

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 October 29, 2010

Conduct of Operations: Technicians suspended a B83 disassembly and inspection (D&I) operation after a process engineer determined that they had executed the wrong portion of the governing procedure. Technicians were disassembling the unit in preparation for stockpile flight testing, but the reader misread a step and invoked an appendix that directs the testing and packaging needed for a different type of surveillance activity. Process engineering issued a recovery procedure to correct the difference between the steps that should have been performed and the steps that were performed. The corrections were relatively minor and the technicians completed the recovery procedure late this week.

Gas Sample Anomaly: Gas lab analysis of power-free gas sampler and phoenix cart samples from the headspace of a B61 D&I unit detected small amounts of an unexpected constituent. Engineering has evaluated all possible sources of the constituent and has tentatively concluded that the source is internal to the weapon. The unit in question had already been disassembled to the component level at the time the anomaly was discovered. Final disposition of the components is on hold pending special instruction engineering releases from Los Alamos and Sandia National Laboratories.

B53 SS-21 Dismantlement: B&W began dismantling the first B53 SS-21 unit this week. After completing the first three tasks in the procedure with only minor process interruptions, technicians suspended operations after they were unable to remove one of the screws that holds the cover plate for the fireset. Process engineering developed a recovery procedure to allow a machinist, under supervision by the technicians that are qualified on the B53 dismantlement process, to remove the screw using any tooling as long as it met certain weight and dimensional restrictions and contained no power source. The machinist successfully removed the screw and the technicians resumed operations.

This week B&W completed its readiness assessment (RA) for the non-nuclear aspects of the B53 dismantlement process, which will occur in a nuclear explosive bay. These operations involve the portion of the bomb that contains energetic components but limited nuclear material. The review team identified 7 pre-start findings and 4 observations. An NNSA RA is not required.

Work Planning: The firing site is posted as a soil contamination area because of the potential for depleted uranium contamination if the soil is disturbed. Typically, contamination at the firing site is only a credible hazard during excavation activities or if the soil becomes muddy. Last week, three area mechanics performed preventive maintenance (PM) on an air handler unit at one of the firing sites. To access the air handler, the mechanics used a walkway covered in muddy soil that had eroded from a nearby berm. A firing site technician who was aware of the soil contamination area hazard arrived in the middle of the PM activity, informed the technicians that they were not wearing the proper personal protective equipment, stopped work, and notified the operations center and radiation safety. Radiation surveys of the technicians showed no alpha contamination. Maintenance division personnel believe the corrective actions from the in-process barrier analysis of the activity-level work planning and control processes for their division should prevent recurrence of this event.