DEFENSE NUCLEAR FACILITIES SAFETY BOARD

MEMO TO: J. Kent Fortenberry, Technical Director
FROM: Timothy Hunt and Dave Kupferer, Pantex Site Representatives
DATE: 30 March 2007
SUBJECT: Pantex Plant Weekly Report

W88 SS-21 Cell Process Development: By mid-2005, BWXT had completed the tooling designs for a vertical W88 SS-21 disassembly process and procured several of the tools. Later that year, LANL issued new information to Pantex that led BWXT to re-evaluate the W88 SS-21 process. Subsequently, BWXT presented several options to NNSA on how the process could be re-engineered to address the safety concern and NNSA approved development of a horizontal dissassembly process. Recently, based on input from BWXT, NNSA directed BWXT and LANL to complete W88 SS-21 cell disassembly tooling designs utilizing a "modified vertical" process. The modified vertical process still includes separating the component of interest while the unit is in a horizontal configuration; however, the modified vertical process will use as much of the existing vertical process design as possible. This modified approach could significantly accelerate implementation of SS-21 cell operations.

Radiation Alarm Monitoring System (RAMS): PXSO identifies the RAMS as a vital safety system. The systems are located in more than 100 nuclear areas around the plant and are relied upon to notify the workers in the event of a tritium or alpha contamination release. Although all RAMS are connected to an uninterruptible power supply (UPS), the external vacuum system that supports the alpha monitors in dozens of facilities is not connected to the UPS and will be lost either momentarily – a couple minutes while generators come online – or until commercial power is restored. Tritium monitors are not affected by loss of plant vacuum due to internal pumps. BWXT is developing a RAMS replacement project, spread over ten years, that will include a design requirement to connect vacuum blowers to facility UPS. Since the current technical driver to maintain UPS is emergency lights – which are transitioning to commercial power with a battery-pack system – PXSO must ensure that the facility UPS remain available for the RAMS.

Technical Safety Requirement (TSR) Violation: Several chargers are necessary to ensure that UPS batteries are able to support the fire alarm panels that control the flow of fire suppression water to the nuclear explosive facilities. In November 2005, PXSO approved a safety basis change package that increased the frequency BWXT is required to verify the operability of the subject battery chargers from annually to semi-annually. This approved change to the surveillance requirements was not incorporated into the appropriate maintenance procedures. During a recent contractor readiness assessment, BWXT identified the maintenance procedure omission and determined that all of the subject battery chargers had missed the required semi-annual maintenance. It appears that BWXT's process for verifying the implementation of TSRs lacks formality and could be improved. Several opportunities were missed to identify and resolve this issue during the past 18 months. BWXT has initiated a causal factors analysis to investigate this incident as opposed to the traditional casual analysis and mistake proofing review. The causal factors analysis has the potential to be more independent and thorough; however, the guidance for such an analysis has not yet been fully developed so a large degree of management attention may be warranted.

B53 Off-Loading: Weapon off-loading took place this week at Pantex. The units will be staged until the SS-21 dismantlement process is developed.