

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

MEMO TO: J. Kent Fortenberry, Technical Director
FROM: Timothy Hunt and Rory Rauch, Pantex Site Representatives
DATE: 6 June 2008
SUBJECT: Pantex Plant Weekly Report

Technical Safety Requirement Violation: During operations in a static dissipative environment, a portable eyewash station was found extending into the electrostatic discharge (ESD) floor covering buffer zone. The documented safety analysis (DSA) design feature requires the creation of a buffer zone (5.5 inches in the subject case) between the facility walls, door frames, and floor penetrations and the ESD floor. This standoff contributes to the protection of lightning sensitive components. All facilities with ESD flooring were inspected for any equipment and material staged in the buffer zones.

Safety System Assessment Methodology: B&W Pantex initially baselined all credited safety systems by performing full vertical slice assessments, which not only evaluated system operability, reliability, and material condition, but also interface processes such as document change control and the adequacy of system descriptions in the DSA. In April, it was discovered that B&W Pantex had downgraded its assessment approach by performing less rigorous material condition walkdowns (MCWs) instead of the full vertical slice assessments. PXSO informally requested that B&W Pantex restore the elements of the full assessment in some manner. B&W Pantex system engineering has since identified those processes—contractor assurance system assessments, control implementation validations, and independent assessments (e.g., nuclear explosive safety evaluations or PXSO assessments)—that provide the necessary information to complete the elements of the full assessment not covered by MCWs. The information from these processes will feed into a formal safety system year-end evaluation, which will be used to identify areas of concern that require a more detailed follow-on assessment.

W62 Operational Safety Review (OSR): NNSA recently completed a nuclear explosive safety OSR of W62 dismantlement operations. There were no findings and 15 deliberation topics. Of note, the OSR group discovered that calculations for a piece of special tooling had underestimated the mechanical load by a factor of approximately two. B&W Pantex engineering re-performed the calculations using the realistic load and a more sophisticated analysis, and the tooling was shown to meet applicable safety factors with greater margin than before. Tooling engineers plan to ensure that calculations for other tools in the process do not contain similar errors. The OSR group concluded that the collective application of controls included in W62 dismantlement operations provides adequate assurance of continued nuclear explosive safety.

B&W Pantex Nuclear Safety Officers (NSO): Oral boards were given by Manufacturing Division management to the two NSOs hired within the past year. The four board members determined that the candidates would benefit from additional training on the authorization basis, nuclear explosive safety requirements, and combustible loading. It is expected that the two individuals will reattempt to qualify in the near future.

Annual Emergency Response Exercise: The simulated emergency involved an explosion in a Zone 12 South facility. The field response group comprised personnel from the fire department, security, incident command, and radiation safety. In addition to communications issues, other areas warranting improvement include the ability of radiation safety personnel to access the event location and the potential for responders to be debilitated by heat stress. A scenario twist involved a unit in transport past the affected bay that was left unattended in the ramp after the blast. Although the first responders recognized the seriousness of an unsecured weapon, it took an excessively long time for the unit to be placed in a safe haven facility.