

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

MEMO TO: J. Kent Fortenberry, Technical Director

FROM: Timothy Hunt and Dave Kupferer, Pantex Site Representatives

DATE: 18 November 2005

SUBJECT: Pantex Plant Weekly Report

DNFSB Staff Activity: Staff members A. Gwal and A. Matteucci and Outside Expert R. Collier were on-site this week for a review of electrical and lightning protection systems.

Weapon Component Damage: During an operation to extract a subassembly from the reentry vehicle, the subassembly was inadvertently scored around the circumference by a cutting tool. After removal of the tool, it was noticed by the production technicians that the cutting blade was bent about 30 degrees from its original orientation and partially broken. A visual observation indicated that a radioactive component of the subassembly was scratched. Fixed radioactivity was subsequently detected on the cutter tool and vacuum hose attachment used to clean debris from the unit. An engineering procedure was developed and additional contamination controls were implemented to complete the extraction operation. As of Friday afternoon, two subsequent attempts had failed to separate the subassembly from the RV. BWXT engineering plans to contact the design agency to discuss options to proceed. The full extent of damage won't be clear until the subassembly is extracted and exposed for a detailed inspection. It is suspected that a long moment arm and fatigue were significant contributors to the bit bending and breaking. The tool and tolerance stack-up will be evaluated prior to the next cutting operation to minimize potential damage to future units. A similar event occurred in October 2003.

Nuclear Material Program Management Plan (NMPMP): BWXT recently issued the NMPMP, which incorporates and replaces the Pit Management Plan (PMP) from previous years and addresses the life-cycle management of a wide variety of nuclear material. In the Board's letter of 9 September accepting closure of Recommendation 99-1, the Board requested an annual briefing on pit repackaging progress coincident with the PMP update. BWXT plans to brief the Board after two sub-tier documents are issued—Process Relocation from 12-64 Project Execution Plan and AL-R8/SI Pit Repackaging Process Execution Plan.

Fire Alarm System: In September, a fire alarm control panel sent a signal to the fire department that a Det-Tronics panel was in a trouble alarm condition. The Det-Tronics panel receives signals from the UV detection system and actuates the deluge system in nuclear facilities in the event of a fire. Due to apparent poor communications, BWXT did not enter the appropriate Limiting Condition of Operation (LCO) and complete the necessary associated actions (e.g., putting units in a safe and stable condition and placing effected facilities into maintenance mode) until several hours after the trouble alarm was originally received by the fire department. At the request of PXS0, a critique was held last week to discuss the aforementioned events. Subsequently, BWXT declared a Technical Safety Requirement violation. The safety-class fire suppression system includes the Det-Tronics panel, but not the fire alarm control panel. If the fire alarm control panel were to fail, it is unclear if the fire department would be able to detect whether the Det-Tronics panel was in a trouble alarm condition.

Chief of Defense Nuclear Safety (CDNS) Review: A 15-member team representing the CDNS was on-site the past two weeks performing its biennial review of nuclear safety performance. The stated objective of the NNSA headquarter-level line management self-assessment is to confirm that safety requirements and processes are adequately implemented. Preliminary results presented at the closeout meeting indicate that, overall, the Pantex Site Office oversight processes are effective. The CDNS team also concluded that implementation of integrated safety management is adequate and the nuclear safety requirements are effectively implemented. The Safety System Oversight program was recognized as exceeding expectations and the Quality Assurance program was noted as needing improvement.