The Secretary of Energy
Washington, DC 20585

July 19, 1993

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

Dear Mr. Conway:

On January 21, 1993, the Defense Nuclear Facilities Safety Board transmitted to the Department Recommendation 93-1, which addresses standards utilization at defense nuclear facilities. On April 27, 1993, the Department accepted the Recommendation.

In accordance with 42 U.S. Code 2286(e), the Implementation Plan (Plan) for Recommendation 93-1 is forwarded for your review and approval. The objective of the Plan is to ensure the level of safety at facilities which assemble, disassemble, and test nuclear weapons is at least as rigorous as that required at other defense nuclear facilities. We will keep the Board informed of the Department's implementation process through the status reports and deliverables detailed in the Plan.

Sincerely,

Hazel R. O'Leary

Enclosure

IMPLEMENTATION PLAN FOR DEFENSE NUCLEAR FACILITIES SAFETY BOARD RECOMMENDATION 93-1

I. Introduction

The Department is committed to a high level of safety at facilities that assemble, disassemble, and test nuclear weapons. To ensure that this commitment is being met, the Department will undertake a formal program to evaluate and enhance, where appropriate, the standards that govern nuclear weapons assembly, disassembly, and testing operations. In addition to the nuclear weapons operations, the evaluation will include the relevant features of the facilities where these operations are conducted, as well as critical support items and programs.

This program will encompass all nuclear weapon assembly, disassembly, and test operations and associated facilities and programs. This covers operations under the purview of the Albuquerque Operations Office, the Nevada Operations Office, and the San Francisco Operations Office.

The program will consist of the five actions that were identified in the Secretary's letter of acceptance of Recommendation 93-1. The Department will:

1) review its Nuclear Safety Orders and Directives to determine applicability to those facilities and sites that assemble, disassemble, and test nuclear weapons;

2) provide a clear explanation of the attributes of the Department's Nuclear Safety Orders and Nuclear Explosive Safety Orders and how they are applied by identifying those critical safety elements of operations and how those elements are addressed by each Order and Directive;

3) identify the areas of inconsistency or discontinuity between the sets of Nuclear Safety Orders and Nuclear Explosive Safety Orders, if any;

4) where appropriate, identify areas where the Orders and Directives can and should be strengthened; and

5) expedite Order Compliance Review at the Pantex Plant.

The actions of this Implementation Plan (Plan) are consistent with several initiatives already in progress to strengthen the nuclear weapons safety program. Defense Programs is in the process of reviewing and revising several of the Nuclear Explosive Safety Orders (5610 series) to clarify responsibilities. The Albuquerque Operations Office is updating the Development and Production Manual (Albuquerque Operations Office Supplemental Directive 56XA) to assure that all applicable safety attributes in the Nuclear Safety Orders are incorporated. The Nevada Operations Office is currently evaluating all test operations and the standards that apply to them. In addition, the Albuquerque, Nevada, and San Francisco Operations Offices are conducting Order Compliance Self- Assessments. These

performance improvement activities will be integrated with execution of this Plan.

II. Response

The response to Recommendation 93-1 is provided in five parts, one for each of the five actions specified in the Secretary's acceptance letter to the Board. Actions 2 and 3 address Recommendation 2, which was determined to require two distinct actions. The other actions each address one Recommendation in the order given. If during the execution of this Plan a serious safety issue surfaces, it will be addressed immediately.

"Nuclear Safety Orders" are those Orders listed as "Level I DOE Orders of Interest to the DNFSB," in the most recent list promulgated by the Office of the Departmental Representative to the Defense Nuclear Facilities Safety Board, and associated Supplemental Directives. "Nuclear Explosive Safety Orders" are those Orders listed as "Weapon Sensitive DOE Orders of Interest to the DNFSB" in the most recent list promulgated by the Office of the Departmental Representative to the Defense Nuclear Facilities Safety Board, and associated supplemental Directives. In this Plan, the combination of both sets of Orders are referred to as the "Combined Orders."

The Combined Orders contain requirements, guidelines, implementation guidance, interpretations, criteria, etc. This Plan uses "requirements" or "Order requirements" to refer collectively to all these terms. It is recognized that these terms do represent differing levels of significance which will be considered during the analyses in Action 3.

A. Action 1

1. Stated Action

The Department will review its Nuclear Safety Orders and Directives to determine applicability to those facilities and sites that assemble, disassemble, and test nuclear weapons.

2. Course of Action

The following steps will be taken to complete this action.

a. Review policy and criteria and define operations that involve the assembly, disassembly, and testing of nuclear weapons.

b. Develop a list of operations and facilities that assemble, disassemble, or test nuclear weapons.

c. Review the Combined Orders and Directives to identify those that apply to operations and facilities that assemble, disassemble, and test nuclear weapons. This determination

will be based on the scope and applicability statements in the Orders and Directives, as well as any waivers, exemptions, or similar directions from the Department.

3. Deliverables/Milestone Date

Completing this Action will provide the following deliverables:

- definition of operations that involve assembly, disassembly, and testing of nuclear weapons;
- list of operations and facilities that assemble, disassemble, or test nuclear weapons; and
- list of the Combined Orders that apply to these operations and facilities.

(The lists will include a brief description of how they were derived.)

Completion Date: September 30, 1993

B. Action 2

1. Stated Action

The Department will provide a clear explanation of the attributes of the Department's Nuclear Safety Orders and Nuclear Explosive Safety Orders and how they are applied by identifying those critical safety elements of operations and how those elements are addressed by each Order and Directive.

2. Course of Action

The following steps will be taken to complete this action.

a. Develop a procedure (or guidelines) to describe the process to be used to execute this Action. The procedure will define the key terms, describe the detailed methodology for conducting each step of the process, provide guidance for identifying critical safety elements and attributes, identify documentation requirements, etc.

b. Develop a list of critical safety elements for the operations and facilities identified in Action 1. "Critical safety elements" are the fundamental elements necessary for safe operation. These will be determined from a review of the operations without regard to the Order requirements. Examples may include: nuclear explosive operating procedures; standard operating procedures; personnel performance (technicians, operators, supervisors, managers,

etc.); supporting facilities, systems, and utilities; tooling; control of materials and components; and safety reviews.

c. Prepare a list of applicable attributes from the Combined Orders. An attribute is a single requirement or a group of requirements for a distinct program. "Applicable" attributes are those that could be reasonably applied to the operations and facilities if there were no restrictions. Attributes would be identified in the areas of personnel selection, qualification, training and staffing, and programs such as quality assurance, maintenance, occupational safety and health, safety analysis, conduct of operations, radioactive waste management, etc.

d. Develop a matrix of critical safety elements and attributes. The matrix will be filled in to indicate which attributes address each critical safety element without regard to any restrictions on applicability. The completed matrix will show which of the Combined Orders attributes address a critical safety element.

e. For each critical safety element, summarize the Order requirements for each attribute shown in the matrix to address that element. This summary will be organized into two parts:

- Nuclear Explosive Safety Order requirements and those Nuclear Safety Order requirements that apply to the operation or facility, as determined in Action 1. This represents the set of requirements that nuclear weapons operations and facilities are currently committed to comply with.

- Nuclear Safety Orders that could be applied to nuclear weapons operations and facilities if the applicability restrictions in the Order were not present. This represents the related requirements for other defense nuclear facilities and will serve as the comparison basis for the analysis of differences.

3. Deliverables/Milestones

Completing this Action will provide the following deliverables:

- procedure (or guidelines) for executing Action 2;

- list of critical safety elements for the operations and facilities identified in Action 1;

- list of attributes of the Combined Orders;

- matrix of critical safety elements and applicable Order attributes indicating which Order attributes address each critical safety element; and

- for each critical safety element, a summary of the requirements of the Combined Orders organized into those that weapons operations and facilities are currently committed to comply with, and those related requirements for other defense nuclear facilities.

Completion Dates:

-	Procedure for Action 2:	September 30, 1993
-	List of critical safety elements and attributes:	November 30, 1993
-	Completed matrix:	December 30, 1993
-	Summary of requirements:	January 31, 1994

C. Action 3

1. Stated Action

The Department will identify the areas of inconsistency or discontinuity between the sets of Nuclear Safety Orders and Nuclear Explosive Safety Orders, if any.

2. Course of Action

The following steps will be taken to complete this action.

a. For each critical safety element, an analysis of the requirements will be performed. The analysis will use the two sets of Order requirements developed in the previous step: the Order requirements that weapons operations and facilities are currently committed to comply with, and the related requirements for other defense nuclear facilities.

The purpose of the analysis will be to assess the level of safety assurance provided by each set of Order requirements and not simply identify specific differences. Since this analysis is a key step in this Plan, and because it will be a qualitative and not quantitative analysis, a methodology will be developed to control the process. This will include evaluation criteria and documentation requirements to ensure that the process is consistent, rigorous, and sufficiently documented.

b. The results of the analysis will be the identification of inconsistencies (situations where the two sets of requirements provide different levels of safety assurance and situations where two or more Orders provide conflicting requirements) and discontinuities (situations where one set of Order requirements does not address an important aspect of the critical safety element). This step will summarize these inconsistencies and discontinuities on an Order basis to facilitate the next Action.

3. Deliverables/Milestones

Completing this Action will provide the following deliverables:

- methodology for conducting the analyses of Order requirements;

- for each critical safety element, an analysis of the requirements in the Orders that identifies any inconsistencies or discontinuities; and

- summary of inconsistencies or discontinuities identified in each Order.

Completion Dates: See below.

- Methodology for conducting analyses: February 15, 1994

- Analysis and summary: March 31, 1994

D. Action 4

1. Stated Action

The Department will, where appropriate, identify areas where the Orders and Directives can and should be strengthened.

2. Course of Action

The following steps will be taken to complete this action.

a. Review the analyses of Action 3 and summaries of inconsistencies and discontinuities and develop a prioritized list of recommended changes to strengthen the Combined Orders. Priorities will be based on importance to safety.

The objective of this process will be to assure that the Combined Orders requirements that ultimately apply to nuclear weapons operations and facilities provide for a high level of safety at facilities that assemble, disassemble, and test nuclear weapons.

b. Based on the scope and significance of the recommended changes, a plan and schedule will be developed for strengthening the Combined Orders.

3. Deliverables/Milestones

Completion of this Action will provide the following deliverables:

- a prioritized list of recommended changes to Combined Orders, including rationale, and

- plan and schedule for strengthening the Combined Orders.

Completion Date: June 1, 1994

E. Action 5

1. Stated Action

Priority be given by the Department of Energy to completing site-wide Order compliance reviews at facilities that assemble, disassemble, and test nuclear weapons, with special emphasis placed on the Pantex Plant.

2. Course of Action

In response to the Board's Recommendation 90-2, the Order Compliance Self-Assessment Program has been implemented for Department of Energy facilities, including those that assemble, disassemble, and test nuclear weapons. The Department acknowledges difficulties in meeting the indicated completion schedules for this Program for Defense Programs facilities. The Board's staff recently reviewed the status of the Order Compliance Program for Defense Programs facilities in visits to the Albuquerque Operations Office and the Pantex Plant (June 1-4, 1993). The resultant Trip Reports identify a number of concerns, including delays in performing the required activities and weaknesses in the review process and documentation.

The Department is reviewing the staff's Trip Reports and will develop a corrective action plan to describe the specific actions that will be taken to address the Board's concerns. The actions will include expediting the completion of the Order compliance review at the Pantex Plant and will be in line with the Implementation Plan for Board Recommendation 90-2. The Department is committed to the timely upgrade of the Order Compliance Self-Assessment Program at Defense Programs facilities in accordance with DP-AP-202, "DP Order Compliance Self-Assessment Instruction."

The Department also recognizes that Order revisions, including applicability changes, may result from Actions 1 through 4 of this Plan. Any changes to the Orders will be integrated into the Order Compliance Program. A compliance review for any Order requirements added to those already in the Program will be performed after an appropriate time to allow for implementation.

The Department acknowledges that action is necessary to respond to the Recommendation, and a corrective action plan, including milestones, will be developed by September 30, 1993, to respond to the identified deficiencies.

3. Deliverables/Milestones:

Completion of this Action will provide the following deliverable:

- corrective action plan and milestones for expediting and upgrading the Order Compliance Self-Assessment Program at Defense Programs facilities that assemble, disassemble, and test nuclear weapons.

  Completion Date: September 30, 1993

F. Progress Reports

Each deliverable identified above in Section 3 for Actions 1 through 5 will be made available to the Board to monitor progress. These are listed in the Attachment with the scheduled completion dates. Regular progress reports will be provided on a bi-monthly basis.

ATTACHMENT

DELIVERABLES/MILESTONES FOR RECOMMENDATION 93-1

ACTION 1 Completion Date: September 30, 1993

Deliverables:

- Definition of operations that involve assembly, disassembly, and testing of nuclear weapons.

- List of operations and facilities that assemble, disassemble, or test nuclear weapons.

- List of the Combined Orders that apply to these operations and facilities.

ACTION 2 Completion Dates: See below.

Deliverables:

- Procedure (or guidelines) for executing Action 2.
  Completion Date: September 30, 1993

- List of critical safety elements for the operations and facilities identified in Action 1.
  Completion Date: November 30, 1993

- List of attributes of Combined Orders.
  Completion Date: November 30, 1993

- Matrix of critical safety elements and applicable Order attributes indicating which Order attributes address each critical safety element.
  Completion Date: December 30, 1993

- For each critical safety element, a summary of the requirements of the Combined Orders organized into those that weapons operations and facilities are currently committed to comply with, and those that apply to other defense nuclear facilities.
  Completion Date: January 31, 1994

ACTION 3 Completion Date: See below.

Deliverables:

- Methodology for conducting the analyses of Order requirements.
  Completion Date: February 15, 1994

- For each critical safety element, an analysis of the requirements in the Orders that identifies any inconsistencies or discontinuities.
  Completion Date: March 31, 1994

- Summary of inconsistencies or discontinuities identified in each Order.
  Completion Date: March 31, 1994

ACTION 4 Completion Date: June 1, 1994

Deliverables:

- Prioritized list of recommended changes to Department of Energy Orders, including the rationale.

- Plan and schedule for strengthening the Combined Orders.

ACTION 5 Completion Date: September 30, 1993

Deliverable:

- Corrective action plan for expediting and upgrading the Order Compliance Self-Assessment Program at Defense Programs facilities that assemble, disassemble, and test nuclear weapons.