

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

MEMO TO: J. Kent Fortenberry, Technical Director
FROM: Timothy Hunt and Dave Kupferer, Pantex Site Representatives
DATE: 19 January 2007
SUBJECT: Pantex Plant Weekly Report

DNFSB Activity: Board members Dr. Winokur and Mr. Brown and staff members T. Dwyer, R. Tontodonato, and R. Rauch were onsite this week to discuss safety issues with PXSO and BWXT management, tour nuclear facilities, and observe nuclear explosive operations.

Seismic Qualification of Cranes: Last week, BWXT discovered that an unreviewed safety question (USQ) exists regarding the seismic qualifications of the cranes in four nuclear explosive facilities (two cells and two bays). Although the functional requirements for the cranes stipulate they must be qualified to PC-3 criteria, the Safety Analysis Report (SAR) states that the control was evaluated to meet PC-4 criteria. It appears that the two bay cranes have a technical basis for meeting PC-3 and only need an editorial change to the SAR to be compliant. BWXT is in the process of determining whether or not the two cell cranes meet PC-3 criteria. In particular, BWXT is verifying whether the embedment of anchor bolts holding the cranes to the walls is adequate to meet PC-3 requirements. Immediate response actions included discontinuing nuclear operations in the two bays and suspending hoisting operations and movement of unloaded cranes out of the approved parking locations in the two cells when the round room contains greater than Hazard Category 3 quantities of nuclear material.

Seismic Qualification of Hoists: There are approximately 86 hoists used in nuclear operations at Pantex that do not meet the design requirements of ASME NUM-1, *Rules for Construction of Cranes Monorails, and Hoists*, nor are they seismically qualified. ASME NUM-1 is a nationally recognized design standard for hoists and cranes and includes seismic design requirements. BWXT recently revised the safety basis and uses a time-at-risk analysis to justify that the risk of dropping a load during a seismic event is acceptably low. BWXT is planning to replace all the hoists with three types of ASME NUM-1 certified hoists that are manufactured by Ingersoll-Rand. During the past year, BWXT replaced nine of the 95 hoists.

Surveillance Transformation: NA-12 recently approved the Surveillance Transformation Project (STP) Plan, which defines changes to the stockpile sampling and evaluation policy. The new policy is expected to reduce the number of weapons that are disassembled at Pantex each year to meet surveillance requirements. NNSA is planning to revise the Development and Production Manual within six months to reflect the changes to the sampling and evaluation requirements. At the Beginning of fiscal year 2007, the Pantex surveillance backlog was 34 units; the transformation project reduced that to three units.

Lightning Standoffs: Last week, BWXT declared a Technical Safety Requirement violation after a process engineer discovered that hoisting slings, which are used as lightning standoff isolators, were being used in the wrong facilities. The situation has existed since the W76 program was moved several months ago from its original location to other bays which have different electrical characteristics. The operating procedure directed the production technicians to use a sling with a voltage rating of 86 kV, which was acceptable for the original bay, but inadequate for the other bays that have theoretical Faraday cage voltages greater than 100kV during a design basis lightning strike. A formal process within engineering does not exist to ensure all facility-specific controls and attributes are evaluated when a program is relocated.