DEFENSE NUCLEAR FACILITIES SAFETY BOARD

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

January 13, 2000

Brigadier General Thomas F. Gioconda
Acting Assistant Secretary for Defense programs
Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585-0104

Dear General Gioconda:

The Defense Nuclear Facilities Safety Board (Board) staff issue report, subject: W79 Dismantlement Program In-Progress Review, dated June 30, 1999, has been revised to correct information that was not available to the Board's staff at the time the report was issued. This staff issue report originally stated that two of the three workstations for high explosive dissolution had not been accepted. However, the Board has been informed that two workstations have been accepted, and the third workstation is no longer planned for use. Reference to the nonacceptance of the workstations has been removed in the enclosed revised issue report.

Sincerely,

John T. Conway
Chairman

c: Mr. Rick Glass
Mr. Mark B. Whitaker, Jr.

Enclosure

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

Staff Issue Report - Revised (December 16, 1999)

June 30, 1999

MEMORANDUM FOR: G. W. Cunningham, Technical Director
J. K. Fortenberry, Deputy Technical Director

COPIES: Board Members

FROM: J. Deplitch

SUBJECT: W79 Dismantlement Program In-Progress Review, Revision 1

This report documents an in-progress review of the W79 Dismantlement Program conducted at the Pantex Plant, June 22–24, 1999, by members of the staff of the Defense Nuclear Facilities Safety Board (Board) J. Deplitch and M. Forsbacka and outside expert L. McGrew. The review included observation of W79 bay and cell operations; review of the authorization basis, implementation of controls, and change control; and review of potential safety issues, incidents, occurrences, and corrective actions. The staff identified no adverse safety issues.

W79 Dismantlement Program. W79 dismantlement operations began in June 1998 after more than a year of readiness reviews. The tooling developed for the W79 Dismantlement Program was originally intended to dismantle all of the W79 units in a year. The W79 dismantlement is currently scheduled to be completed in about 5 years. The disassembly and high explosive (HE) dimethylsulfoxide (DMSO) dissolution process take longer than was planned, and the resources applied to the program do not support earlier completion.

W79 Dismantlement Operations. There have been no major changes to the W79 dismantlement operations since startup. Minor procedural and tooling changes have addressed improvements to the dismantlement process and unexpected difficulties with the W79 units. The change control process in place for the W79 program appeared sufficient to preserve all controls during change implementation:

- Observations of bay operations revealed a well-trained and motivated crew capably accomplishing the dismantlement tasks. The W79 production technicians were cross-trained and appeared capable of performing all of the bay and cell operations. The shift crews appeared adequately staffed so that they could regularly perform operations safely. The staff observed no adverse safety issues.

- Radiation exposures have been low, and the project team has proposed further process improvements designed to bring about additional reductions. The total

whole-body dose and extremity dose for all W79 dismantlement personnel was 16.7 person-mrem and 238.2 person-mrem, respectively, per W79 unit for the first year. Earlier there had been concern that each production technician could exceed those doses individually.

- A DMSO recycling process has been proposed. Fresh DMSO currently is used for HE dissolution of each unit. Recycling DMSO will reduce monetary costs and waste requiring disposal. The proposed recycling process appeared to have appropriate HE, radiation, and conductivity controls.

- The program was meeting its current dismantlement schedule. Delays have been incurred during bay disassembly operations as a result of difficulties with removing pins from the aft end of the unit at the rocket motor interface. A slide hammer has been proposed as a removal tool. A drilling procedure also is being developed to correct stripped threads, which have been a recurring inconvenience. The changes appeared to be receiving adequate analysis and review. Delays in the cell DMSO dissolution operations have been due primarily to facility fire protection upgrades.

- Only one of the three DMSO dissolution workstations is operational. Currently MHC plans to operate only one workstation, get a second operational for use as a backup, and remove the third.

- MHC personnel responsible for risk management and Unreviewed Safety Questions explained change control at Pantex. The personnel showed an understanding of change control and how it is implemented at Pantex. The Pantex Plant has undertaken an effort to formalize the flowdown of controls included in authorization basis documents. Weapon programs that operate under the new process for flowing down controls (i.e., W56, W79, and W87 programs) require interim compensatory measures to augment current plant systems. The Pantex Authorization Basis Management Plan, Issue 3, has been applied to the W56, W79, and W87 programs until formal programs covering elements in the plan are implemented. Implementation of the plan appears to be dependent upon a few key weapon program personnel.