

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 June 4, 2010

Positive Unreviewed Safety Question (USQ): Last week, B&W declared a positive USQ as a result of the the severe weather warning event that exposed potentially conflicting technical safety requirements (see 4/23/10 report). This USQ determination was the first opportunity for the authorization basis (AB) department to develop an evaluation of the safety of the situation (ESS) using the enhanced content required by the new Pantex USQ procedure. In the ESS and attached USQ determination, AB department personnel determined the documented safety analysis (DSA) should be changed to clarify the actions required to achieve a safe configuration when severe weather is encountered during operations at a loading dock. Specifically, the material handlers are now required to use the minimum adequate tie-downs to maintain control of the material while the transportation trailer is being moved to provide sufficient clearance to close the trailer doors. These actions are currently captured in a standing order until a full cause analysis has been completed. The ESS further states that there is no credit taken in the DSA for the use of tie-downs and recommends eliminating the control from the technical safety requirements. The AB department will submit the DSA change by the end of July.

Training: This week, B&W conducted conservative decision making training for a group of new production technicians (PTs), most of whom will support the W76 program. The primary goal of the training is to ensure that PTs understand the expected response to process anomalies. Specifically, PTs are trained to achieve a “safe and stable” configuration, stop work, and contact their supervisor. The training reinforced the attributes of high reliability organizations and the principles of conservative decision making by reviewing important lessons learned from several high consequence accidents (e.g., the space shuttle Columbia accident) and guiding the technicians through the desired response to several hypothetical process anomalies.

Special Tooling: The B61 program has had to stop work on several recent occasions because of issues with its workstand. Most of the issues involved a slipping or gradual tightening of the gears and drive chain for the trunnions. In one recent example, PTs stopped work after they heard a popping noise while raising the unit in the workstand. The PTs lowered the unit into a safe and stable configuration. Process engineering developed a recovery procedure that directed the PTs to transfer the unit to the workstand on the opposite side of the bay and continue disassembly. Tooling personnel investigated the incident and found one of the teeth on the lower gear was misaligned with the drive chain. Program management will use surplus surveillance funding to support an enhancement of the workstand to a simpler, more robust design that eliminates the drive chain mechanism in favor of a system of interfaced gears. The first new B61 workstands should be available by October.

Pit Surveillance: The fiscal year 2010 performance evaluation plan incentivizes B&W to qualify laser gas sampling operations in support of B61 pit surveillance. To that end, the special nuclear materials division recently completed the first set of laser gas sampling operations on B61 pits. Thus far, it appears the sampling and welding for each item has been adequate. B&W is awaiting a qualification engineering release from the design agency before resuming operations.