DEFENSE NUCLEAR FACILITIES SAFETY BOARD

MEMO TO: J. Kent Fortenberry, Technical Director
FROM: Timothy Hunt and Dave Kupferer, Pantex Site Representatives
DATE: 2 June 2006
SUBJECT: Pantex Plant Weekly Report

W80 Program Status: W80 disassembly operations were suspended in September 2005 due to expiration of both the 10CFR830 exemption extension and the Nuclear Explosive Safety Study (NESS) (the NESS was completed in 1990). BWXT and the design agencies are in the process of concurrently developing an SS-21 process and an associated Hazard Analysis Report (HAR) that is compliant with DOE Standard 3009, *Preparation Guide for Documented Safety Analyses* (an approved W80 HAR does not exist). According to current schedules, the SS-21 process is expected to be authorized in November 2007. It appears that NNSA and the design agencies are hopeful that the W80 surveillance backlog can be worked off by the end of fiscal year 2007. NNSA has been considering the possibility of granting the W80 program additional exemptions to the requirements of 10CFR830 and DOE Order 452.2B, *Safety of Nuclear Explosive Operations*, to facilitate using the non-SS-21 process to work off the W80 backlog.

Nuclear Criticality Safety: Last week, NNSA performed its annual assessment of Pantex criticality safety. The assessment team's overall conclusion was that the program continues to be effective. A potential issue is still being pursued on whether bounding scenarios developed for criticality safety evaluations meet the guidance provided in DOE-STD-3007-93, *Guidelines for Preparing Criticality Safety Evaluations*. The assessment team also identified a lingering concern that the criticality safety staffing level limits the amount of time the engineers are able to spend directly observing line operations.

Nuclear Material Storage: A nuclear material storage facility lost its cooling capability this week when both chiller unit compressors became inoperable. The facility air handling unit was shut down to keep hot air from being blown into the storage rooms. BWXT implemented hourly monitoring after the room temperatures exceeded the alert temperatures. The temperature in one storage room came within a fraction of a degree of the action temperature before cooling was restored. There is currently little formal documentation defining operations to be undertaken if the action temperature is reached. In this case, the facility personnel would have contacted management who would have directed that portable fans be positioned in the affected rooms. If this was not successful in keeping the temperatures down, management would have directed personnel to start moving specific high heat pits to another facility. Future planned BWXT actions include modifying the facility air handling system to allow connection to portable, trailer-based chiller compressors and updating the thermal monitoring system procedure to better describe required actions in the event of an over-temperature condition.

Cell Gap Calculation: BWXT recently submitted a report to PXSO that quantitatively analyzed the potential off-site consequences of an explosion (not a nuclear detonation) in a nuclear explosive facility that contains special nuclear material (SNM). Subsequently, PXSO directed BWXT to evaluate the change in the potential off-site dose based on the following scenario changes: two weapons in the facility as opposed to one, the effect of sealing additional cell gaps, the effect of gravel gertie filtration, and the effect of SNM hold-up in corridors outside of the effected facility. The updated report indicates that the additional reduction in off-site dose gained through closure of additional gaps would be minimal at best. PXSO expressed confidence that the original dose estimates were artificially high by at least 60 percent, therefore current operations are justified. PXSO does not intend to pursue further cell leak path reductions.