

A.J. Eggenberger, Chairman  
Joseph F. Bader  
John E. Mansfield

# DEFENSE NUCLEAR FACILITIES SAFETY BOARD

625 Indiana Avenue, NW, Suite 700 Washington, D.C. 20004-2901  
(202) 694-7000



August 9, 2006

Mr. Thomas P. D'Agostino  
Deputy Administrator for Defense Programs  
National Nuclear Security Administration  
U.S. Department of Energy  
1000 Independence Avenue, SW  
Washington, DC 20585-0104

Dear Mr. D'Agostino:

The Defense Nuclear Facilities Safety Board (Board) has been following developments associated with the proposed restart of W88 cell disassembly and inspection (D&I) and rebuild operations at the Pantex Plant. The Board recognizes the design agency's interest in conducting limited D&I operations to obtain additional surveillance data from three W88 units. This interest results from a condition that could create hazards that were not considered during the original process development, hazard analysis, and control identification efforts. Additional surveillance data should be useful in better understanding this condition. The design agency has identified a specific time frame for conducting the three D&I operations (based on extrapolations from existing surveillance data and analytical modeling) within which such a condition should not be encountered.

In addition to this potential for a condition not previously considered, the proposed nuclear explosive operations, which were suspended in 2004, do not currently have a documented safety analysis that meets the requirements of Title 10, Code of Federal Regulations, Part 830, *Nuclear Safety Management* (Rule), nor do they implement Seamless Safety for the 21<sup>st</sup> Century (SS-21) process enhancements. In fact, the Hazard Analysis Report (HAR) for these operations uses weapon responses for drops and impact events specific to a different weapon program.

In January 2003, the National Nuclear Security Administration (NNSA) approved a Rule exemption to allow W88 operations until July 2004, 15 months beyond the original regulatory deadline for Rule compliance. The Board notes with concern that a technical position paper providing the basis for NNSA approval of this previous Rule exemption explained that nuclear explosive operations involving a particular high explosive and lacking SS-21 controls (e.g., W88 operations) posed the most significant safety risks during production activities and were to be given the highest priority in developing Rule-compliant safety bases and SS-21 process enhancements. While the risks associated with these non-compliant, non-SS-21 operations have not diminished, two additional years have elapsed beyond this original extension. Although W88 cell operations are currently suspended, schedule expectations for the implementation of an SS-21 process and a Rule-compliant HAR for this high-priority system range from January 2008 to March 2009.

In accordance with NNSA direction, BWXT-Pantex prepared and submitted a request for exemption from the Rule, which the Pantex Site Office manager forwarded to NNSA headquarters on July 26, 2006, for approval. This exemption request is broad in scope, without compensatory measures, and is essentially unlimited in duration.

The Board has identified the following concerns:

- The design agency has identified a specific time frame for conducting D&I operations of the three W88 units, during which the condition of interest should not be encountered. However, this condition represents an unanalyzed hazard, and there is a degree of uncertainty in the estimation of the time frame. Therefore, additional controls or compensatory measures are merited to ensure safe operation.
- Performing disassembly operations on this weapon system under the requested exemption represents an increase in risk compared to an operation with the safety enhancements offered by a Rule-compliant HAR and SS-21 process enhancements. No information is provided in the exemption request to justify performing D&I operations beyond those explicitly requested by the design agency.
- No information is provided in the exemption request to justify performing rebuild operations under these circumstances. As a result, there is no identified basis for accepting the risk of rebuild operations under this exemption.

The Board provides these potential safety issues to facilitate your evaluation of the exemption request for W88 cell operations at Pantex. Additionally, during your deliberations, you should also consider the schedule impacts the proposed operations will have on the development of the SS-21 process and a Rule-compliant HAR for the W88 program. The Board requests that you provide the technical justification for accepting the additional risk if you decide to approve the proposal to pursue D&I operations without additional controls or compensatory measures, or to authorize operations beyond D&I of the three W88 units identified by the design agency.

Sincerely,



A. J. Eggenberger

Chairman

c: Mr. Mark B. Whitaker, Jr.