

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 4, 2005

MEMORANDUM FOR: J. K. Fortenberry, Technical Director
FROM: Timothy Hunt and Dave Kupferer, Pantex Site Representatives
SUBJECT: Pantex Plant Activity Report for Week Ending March 4, 2005

DNFSB Staff Activity. J. Malen and R. Rosen observed the first week of the B83 nuclear explosive safety study. A. Matteucci supported tours and independently pursued various issues.

Cracked High Explosive. Early this week, production technicians discovered partial separation at the equator of the previously cracked main charge high explosive described in last week's activity report. This serendipitous discovery is expected to simplify the path forward to safely process this unit. The unit remains in a safe configuration awaiting laboratory analysis of potential recovery actions.

Radiological Event. It was recently reported that a technician from Sandia National Laboratories performing radiological work in a Pantex facility received a dose in excess of his SNL administrative control level. Questions were raised regarding access control to radiation areas, work planning, and unanalyzed exposure. The work was performed in a radiological area without the appropriate personal protective equipment, ALARA review, radiological operations evaluation, worker training, and pre-job briefing.

Blast Door Interlocks (BDI). In January, BWXT submitted an authorization basis (AB) change proposal to PXSO that includes modifying the safety classification of the bay BDI systems from safety-class to safety-significant. The bay structure is a credited, preventive control designed to minimize the risk associated with external events and natural phenomena. Currently, the bay BDI system, an engineered control, works in conjunction with the Explosive Safety Program, an administrative control, to ensure that at least one of the facility doors is closed, except for short durations. DOE Guide 420.1-1, *Nonreactor Nuclear Safety Design Criteria*, requires that safety-class electrical systems be designed to IEEE 379 single-point failure criteria. PXSO believes that the costs associated with a fully compliant IEEE 379 BDI system are not commensurate with the potential safety benefit. It is worth noting that there is a high degree of uncertainty associated with the process for obtaining an exemption to DOE Guide 420.1-1 requirements.

BWXT Tooling Readiness Review. The BWXT management review board completed its ad hoc review this week to verify actions to improve the tooling program have been implemented. A key objective was to ensure all authorization basis requirements for credited tools are known and verified to meet functional requirements. The revised list indicates 189 credited tools; 82 of which need an updated analysis to meet current standards and four necessitating functional testing through tooling tryout. The BWXT readiness assessment will begin in mid-March.

B61 SS-21 Hazard Analysis Report. The B61 HAR was submitted on Monday and PXSO began its Safety Basis Review Team validation. Many of the electrostatic discharge hazards associated with the program have been eliminated based on the assumption conductive flooring will be installed in the production bays. The HAR primarily addresses worker safety and material release concerns, as well as the intent to perform multi-unit processing. The review will also include an examination of the software quality assurance basis and configuration control for the first-of-a-kind electronic HAR package.