some of the force imparted by the technicians to be applied to the weapon without being read by the force gage. Subsequent testing demonstrated that the gage was under-representing the force applied to the unit by approximately 25 percent. Metrology personnel had calibrated each copy of the press; however, it appears they had been using a calibration method that did not represent how the technicians would use the press during operations. An extent of condition review revealed that this problem exists on the four copies of the tool that were manufactured most recently. It should be noted that the documented safety analysis (DSA) does not credit this press to prevent or mitigate a hazard scenario. Tool designers plan to evaluate the potential tooling fabrication, calibration, and acceptance breakdowns that led to these work stoppages.

B53 Operations: After three weeks and several failed attempts to expedite the operation, technicians were finally able to separate the pit and a main charge high explosive (HE) component on the latest B53 dismantlement unit (see 3/4/11 report). While evaluating the configuration in question, engineer personnel realized that the HE holding plate was not lying flush with the HE cover, thereby reducing the force imparted by the jackscrews upon engagement. The responsible process engineer wrote a temporary procedure directing the technicians to use shim stock to fill the gaps between the jackscrews and the cover. The pit and main charge HE component separated shortly thereafter. The responsible process engineer plans to permanently incorporate these actions as an option branch in the operating procedure.

W78 Operations: B&W and Los Alamos National Laboratory continue to develop a process to safely disassemble the W78 unit with the damaged detonator cable assembly (see 1/7/11 report). Program personnel estimate the weapon response, procedure changes, and justification for continued operations (JCO) needed to complete the disassembly will not be finalized for another six weeks. The extended downtime in the facility with this unit (technicians first identified this issue on December 22, 2010) has prevented crafts personnel from performing the annual in-service inspection (ISI) of the static dissipative floor covering (certain maintenance activities cannot be performed in a facility when a nuclear explosive is present). Facility management has installed stanchions to prevent personnel from approaching the unit (the floor is only credited to perform its safety function within 6.5 ft. of the unit) until safety basis personnel can develop a JCO to address the lapsed ISI. If the facility remains occupied with a unit for another six weeks, B&W will have to address several more lapsed surveillance requirements and ISIs.