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DEFENSE NUCLEAR FACILITIES SAFETY BOARD

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August 8, 2008

The Honorable Thomas P. D'Agostino
Administrator
National Nuclear Security Administration
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585-0701

Dear Mr. D'Agostino:

On May 2, 2008, B&W Pantex suspended all W76 nuclear explosive operations at the Pantex Plant when a process review identified tooling configurations that presented previously unanalyzed electrostatic discharge (ESD) vulnerabilities. Representatives from the National Nuclear Security Administration (NNSA), B&W Pantex, and the design agencies have been discussing options for restarting W76 operations with additional controls. The Defense Nuclear Facilities Safety Board (Board) is concerned that these vulnerabilities were not identified prior to the W76 Mod 1 startup last year. This concern extends to NNSA's current restart strategy.

The current path forward for restarting W76 operations consists of a two-phase process. The first phase involves restarting operations using an administrative control set that relies on testing to demonstrate the capability of a specific cable to prevent electrical energy from being transmitted along undesirable postulated electrical paths. In the second phase, operations will transition to a control set that relies on the installation of static dissipative flooring to moderate the voltage environment.

Although NNSA's currently documented commitment is to complete the first W76 Mod 1 production unit by the end of calendar year 2008, B&W Pantex is working to start operations by August 11, so that the first production unit can be completed by the end of September 2008. This schedule is leading NNSA to accept a uniquely complicated operational plan as well as deviations from the design agency's normal safety review process. The Board's concerns are summarized below:

- Restarting W76 operations using the administrative control set requires a high degree of certainty that all relevant ESD scenarios have now been identified. The passive engineered feature would better ensure that a missed ESD scenario would not pose a safety concern.

- While not complete at the time of a staff review, the statistical analysis of cable test results did not appear to adequately characterize the potential for damage to the specific cable that could impair the effectiveness of the administrative control set. The Board understands this analysis is now complete, but it has not yet been provided to the Board.
- LANL did not perform an independent peer review of the weapon response developed to support resumption of W76 operations, as specified by the LANL process that implements DOE-NA-STD-3016-2006, *Hazard Analysis Reports for Nuclear Explosive Operations*.
- It is not clear why W76 operations should be restarted using the administrative control set, especially since B&W Pantex has already installed static dissipative flooring in four facilities to be used for W76 operations, with a fifth floor to be installed in September. A transition having some facilities operate using the administrative control set while others are operating using the dissipative environment creates a more complicated operational envelope necessitating the simultaneous implementation of separate control sets, tooling, and training curricula.

In light of the concerns identified above, the Board requires further information to perform an adequate evaluation of the safety of resuming W76 operations. Therefore, pursuant to 42 U.S.C. § 2286b(d), the Board requests that NNSA provide a briefing prior to resumption of W76 operations at Pantex that provides the following information:

- The safety bases for both the administrative control set and the dissipative environment, including supporting information such as how it was ensured that all relevant ESD scenarios were identified, the statistical evaluation of cable testing data, and the peer review process used to validate the relevant weapon response evaluations.
- A description of how the operational complexity of using different control sets simultaneously in different facilities will be mitigated to ensure that no safety issues result, and an explanation of the schedule requirements that require operating in this manner.
- NNSA's plan and schedule for achieving the end state of performing W76 operations using a consistent control set in all facilities at Pantex.

- A description of NNSA's plan to review other programs for the same hazards that led to the suspension of W76 operations and for controlling any identified hazards in a manner consistent with the controls ultimately instituted for W76.

The Board understands the need to resolve the work suspension for W76 operations and meet deadlines for production deliverables, and will work with you to resolve expeditiously this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "A. J. Eggenberger". The signature is fluid and cursive, with a large initial "A" and "E".

A. J. Eggenberger
Chairman

c: The Honorable William C. Ostendorff
The Honorable Robert L. Smolen
Brigadier General Jonathan George
Mr. Steven C. Erhart
Mr. Mark B. Whitaker, Jr.