

## **DEFENSE NUCLEAR FACILITIES SAFETY BOARD**

**MEMO TO:** Timothy Dwyer, Technical Director  
**FROM:** Matthew Duncan and Rory Rauch, Pantex Site Representatives  
**SUBJECT:** Pantex Plant Report for Week Ending February 11, 2011

**Facility Maintenance:** The Pantex Plant has experienced sub-freezing temperatures for several days at a time during the last two weeks. Thus far, the sub-freezing weather has only affected non-nuclear and production support facilities. In some cases, the facilities lost heat (typically due to frozen steam lines; inadequate heating capacity; heating, ventilating, and air conditioning unit control malfunctions; or frozen heating coils) causing the wet pipe fire protection system risers and/or sprinkler heads to freeze and crack. In other cases, utilities personnel proactively impaired fire suppression and domestic water systems as a precautionary measure to mitigate freeze concerns. Facility management has established a fire patrol where appropriate in response to these fire suppression system impairments. They have also performed a cursory walkdown of all nuclear facilities and found no indications that the sub-freezing temperatures have affected the systems supporting these facilities. In addition to the actions already taken by facility management and utilities, B&W senior management has chartered a multi-disciplinary team to perform a more comprehensive evaluation of all facilities (nuclear and non-nuclear) for any weather-related impacts, establish compensatory measures (if necessary), identify any critical near-term repairs, and identify any long-term infrastructure upgrades that would prevent recurrence of these problems.

**Electrical Test Anomaly:** Los Alamos National Laboratory requested a retest of the detonator cable assembly that gave an out-of-tolerance electrical resistance reading several weeks ago (see 1/21/11 report). Last week, NNSA performed a nuclear explosive safety (NES) change evaluation (NCE) of the proposed retest. The NCE group determined the retest is not a NES concern. Technicians performed the retest this week, obtained an in-tolerance reading, and continued operations.

**Special Tooling:** B&W recently completed a causal factors analysis investigation of the processes, conditions, and events that allowed special tooling that did not meet functional requirements for static dissipation to be accepted and released for use in nuclear explosive operations (see 10/15/11 and 10/22/11 reports). The report identifies 24 causal factors. Generally, the causal factors fall into three categories: (1) design requirements for static dissipation were not clearly communicated to personnel involved in procurement, fabrication, modification, and testing of tooling; (2) dissipative tools were accepted for use based on technically flawed electrical tests that were performed using techniques that produced invalid results; and (3) miscommunications among technical organizations resulted in reaccepting tooling that did not meet design requirements for static dissipation. In response to the identified causal factors, the report establishes 18 judgments of need (JONs), including the following: the need to proceduralize certain electrical test inspections, the need for tooling design engineers to receive concurrence from electrical experts when specifying tests and test points in drawings, and the need to revise procurement procedures to require a check that the certificate of conformance from the vendor addresses the satisfactory completion of the test and inspection requirements specified in the tooling design drawing. B&W management will assign a responsible functional organization to develop appropriate corrective actions for each JON.