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Department of Energy

Washington, DC 20585
July 3, 2000

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DNF SAFETY BOARD

The Honorable John T. Conway
Chairman
Defense Nuclear Facilities Safety Board
625 Indiana Avenue, NW.
Suite 700
Washington, D.C. 20004-2901

Dear Mr. Chairman:

On March 29, 2000, you transmitted to the Department of Energy (DOE) the Staff Issue Report "Review of Fire Protection Program at Pantex Plant." In your letter, you expressed two concerns:

- Replacement of the deteriorating plant-wide fire alarm system is not funded in fiscal year 2000 and beyond. Further delay in replacing this system could result in a curtailment of operations and a potential impact on national security programs.
- Pending installation of a ultraviolet (UV) detection/deluge activation system in Building 12-44, Cells 2-6, the Board believes DOE needs to reevaluate its facility utilization options consistent with its February 27, 1998, response to the Board's letter of August 8, 1997.

You also asked to be kept abreast of the Department's actions regarding these concerns as expressed by the four issues identified in the Staff Issue Report.

The status of the Department's actions concerning these concerns is reported in the enclosure, including identification of the next milestone or occasion on which we anticipate further reporting to the Board. Any questions may be directed to Mr. David E. Beck, my Deputy Assistant Administrator, at 202-586-4879, or Mr. Jeff Underwood of his staff, at 301-903-8303.

Sincerely,

Thomas F. Gioconda

THOMAS F. GIOCONDA
Brigadier General, USAF
Acting Deputy Administrator
for Defense Programs

Enclosure

cc w/enclosure:
Mark Whitaker, S-3.1

DNFSB Staff Issues - March 9, 2000

Issue #1. *Plant-Wide Alarm System* - The staff concluded "It is essential that DOE approve and fund a plan for replacing the failing system in the next several years with modern, nonproprietary systems widely available on the market."

Currently about 90% of the plant is monitored via proprietary sending units communicating with the CENTRASCAN system, with the remainder of the plant monitored by non-proprietary sending units communicating with the SURGARD system. As proprietary sending units fail we are using operating funds to replace by non-proprietary units.

The project mentioned in the Board's letter has not been sufficiently defined to justify a Conceptual Design Review (CDR). Until this approach has been justified we cannot begin to proceed in its direction. We are aggressively working to develop the most reasonable business strategy for this problem and will keep the Board advised of our plans.

> **Commitment.** We will ensure the fire alarm system in all nuclear facilities meets all authorization basis requirements. In the short term we will use operating funds to replace failing units with non-proprietary hardware, while developing the most reasonable long term business strategy to replace the proprietary units. We will prepare a CDR and enter this project into the approval process to have it in the FY 2003 budget. We will advise the Board of our progress via the quarterly DNFSB Recommendation 98-2 periodic reports.

Issue #2. *Suppression System Upgrade in Building 12-44* - The staff commented on the apparent anomaly between reconnecting of the Ultraviolet (UV) fire detectors in other facilities housing weapon operations and deferring installation in Building 12-44. The staff concluded that "upgrade of the Building 12-44 fire suppression system by installation of UV detectors for automatic actuation of the deluge system would be commensurate with the hazards involved in conducting these operations in this facility."

The Board acknowledged that since the staff visit DOE had decided to install UV detectors in Building 12-44 and noted, "The Board supports this decision and believes that nuclear explosive operations involving conventional high explosives will significantly benefit from this safety enhancement if the upgrade is completed in an expeditious manner. Meanwhile, DOE needs to reevaluate its facility utilization options consistent with its February 27, 1998 response to the Board's letter of August 8, 1997."

> **Commitment.** We will install UV detectors in Building 12-44. The funding for this effort has not been identified, however it remains our commitment to pursue this funding until the effort has been completed and as soon as possible. Our expectation to provide these funds from the Supplemental Appropriations Bill recently approved by the Congress. We will advise you of progress via DNFSB Recommendation 98-2 progress reports.
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> **Commitment.** To address facility utilization concerns we will reevaluate the site's facility utilization options in light of the increased safety of the facilities with UV detector-initiated deluge versus the Building 12-44 cells without this feature and provide a report within 90 days of this letter.

Issue #3. *Reliability of UV Fire Detection and Actuation System* - The staff questioned the reported probability of failure of the deluge system installed in the bays handling high explosives, noting that 99 percent reliability was a very high reliability for any fire system, but particularly so for one relying on an electrical detection (UV) system. The staff questioned the use of a 1990 report as the source of this reliability data, noting that the current logic and delay times do not match the conditions under which the initial assessment was performed. The staff concluded it is unclear whether the systems, as configured to minimize inadvertent activations, will provide the level of protection determined to be necessary by the accident analysis.

Commitment. The reliability of the UV Fire Detection and Actuation System will be addressed in the Fire Protection Basis for Interim Operation.

Issue #4. *Fire Protection Assessments* - The staff noted that the most recent programmatic assessment, conducted in September 1999 was not performed by a qualified fire protection engineer. The staff also noted that although backup documentation suggests that the assessment was relatively thorough, the assessment report lacks breadth, depth, and technical detail to such an extent that the review team was unable to draw any conclusions as to the thoroughness of the review.

Commitment. We will incorporate the fire protection assessment guidance of the Implementation Guide for DOE Order 420.1. We will also have the September, 1999 assessment reviewed by a qualified fire protection engineer who will work with the contractor to review any areas of the assessment where it appears significant criteria were not adequately examined. We will provide a report of the findings of the review of the assessment within 90 days of this letter.