

July 25, 1997

The Honorable Victor H. Reis  
Assistant Secretary for Defense Programs  
Department of Energy  
1000 Independence Avenue, SW  
Washington, D.C. 205850104

Dear Dr. Reis:

The Defense Nuclear Facilities Safety Board (Board) would like to thank the Department of Energy (DOE) for its timely brief on July 18, 1997, regarding the safety basis for startup of W69 dismantlement operations. The Board has been working with DOE for several years to improve nuclear explosive safety at DOE facilities. The effort to develop the W69 Hazard Analysis Report (HAR) as the activity-specific portion of the safety basis for W69 dismantlement demonstrates the positive aspects of DOE's (and its contractors') recent efforts; however, it has also identified some issues to be resolved.

The Board understands that DOE did not consider the W69 HAR as currently drafted to be sufficiently comprehensive to serve as a standalone authorization basis for W69 dismantlement activity. In lieu of a comprehensive HAR, the design laboratories, Mason & Hanger, and DOE review officials have developed an alternative authorization basis control document, derived in part from the activity-specific safety analysis of the W69 HAR and in part from other authorization basis documents. Based on review by the Board's staff, this alternative authorization basis control document appears to have captured adequately the set of controls identified in its reference documents. The Board therefore believes that W69 dismantlement operations can be started safely at the Pantex Plant.

While there are no outstanding safety issues to delay startup of W69 dismantlement operations, DOE should consider the lessons learned from this pilot activity when developing the authorization basis for future nuclear explosive operations, such as the W56 dismantlement. Observations regarding the development of the W69 dismantlement authorization basis are enclosed for your information and use.

Sincerely,

John T. Conway  
Chairman

c: Mark B. Whitaker, Jr.  
Edwin G. Ives  
Enclosure

**Enclosure**

**Observations Regarding the W69 Authorization Basis**

The W69 dismantlement is the first nuclear explosive operation to undergo the full Seamless Safety (SS21) process. In general, the methodology used by the hazard assessment task team to identify and analyze the hazards associated with the W69 dismantlement activities is sound, and appears to have resulted in a systematic and thorough analysis of many of the hazards.

At the same time, DOE is trying to implement an integrated safety management program at Pantex through the efforts of an Integrated Safety Process task team. The team has tried to resolve some of the fundamental problems with the Pantex safety bases, such as preparation of a Hazard Analysis Report (HAR) and identification of the controls in the safety basis documents.

The effort to develop the W69 HAR as the activity-specific portion of the safety basis for W69 dismantlement has revealed the need to establish expectations and better planning for future dismantlement activities such as the W56. A consistent approach and a set of expectations are needed for the application of integrated safety management at Pantex so that Pantex can take advantage of the efficiencies gained by executing a repetitive process. Some of the lessons learned from the W69 effort include the following:

- The guidance document (HAR standard) needs to be finalized to formalize the HAR process, qualification of the team members, and their interaction with other weapon dismantlement project teams and operations. This document ought to use the lessons learned from W69 HAR development and provide guidance for future activities.
- The performance of the hazard analysis needs to be better integrated into the SS21 process. This would strengthen the HAR development and provide the necessary support from the various agencies involved in its production.
- The interface between the activity-based (HAR) and facility-based (Safety Analysis Report/Basis for Interim Operations) hazard analysis documents needs to be better defined. Taken together, the HAR and the SAR/BIO would constitute the authorization basis for the activities, and ideally would identify a complete set of controls that need to be implemented for safe operation.