

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

MEMO TO: J. Kent Fortenberry, Technical Director
FROM: Timothy Hunt and Dave Kupferer, Pantex Site Representatives
DATE: 24 November 2006
SUBJECT: Pantex Plant Weekly Report

Nuclear Criticality Safety: In accordance with the requirements of DOE O 420.1B, *Facility Safety*, BWXT recently submitted a Nuclear Criticality Safety Program Description Document (PDD) to PXSO for approval. PXSO concluded that the PDD provided insufficient justification as to why Pantex does not need to meet ANSI/ANS 8.3 requirements related to criticality detection and alarm systems. In 1987, DOE granted an exemption to requirements in place at that time and criticality alarms were removed from the Pantex Plant. There had been concerns that a false alarm could startle an employee into dropping uncased high explosives (HE)—thereby, causing an HE detonation—and DOE concluded that removal of alarms in high explosives handling areas reduced the total risk. The earlier requirement exception—that allowed removal of the criticality alarm system if the potential for an inadvertent criticality was less than $1E-6$ —is no longer specifically stated. PXSO has requested that the PDD provide an explanation of why the criticality safety alarm system is not needed today.

Seismic Controls: BWXT continues to conduct nuclear explosive and nuclear material operations despite some facilities and most appurtenances not being seismically qualified. PXSO previously requested that BWXT submit all authorization basis changes for the seismic upgrade project for approval by 31 October. That date was missed and BWXT currently expects to issue a schedule to PXSO by 1 December that will identify its plan for adding seismic accident scenarios to the numerous Safety Analysis Reports. In addition, BWXT recently provided PXSO with a crosswalk of previously identified seismic deficiencies and how they will be or have been dispositioned. The crosswalk outlines the following proposed BWXT actions:

- developing safety basis change packages that describe the basis for accepting the risk of not seismically qualifying *wall*-mounted appurtenances;
- developing safety basis change packages that describe a time-at-risk basis for accepting the risk of seismic events while transporting nuclear materials through various corridors;
- postponing seismic evaluation of and potential upgrades to facilities that are either not currently operating or expected to be upgraded in the near-future; and
- planning to submit a schedule and cost estimate of evaluating and potentially modifying *ceiling*-mounted appurtenances in nuclear explosive facilities.

Tracking and Trending: PXSO management recently issued its quarterly Pantex Precursor Event Report, which it uses to track and trend safety-related occurrences associated with three worst-case pinnacle events: worker fatality, off-site release of special nuclear material, and inadvertent nuclear detonation. PXSO's trending of these quarterly reports indicates that electrical safety remains a significant concern at Pantex.

Anonymous Safety Letter: On 7 November, a letter was sent to the BWXT-Pantex Board of Managers from an anonymous group of Pantex employees. In this letter, the employees assert that they are very concerned that operational policies have led to the possibility for life-threatening events to occur at Pantex. In response, PXSO and BWXT have initiated investigations into the validity of the specific assertions made in the letter including poor safety culture, oversight weaknesses, degradation of infrastructure, and a fatigued work force.