DEFENSE NUCLEAR FACILITIES SAFETY BOARD

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July 5, 1995

Mr. Mark Whitaker, EH-9
Department of Energy
1000 Independence Avenue, SW
Washington, D.C. 20585

Dear Mr. Whitaker:

Enclosed for your information and distribution are 20 Defense Nuclear Facilities Safety Board staff reports. The reports have been placed in our Public Reading Room.

Sincerely,

George W. Cunningham
Technical Director

Enclosures (20)

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 23, 1994

MEMORANDUM FOR G. W. Cunningham, Technical Director

COPIES: Board Members

FROM: Harry G. Waugh

SUBJECT: Pantex Plant - Trip Report on Staff Review of the Pantex Emergency Preparedness Exercise, PXCOM-94.

1. **Purpose**: This report documents the results of a review by Defense Nuclear Facilities Safety Board (DNFSB) Staff member Harry Waugh and Outside Expert Ted Quale of the Pantex Annual Emergency Preparedness Exercise, PXCOM-94, held on August 24, 1994.

2. **Summary:** Overall performance during the exercise was improved over last year. Several deficiencies exist including recurring items from the last exercise. Examples include the lack of an effective predetermined evacuation plan, failure to promptly issue press releases, and lack of attention paid by personnel in the Pantex EOC to periodic briefings conducted by the Emergency Manager. As this was a security-based exercise, correction of the radiological response deficiencies from the last exercise was not evaluated.

3. **Background:** The exercise was prepared, conducted, and evaluated by M&H personnel. Personnel from the State of Texas and local governments participated in the exercise. The exercise was also evaluated by DOE Headquarters (DOE-HQ), DOE Albuquerque Operations Office (DOE-AL) and DOE Amarillo Area Office (DOE-AAO) personnel.

   In accordance with guidance from DOE-AL, this annual exercise was primarily a security-based scenario; however, many elements of the site response to the emergency are identical to the response in the radiological exercise observed last year. The exercise scenario simulated that a terrorist entered the site and released chlorine gas as a diversionary tactic to allow other terrorists to take hostages. The initial terrorist and two police officers were wounded in an exchange of gunfire. The scenario postulated participation by state and local governments and included activation of the local governments Emergency Operations Centers (EOC) and other support functions.

4. **Discussion:** The following paragraphs provide observations from the exercise.

   a. Coordination in the Emergency Operations Center (EOC) between the Director of Safety and the Director of Security was poor. For example, due to the potential for exposure to chlorine gas, it was determined necessary to use self-contained breathing apparatus (SCBA) when approaching the scene. The Director of Security desired to

apprehend the wounded terrorist at the scene but found that industrial health personnel would not permit police officers to don SCBAs due to a lack of training. Rather than discussing potential solutions with the Director of Safety who was sitting in the same room in the EOC, the Security Director took independent action to resolve the problem directing his field representative to go around the safety organization. Such actions preclude the EOC Team from ensuring that actions taken are adequate to protect the health and safety of responders.

Further, the safety organization did not initiate actions to provide protection against the skin absorption hazard posed by chlorine gas. Reportedly, this aspect of personnel protection was discussed by personnel in the Incident Command Group but never implemented.

Finally, this lack of coordination delayed medical attention to the two wounded police officers on-scene. The medical response ambulance arrived in a timely fashion, however, actions were not taken by either the Incident Command Group or the EOC to expedite getting them to the casualties once the security issue had been resolved. For example, the Emergency Manager did not direct the Security Director to advise him of the earliest time that the medical personnel could be sent to the scene.

b. A recurring issue from the exercise last year is the lack of an effective predetermined evacuation plan as required by DOE Order 5500.3A, *Planning and Preparedness for Operational Emergencies.* Last year the lack of a predetermined evacuation plan required the radiological control manager to devote one hour to development of a plan thus distracting him from his primary duties. This year the EOC's executive committee decided that it was prudent to evacuate Zone 12 South. The decision to perform this evacuation was made by the Executive Team in the EOC with no apparent input from their support teams. No predetermined evacuation plan exists for this area. The following specific comments are noted:

   (1) The Executive Team did not ascertain the status of work in progress nor determine the effect of an evacuation on the safe suspension of that work or on any potential radiological aspects of the evacuation (personnel working in contaminated areas prior to the evacuation).

   (2) Personnel in Zone 12 South were told to evacuate to Building 12-103. While this location was appropriate given the conditions, it was not in accordance with the normal evacuation policy which has personnel go to assigned muster stations within the zone. As a result, it was very difficult to perform personnel accountability and the crowded conditions in the building further exacerbated these efforts.

c. The Plant Shift Supervisor (PSS) was slow to declare the event an emergency and to classify it as required by DOE Order 5500.2B, *Emergency Categories, Classes.1 and*

Notification and Reporting Requirements, despite having all necessary information. Despite suggestions from a senior manager that the event be classified, the PSS insisted on discussing the event with the DOE Area Manager, thus delaying the overall site response.

d. Personnel in the EOC did not take action to calculate the leak rate from the tanker truck containing chlorine gas. As a result, the plume calculation was not accurate until essentially the end of the exercise. This was also compounded by the fact that several errors were made concerning the amount of gas in the tanker. Specifically, EOC personnel referred to the volume interchangeably in terms of both pounds and gallons. This also contributed to inaccurate plume determinations.

e. The EM directed that updates of the emergency status be provided to EOC personnel every thirty minutes. These updates were accomplished using the public address system in the EOC. During the updates EOC personnel did not stop their activities and listen. Rather, they frequently continued with existing conversations or telephone calls. This occurred in both sections of the EOC. Further, these updates were not coordinated with the DOE-AL EOC.

f. Personnel in the EOC did not use the Emergency Preparedness Procedures staged in the EOC. These procedures mostly remained on the book shelf in the EOC for the duration of the exercise.

g. The initial press release was not issued for almost two hours after the exercise commenced. Even after the Emergency Manager expressed concern over this performance, the press releases were still slow in preparation.

5. **Future Staff Actions:** The staff will monitor performance of the Annual Full Participation Exercise during 1995.