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DEFENSE NUCLEAR FACILITIES SAFETY BOARD

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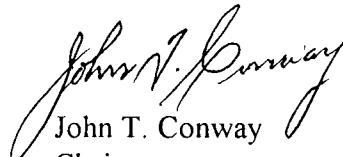
The Honorable Victor H. Reis
Assistant Secretary for Defense Programs
Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585-0104

Dear Dr. Reis,

Enclosed for your consideration are observations developed by the staff of the Defense Nuclear Facilities Safety Board (Board) concerning the readiness review program at the Pantex Plant. The Board's staff observed readiness reviews for the W56 Dismantlement Program and the W87 Life Extension Program. The Board's staff noted that both reviews were conducted prior to satisfying the Department of Energy (DOE) prerequisites for starting the reviews. Thus, the reviews could not adequately confirm readiness to operate safely and were suspended. This situation is inconsistent with the intent of DOE Order 425.1, *Startup and Restart of Nuclear Facilities*, which applies to the readiness review process for nuclear explosives operations. The Board's staff made similar observations regarding the W79 Single Integrated Readiness Review that were transmitted to you by letter dated September 5, 1997.

The Board believes that these observations with respect to the W56 and W87 readiness reviews relate to the Board's Recommendation 98-2, *Safety Management at the Pantex Plant*. Thus, this W56 and W87 experience should be considered by DOE in defining plans for addressing issues raised in Recommendation 98-2 and in strengthening the readiness review process at Pantex. The Board will continue to follow the startup preparations for the W56 Dismantlement Program and the W87 Life Extension Program.

Sincerely,


John T. Conway
Chairman

c: Mr. Mark B. Whitaker, Jr.
Mr. Bruce Twining

Enclosure

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

Staff Issue Report

December 23, 1998

MEMORANDUM FOR: G. W. Cunningham, Technical Director

COPIES: Board Members

FROM: M. Forsbacka

SUBJECT: Readiness Review Programs at Pantex Plant

This report documents the December 14–18, 1998, reviews of the W87 Life Extension Program (LEP) Single Integrated Readiness Review (SIRR) by M. Forsbacka of the Defense Nuclear Facilities Safety Board's (Board's) staff and the W56 Readiness Assessment (RA) by outside expert R. West.

Current Situation. Both the W87 LEP SIRR and the W56 RA were suspended on December 18, 1997, because prerequisites set forth in the Department of Energy- (DOE) approved plans for these reviews were not satisfied prior to commencing the review. In the case of the W87 LEP SIRR, the review team was cognizant of this short coming, but bowed to schedule pressure from line management and attempted to perform the review nonetheless. After several days it became apparent to the W87 SIRR team that they could not address the entire scope of the planned review, so the team suspended the SIRR and reported out the items unaffected by the absence of prerequisite documentation and analysis. During the W56 RA there were numerous findings related to the implementation of the Authorization Basis (AB) safety controls. The RA team discovered that the earlier W56 SIRR had in fact not verified the implementation of AB controls as defined by an RA prerequisite. Thus, the RA team appropriately suspended the review pending the completion of the prerequisite work by the Mason and Hanger Corporation (MHC).

W87 Readiness Review Observations. The W87 LEP SIRR follows two previous internal reviews: the Weapons Program Readiness Review (WPRR) conducted May 27–June 11, 1997, and the Management Self-Assessment (MSA) conducted November 16–November 23, 1998. Both of the previous reviews yielded a significant number of pre-start findings (21 for the WPRR and 13 for the MSA). There are instances of similar findings between the MSA and WPRR that give a strong indication that the project team did not follow through with appropriate corrective actions. In addition, subsequent reviews were allowed to proceed by line management before correcting prior deficiencies.

W56 Readiness Review Observations. The W56 RA is the first attempt to use the process set forth in DOE Order 425.1, *Startup and Restart of Nuclear Facilities*, to review the readiness of a nuclear explosives operation. Also, the W56 is the first weapons process to have Limiting Conditions for Operations (LCOs) established for providing controls. It should be noted

that the W56 Dismantlement Program has followed the SS-21 process and has been in many respects a success story for designing in safety features into a nuclear explosive operation.

The W56 RA followed a SIRR conducted jointly by the DOE/AAO and MHC personnel in September 1998. The SIRR resulted in 44 prestart findings and a comment that the process was not ready. A prerequisite for the RA was that all prestart findings from the SIRR had been satisfactorily closed. A major finding was that the Hazard Analysis Report (HAR) and Activity Based Controls Document had not been approved and the SIRR was unable to review the flow down of controls from these authorization basis documents. This finding was reported as closed prior to authorizing the start of the RA. As the result of an increasing number of deficiencies found by the RA Team in the implementation of controls from AB documents, as well the form and verification of these controls, the actions of the SIRR Team to verify closure was questioned. It was determined that the SIRR Team had not reassessed this finding, but had reported this as accomplished because of confusion among team members.

The RA Team leader considered that the contractor and Area Office had not performed their responsibilities to assess the implementation of AB controls and determine a satisfactory level of accomplishment of defined prerequisites prior to declaring readiness. In view of this lack of proper preparation of the activity, the RA Team Leader recommended and DOE-Albuquerque concurred that the review be suspended until the AB area had been adequately reassessed and corrected prior to restarting the review. The full extent of the review to be conducted later has not been defined.

Observed Trends. The staff has observed a trend in MHC and DOE initiating readiness reviews of processes and facilities before there is adequate assurance that all safety-related issues, including readiness review prerequisites, are adequately addressed. Of note, the W79 SIRR (as communicated to the DOE in a Board letter dated September 5, 1997), the Dynamic Balancer Independent Review, the B61-11 Weapons Program Readiness Review (a predecessor to the SIRR), and the Building 12-116 Operational Readiness Review are examples where readiness to proceed was not adequately assured prior to initiation of readiness reviews.

The Pantex practice of conducting numerous, inadequate serial reviews appears to be adversely impacting operational readiness of nuclear explosives operations. A series of premature, poor quality reviews often results in wasted time and resources, and undermines support for the philosophy of performing readiness reviews. Consistent with the intent of DOE Order 425.1, one high quality review performed by MHC and one high quality independent review performed by DOE, after all defined prerequisites are completed, is appropriate for confirming readiness for operations. This intent is not being met at Pantex.

Staff Path Forward. The staff will continue to closely monitor activity in this area. The staff will also continue to work with DOE in formulating the Implementation Plan for Board Recommendation 98-2, Subrecommendation 3 as it relates to the readiness review process.