

**Department of Energy**  
Albuquerque Operations Office  
P.O. Box 5400  
Albuquerque, New Mexico 87185-5400

June 28, 1999

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DNF SAFETY BOARD

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

Dear Mr. Chairman:

Consistent with the Department's implementation plan (98-2 Plan) for the Defense Nuclear Facilities Safety Board's (The Board) Recommendation 98-2, the Development & Production (D&P) Manual Chapter 11.6, Coordinated Review Process for Nuclear Explosive Operations at the Pantex Plant, is enclosed.

The D&P Chapter 11.6 has been issued to establish the expectations for the four review processes to be used to validate controls and implementation for nuclear explosive operations. This document represents the deliverable for Commitment 5.4.1 of the 98-2 Plan addressing the sub-recommendation concerning processes for planning and executing nuclear explosive operations as linked components of integrated safety management at Pantex.

In addition to the enclosed published chapter, all published D&P Manual Chapters may be found on the internet at <http://www.explorer.doe.gov:1776/htmls/supplementaldir.html>.

As identified herein, the Department has completed the actions within the commitment represented above and proposes closure of the commitment. If you have any questions, please contact me, or have your staff contact Dan Glenn at (505) 665-6028.

*RE Glass*

R. E. Glass  
Manager

Enclosure

cc w/enclosure:  
(See Page 2)

The Honorable John T. Conway

-2-

June 28, 1999

Cc w/enclosure:

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## U.S. Department of Energy Albuquerque Operations Office

## AL Appendix 56XB

## Development and Production Manual

AL 56XB, Rev. 1, Change 31	Date 06/01/99	Title: COORDINATED REVIEW PROCESS FOR NUCLEAR EXPLOSIVE OPERATIONS AT THE PANTEX PLANT	Chapter 11.6
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## 1.0 PURPOSE

This chapter describes the review requirements for Nuclear Explosive Operations (NEOs) conducted at the Pantex Plant.

## 2.0 DEFINITIONS

See Chapter 11.0.

## 3.0 REVIEW REQUIREMENTS

There are four independent reviews required for NEO operations: DOE review of proposed authorization basis/safety basis documents, the contractor readiness review, the DOE readiness review, and the Nuclear Explosive Safety Review. Figure 1 depicts a timeline for performing these reviews.

3.1 Internal Safety Reviews

DOE O 452.2A and AL SD 452.2A section 4.f requires internal safety reviews of NEOs.

3.1.1 Safety Basis Review

The safety basis documents for a given NEO are to be developed by the management and operating contractor (with input as necessary from the Design Agencies). After the subset of the safety basis documents constituting the authorization basis (reference Chapter 11.4) are formally submitted to DOE for approval, the safety basis review evaluates the adequacy of the proposed authorization basis.

In order to accomplish this, the Safety Basis Review Team (SBRT) may also review selected safety basis documents that support the authorization basis. The review will focus on ensuring a comprehensive identification of hazards, an analysis of a representative set of credible accidents, and the establishment of appropriate controls. Accordingly, the safety basis review is not expected to perform comprehensive confirmatory analyses. The review team members are expected to use their technical judgment to identify instances when additional analysis would be beneficial to gain clarity. The evaluation will:

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- Validate the thoroughness and completeness of the hazard identification and accident analyses.
- Examine the analysis technique, binning methodology, and the consequence assigned to accident sequences.
- Assess adequacy of controls using technical judgment and consideration of the Target level of Controls (TLC) approach.
- Determine the technical safety requirements ensure operability, reliability, and maintainability of derived controls.
- Ensure the contractor authorization basis documents demonstrate consistency and integration of NEOs and associated analysis with other Pantex safety bases.

The review is performed by a SBRT. The SBRT Leader and members shall be designated by the Safety Analysis and Support Division (SASD) Director. The Amarillo Area Office (AAO) will be represented on each SBRT. The SBRT interacts with the Project Team (PT) for the NEO to resolve technical concerns/issues prior to final SBRT recommendations regarding approval of the authorization basis documents. The SBRT reports to the approval authority for NEO authorization basis documents. The SBRT final report is a Safety Evaluation Report (SER), signed by the team leader, documenting the conclusions and recommendations of the team to the approval authority. The approval authority has the option to accept or reject any or all recommendations from the SBRT. The Weapon Programs Division (WPD) Director is currently the approval authority for the process specific portions of the NEO authorization basis. The Manager AAO is the approval authority for the facility and site-wide portions of the NEO authorization basis.

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### 3.2.1 Contractor Readiness Review

After DOE approval of the NEO authorization basis, the M&O contractor implements the identified set of controls. Subsequent to control implementation, the M&O contractor shall perform an independent review of the NEO incorporating the attributes of DOE O 425.1A and the associated AL SD. This review shall thoroughly evaluate the implementation of controls that are included in the approved authorization basis.

The scope of this review shall be defined in a Plan of Action (POA) developed by the PT, approved by the M&O contractor, and submitted to DOE. To ensure adequacy of scope and evaluation criteria, the M&O contractor should coordinate the POA with the program management group. Upon completion of this readiness review the M&O contractor shall submit a declaration of readiness to WPD through the AAO with a recommendation to proceed with the DOE led readiness review.

### 3.2.2 DOE Readiness Review

Upon receipt of the M&O contractor declaration of readiness and the contractor readiness review final report, an appropriately scoped, DOE-led independent readiness review of the NEO shall be performed that incorporates the attributes of DOE O 425.1A, "*Startup and Restart of Nuclear Facilities*", the associated AL SD, and DOE-STD-3006-95, "*Planning and Conduct of Operational Readiness Reviews (ORR)*". The review shall focus exclusively on the safety of the operation and primarily on implementation of authorization basis controls. A follow-on readiness review shall be performed following an extended shutdown of an operation. AL SD 425.1 requires this review to occur for any shutdown greater than a year. Deviations from this requirement are allowed provided they are clearly presented in the initial Authorization Agreement for the operation.

The DOE Readiness Review Team (RRT) reports to the authorizing official for the NEO. The report shall include recommendations for categorizations of findings as pre or post start. The results of the review will be presented to the authorizing official in a final briefing attended by the review team leader and cognizant line managers for the NEO. The AAO and WPD line managers for the NEO shall decide which findings they are committed to close and when (pre or post start) and shall present their position to the authorizing official during the final briefing. The review team leader will have the opportunity to make a case to the approval authority if he/she disagrees with the line managers' position. The M&O contractor shall take action to resolve the findings after the authorizing official has approved the final list and categorization of review findings.

The scope of this review shall be defined in a Plan of Action (POA) developed by DOE line management and approved by the WPD Director. Upon completion of this readiness review and resolution of all pre-start findings, WPD shall provide a recommendation regarding authorization of the NEO to the authorizing official. Per DOE O 452.1A and AL SD 452.1A, the authorizing official for all NEOs is the AL Manager or his/her designee.

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Since both the readiness review and the Nuclear Explosive Safety Study (NESS) are to be performed in the same general time frame (see figure 11.6-1), the reviews shall be coordinated to the extent practicable.

### 3.2.3 Nuclear Explosive Safety (NES) Review

The NES review for a given NEO shall be conducted per the requirements specified in DOE O 452.2A and AL SD 452.2A and DOE Standard 3015-97. The purpose of the Nuclear Explosive Safety Study (NESS) is distinctly different than other reviews. The NESS is intended to add additional confidence in the nuclear explosive safety functional area by dedicating a group of NES qualified reviewers focusing on the adequacy of NES and challenging the safety assertions for the operation.

## 4.0 RESPONSIBILITIES

### 4.1 Manager, AL

The AL Manager is the Authorizing Official (AO) for nuclear explosive operations performed at the Pantex Plant.

### 4.2 Director, Weapon Programs Division (WPD)

- Approves NEO Authorization Basis
- Concurs on SBRT review plan for NEO operations at Pantex
- Approves DOE Readiness Review POA
- Provides recommendation to the AO regarding authorization of NEOs following completion of DOE Readiness Review and resolution of all pre-start findings

### 4.3 Director, Safety Analysis and Support Division (SASD)

- Appoints SBRT leader and members
- Approves SBRT review plan
- Transmits SER to approval authority

### 4.4 M&O Contractor

- Implements approved authorization bases
- Performs contractor readiness review and issues declaration of readiness.

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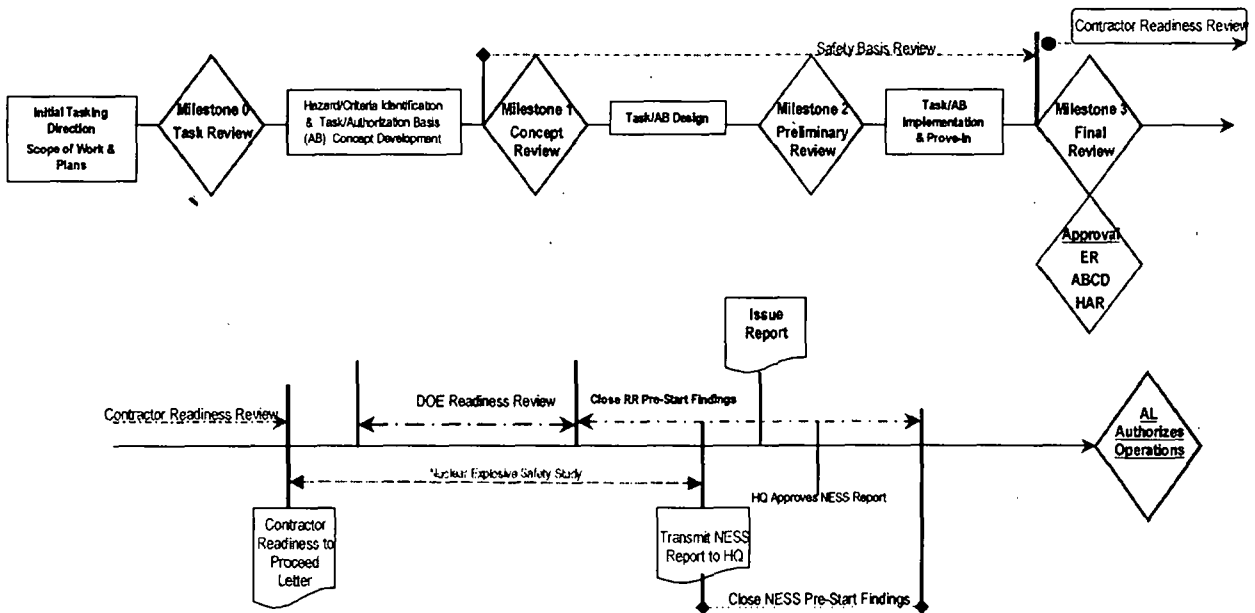


Figure 11.6-1. Timeline for Nuclear Explosive Operation (NEO) Reviews

## 5.0 RESPONSIBLE ORGANIZATION

WPD is responsible for this chapter.