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DEFENSE NUCLEAR FACILITIES SAFETY BOARD

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93-0000369



January 21, 1993

The Honorable Linda G. Stuntz
Acting Secretary of Energy
Washington, D.C. 20585

Dear Madam Secretary:

During the time period January 5-8, 1993, the Defense Nuclear Facilities Safety Board (DNFSB) staff and our outside experts visited the Pantex Site in Amarillo, Texas, to evaluate the DOE Operational Readiness Evaluation (ORE) for W-79 Preparation for Disposal (PFD) operations.

The ORE was conducted in a manner which resulted in many of the objectives contained in prior Board recommendations being met. In general, the ORE Team performed a thorough review based on adequate criteria and approach documentation.

At the ORE closeout meeting on January 8, 1993, the ORE Team Leader declared that the team was not prepared to recommend commencement of W-79 PFD operations. Based on its independent review, the Board agrees that present preparations for W-79 PFD operations are deficient in a number of areas. This conclusion is based on the ORE Team preliminary findings made available to the Board and additional DNFSB staff observations provided in the enclosure. In addition, several staff observations on the conduct of the ORE are also included in the enclosure.

Please consider the enclosed observations during your continued review of readiness for W-79 PFD operations at Pantex.

The enclosed information may contain unclassified controlled nuclear information (UNCI); please inform me if this is the case. In the meantime, we will treat it as such. If you need any further information, please let me know.

Sincerely,

A handwritten signature in cursive script, appearing to read "John T. Conway".

John T. Conway
Chairman

**Enclosure: Observations from a Trip to Pantex to Evaluate W-79 DOE Operational
Readiness Evaluation (ORE)**

c:

M. Fiori, DOE/DR-1, w/enclosure

V. Stello, DOE/DP-6, w/enclosure

**Observations from a Trip to Pantex to
Evaluate the W-79 DOE Operational Readiness Evaluation (ORE)**

Background: DNFSB staff members S. Krahn and M. Moury, accompanied by Outside Expert R. Thompson (Systems Planning Corporation) visited the Pantex Site in Amarillo, Texas on January 5-8, 1993 to evaluate the DOE Operational Readiness Evaluation (ORE) for W-79 Preparation for Disposal (PFD) operations. Although the DOE ORE embraced many of the facets of an effective readiness review, as stated in the Board's recommendations on readiness reviews, the staff's independent review raised issues in two areas, discussed further below.

Summary:

1. The DOE ORE did not address several issues considered essential in a readiness review by Board Recommendation 92-6. Specifically, it did not evaluate the technical and managerial qualifications of the DOE field organization, with the exception of the Facility Representative, and the status of compliance with applicable DOE Orders was not adequately reviewed.
2. Significant questions exist with respect to the adequacy of the Building 12-84 Safety Analysis Report (SAR) and the definition of the safety envelope for the W-79 PFD operations.

Discussion:

1. **ORE Adequacy:**

a. The scope of the ORE's review of training and qualification was limited to positions and personnel directly involved in the process of W-79 PFD, including the DOE Facility Representative. The ORE did not include an assessment of the technical and managerial qualification of those personnel in the DOE field organization who have been assigned responsibilities for direction and guidance to the contractor, nor did it address the training and qualification of contractor line management (e.g., the Building Manager).

b. The ORE Team had no formal criteria and approach section for determining whether W-79 PFD operations could be performed in accordance with applicable DOE Orders, directives and Secretary of Energy Notices (SENs). The ORE Team did perform a limited review of a few Mason and Hanger (M&H) Compliance Schedule Approvals (CSAs); DNFSB staff review of those same CSAs showed that they were not adequate from the standpoint of technical justification. In addition, the CSAs had yet to be approved by DOE-DP. Based on the above, it is not clear how the DOE ORE Team can reach a conclusion as to whether W-79 PFD operations can be performed in a manner that conforms with applicable DOE Orders, directives and SENs.

2. **Safety Analysis:** The safety analysis for W-79 PFD operations is based on a DOE Nuclear Explosive Safety Study, the Building 12-84 Safety Analysis Report (SAR), a SAR Addendum and a summary list of Limiting Conditions of Operations (LCOs). A number of deficiencies with this documentation were identified during both the DOE ORE and the contractor Operational Readiness Review (ORR).

a. The contractor ORR identified six (6) category "A" deficiencies (i.e., deficiencies of such importance to safety that they had to be corrected prior to operations) in the area of safety analysis. These findings documented: the lack of Operations Safety Requirements (OSRs), inadequacies in safety analyses and inaccuracies in safety system documentation.

b. DOE's ORE identified an additional five (5) deficiencies with the adequacy of the SAR and associated documentation. The ORE Team found additional deficiencies in areas that had already been addressed by contractor ORR findings; for example inadequate identification of safety system functions and incomplete safety analysis (SAR). In addition, it expanded on OSR-related problems by noting a number of deficiencies in the Limiting Conditions of Operations (LCOs); for example, lack of clarity, inconsistency between various citations, and lack of specificity.

c. The above findings, and independent reviews by the DNFSB staff, indicate that pervasive problems continue to exist in the safety analyses used at Pantex, and specifically that those for W-79 PFD operations are, as yet, inadequate. This is particularly disturbing because problems with safety analyses and associated documentation have been identified during a number of previous reviews at Pantex, notably:

(1) A November, 1989 evaluation by DOE's Advisory Committee on Nuclear Facility Safety (ACNFS), stated: "... plant (safety) documents and the Pantex staff approach to addressing (safety) issues lack a sufficient quantitative basis ... we recommend quantitative systems level analysis in the future ... "

(2) In an April, 1991, study the General Accounting Office (GAO) found that Pantex had completed fewer than half of the SARs that they were required to perform and that problems existed with the manner in which Pantex prioritized SARs for completion.

(3) The March, 1992 DOE Technical Safety Appraisal (TSA) report noted, "Pantex is still struggling with the issue of unreviewed, outdated and unapproved SARs." It went on to state that problems existed with the manner for determining hazard levels at Pantex along with inadequate staffing levels within the group cognizant over safety analyses.

(4) A DNFSB letter to the Secretary of Energy dated September 11, 1992, that forwarded a staff trip report concerning safety analysis and risk assessment. This trip report identified a number of deficiencies with safety analyses at Pantex, including: lack of a defined, unreviewed safety question (USQ) system, the qualitative nature of existing SARs, and inadequacies even in the updated SARs being prepared by M&H.

d. Based on the above, clearly significant problems have existed and continue to exist with safety analyses at Pantex. Although M&H has established improved definition of the safety envelope as one of the pillars of its Performance Improvement Program (briefed to the Board in November, 1992), interim actions taken to document the safety basis for ongoing and planned operations appear to be inadequate.