95-0001383

Department of Energy
Washington, DC 20585

March 9, 1995

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:

On July 5, 1994, the Department of Energy (DOE) issued its Implementation Plan for Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 93-6, which required the Department to issue quarterly progress reports. Enclosed is the second quarterly report that contains an update of all activities occurring during the reporting period that ended on December 31, 1994.

In response to your letter of September 14, 1994, which requested DOE revise Commitments 1.1, 2.1.1, 3.1, and 7.1.1, the revised Commitment 7.1.1 was reported complete in the previous quarterly report and the revision to Commitment 2.1.1 is complete and included in this report. However, the responses for Commitments 1.1 and 3.1 are not complete and are still being worked.

Should you have any questions concerning the quarterly report, please contact Mr. Richard C. Crowe, Office of Research, Development, and Testing Facilities, on (301)903-6214.

Sincerely,

Everet H. Beckner
Principal Deputy Assistant Secretary
for Defense Programs

Enclosure

Quarterly Report

Department of Energy

Implementation Plan for

Defense Nuclear Facilities Safety Board

Recommendation 93-6

Maintaining Access to Nuclear Weapons Expertise

Reporting Period
October 1 through December 31, 1994

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1.0 COMMITMENT STATUS

Commitment	Due Date	Status	Dependent Commitments
1.1	Aug 94	Revision	
1.2	Sep 94	(1)	1.1
1.3	Nov 94	Open	1.2
2.1.1	Aug 94	Revision	
2.1.2	Nov 94	(1)	2.1.1
		Open	
3.1	Aug 94	Revision	
3.2	Jan 95	(1)	1.2, 2.1.2
3.3	Jan 95	Open	3.2
4.1	Oct 94	Open	
5.1	Jul 94	Complete	
5.2	Sep 94	Open	5.1
5.3	Mar 95	Open	5.2
6.1	Sep 94	Complete	
6.2	Sep 94	Open	
6.3	Oct 94	Open	3.2
6.4.1	After 6.3	Open	6.3
6.4.2	Sep 95	Open	6.3, 6.4.1
7.1.1	Jul 94	Complete	
7.1.2	Jan 95	Open	3.2, 7.1.1
7.1.3	Jan 95	Open	
8.1	Feb 95	Open	
9.1	Nov 94	Open	
9.2	Oct 94	Open	
9.3	Jan 95	Open	9.1, 9.2

Notes: (1) DNFSB letter of September 14, 1994, requested results of this commitment to be revised. The DNFSB comments are being reviewed for resolution. For further information, see Section 4.0, Activities.

2.0 ACTIVITIES

This section of the report provides a brief discussion of actions being taken on the nine task areas and related initiatives in the Implementation Plan. Section 2.10 highlights the reporting period meetings. Redlined wording indicates no change from previous quarterly report.

2.1 Identify Disassembly Skills and Knowledge

Commitment 1.1: Develop Critical Functional Areas (CFA) and their supporting elements.

The list of CFA's is being reviewed based on comments received. The list will then be revised as appropriate.

Commitment 1.2 Identify and document the skills and knowledge required for Critical Functional Areas.

Copies of the tasking letters and a listing of additional guidance were provided to the DNFSB in a letter dated December 29, 1994.

Commitment 1.3 Report Critical Functional Areas, which require attention, to Headquarters.

Albuquerque Operations Office began evaluating information received from the national laboratories and Pantex from tasking letters. Albuquerque Operations Office and Headquarters are assessing required skills and knowledge within each DOE office. Any revision to the list of CFA's will be addressed as necessary.

2.2 Identify Personnel Resources

Commitment 2.1.1 Identification of key positions associated with the critical safety activities, functions, and operations for nuclear testing operations.

To address the DNFSB's concern for the inclusion of key positions to specifically address "the ability to conduct relevant safety analyses," the Safety Analytical Engineer position was added. This position is a joint Lawrence Livermore National Laboratory (LLNL) and Los Alamos National Laboratory (LANL) position and, in conjunction with the other listed positions, addresses the DNFSB's concern. The Job Task Analyses (JTA's) for each position, Commitment 2.1.2, will provide a detailed description of the skills and knowledge, functions and responsibilities, and specifically which positions are involved in Nuclear Explosive Safety Studies and other safety activities.

A matrix of key positions by organization is attached.

Commitment 2.1.2 Description of skills and knowledge for each key position.

A completion status of the JTA's is attached. The JTA's completed thus far will be sent under separate cover due to the size of the package.

2.3 Identify Personnel Resources

Commitment 3.1 Current status of Defense Programs (DP) staffing and recommendations for additional staff.

During this reporting period, Pacific Northwest Laboratory staff completed their study of DP including JTA's of specific safety-related and programmatic Headquarters positions. Their report, including recommendations, was provided as input into the DP Staffing Review. The original plan for Commitment 3.1, as described in the 93-6 Implementation Plan, was superseded by the commitment made by the Secretary of Energy to the DNFSB and the establishment of the DP Staffing Review by DP-1. The deliverable, a "formal letter to the DNFSB stating current status of DP staffing and recommendations for additional staff" will be provided when the DP Staffing Review is completed. The target date for completion of the DP Staffing Review is March 1, 1995.

Commitment 3.2 List of the number of key position/critical function Full Time Equivalents (FTE's) with years of professional experience.

Further action is depended upon the completion of Integrated Safety Skills and Knowledge Platforms (ISSKP) 1 and 2.

Commitment 3.3 Policy statement that requires an annual review and report that updates the lists in Sections 3.1, 3.2, and 3.3.

Further action is depended upon the completion of ISSKP's 1 and 2.

2.4 Maintaining Access

Commitment 4.1 Department of Energy policy statement that provides guidance for access to departed personnel where skills and knowledge, identified in Sections 3.1, 3.2, and 3.3, are critical to safe dismantlement, modification, disassembly, and testing operations.

Draft policy statement was developed and is currently in the coordination process. Deliverable will be provided under separate cover when approved.

2.5 Documentation of Skills and Knowledge

Commitment 5.1 Established the Headquarters overall management structure to oversee and coordinate the archiving in July 1993. This completes Commitment 5.1.

Commitment 5.2 Develop a program to document the experiences and knowledge of personnel.

The following information is provided as a status report by each laboratory to document the progress for establishing a structured information recovery program. Ongoing activities are proceeding in order to more fully develop/define this program.

As of the end of December, Sandia National Laboratories (SNL) will have completed a total of 22 interviews consisting of 19 individuals and 3 B61 panel discussions. SNL is in the process of building a prototype system for evaluation that will demonstrate access to the videotapes through full-text searching. Milestones for the second quarter of FY 1995 include: 1) completion of panel discussions on gas transfer systems, lessons learned in the development of radiation hardened components, and another weapon in the stockpile; 2) completion of 15 individual interviews; and 3) implementation plan for startup system to provide access to the videotaped interviews.

LANL has identified 78 names associated with containment, diagnostics, device engineering and assembly, radiochemistry, and test operations (this list is not complete). LANL will be using CIC-9, their video and cinematography group, to perform the interviews. LANL has scheduled a briefing by SNL about their process and their experience.

LLNL has identified 35 names associated with nuclear test safety and is working to identify personnel for dismantlement activities.

Commitment 5.3 Archiving program status report comparing accomplishments against the program developed in Commitment 5.2.

Action on Commitment 5.3 will start once Commitment 5.2 is complete.

2.6 Development of Weapons Disassembly Procedures and Laboratory Support to Pantex

Commitment 6.1 Provided Stockpile Evaluation Program supporting documentation in first Quarterly Report for Recommendation 93-6. This completes Commitment 6.1

Commitment 6.2 Issue a Nuclear Weapons Dismantlement schedule.

A review of the weapon dismantlement schedule was performed and the schedule revised as necessary. A description of the process to perform the review and set priorities is being prepared. The Albuquerque Operations Office was requested to prepare this in a letter dated December 22, 1994.

Commitment 6.3 Documented process for developing safe dismantlement and modification procedures.

There are several documents associated with the process to develop dismantlement and modification procedures. These documents are the Albuquerque Supplemental Directives to DOE Orders 5610.10 and 5610.11, Section 3.7 of the Albuquerque Development and Production Manual, and the Engineering Procedure EP401110 Issue A. Albuquerque Supplemental Directives 5610.10 and 5610.11 provide the requirements for Nuclear Explosive and Weapon Safety activities conducted at the Pantex Plant. Section 3.7 of the Albuquerque Development and Production Manual describes the Qualification Evaluation Process for determining readiness to start weapons assembly/disassembly operations at the Pantex Plant. Engineering Procedure EP401110 Issue A, "Integrated Safety Process for Assembly and Disassembly of Nuclear Weapons," describes the process for development of disassembly procedures. Both Albuquerque supplemental directives are in draft form, and review is ongoing. Revision 8 to the Albuquerque Development and Production Manual was provided to the DNFSB in a letter dated December 29, 1994. The Engineering Procedure has been drafted and is being reviewed.

Commitment 6.4.1 Notification, prior to First Dismantlement Unit for each retired system, that the disassembly procedures have been validated and updated using the formalized process.

No action was planned for this commitment during the reporting period.

Commitment 6.4.2 Notification, for each retired system, that the disassembly procedures have been validated and updated using the formalized process.

No action was planned for this commitment during the reporting period.

2.7 Nuclear Test Safety Readiness Capabilities

Commitment 7.1.1 Issued Readiness Exercise/Activity Schedule for nuclear testing operations and forwarded schedule in first Quarterly Report for Recommendation 93-6. This completes Commitment 7.1.1.

Commitment 7.1.2 Test Readiness Exercise/Activity Plan.

Work in progress.

Commitment 7.1.3 Annual Completion Report

Work in progress.

2.8 Administrative Controls/Engineered Safeguards

Commitment 8.1 Determine if traditional dependence on administrative controls to ensure nuclear explosive safety at the Nevada Test Site would be adequate and appropriate if nuclear testing would be resumed.

Commitment 8.1 effort relates to the loss of experienced personnel at the Nevada Test Site (NTS) and the effect of that loss on nuclear explosive safety. The Task 8 group gathered additional data on the following topics:

- current positive measures in place at the NTS
- administrative controls versus engineered safeguards
- identification of positive measures in place on typical modern stockpile weapons
- historical information on positive measures in place at NTS
- risk assessment report of arming and firing and timing and control at NTS
- list of key positions for the safe conduct of NTS operations (from other 93-6 tasks)
- personnel training and experienced systems in place

Deliverable in the 8.1 report will include a review of the current safety measures in place at NTS as documented in existing safety studies and risk assessments.

While most of the data are gathered, the analysis and report are not complete.

2.9 Preservation of Assembly and Disassembly Skills at Oak Ridge

Commitment 9.1 Y-12 will review its list of existing critical functional

areas and associated skills and knowledge requirements and methods used.

The Y-12 Site Manager forwarded a list of critical functional areas to Headquarters during the reporting period. Defense Programs Headquarters' comments regarding the list were provided to Y-12 for resolution.

Commitment 9.2 Y-12 will review its process to capture and document the skills and knowledge from critical functional FTE's.

The process to capture and document the skills and knowledge from critical functional areas has been developed and was provided to the DNFSB in a letter dated December 29, 1993. Status reports on the implementation of the process will be provided on an annual basis.

Commitment 9.3 Y-12 list of critical functional FTE's with years of professional experience.

Further action is dependent upon completion of Commitment 9.1.

2.10 Meetings

Meetings held during this reporting period include:

October 6, 1994	KISMET Planning Group meeting at NTS - review organizational plans, develop evaluation philosophy, functional areas. (Supports Commitments 7.1.1 and 7.1.2)
October 18, 1994	KISMET Planning Group meeting at NTS - progress meeting. (Supports Commitments 7.1.1 and 7.1.2)
October 26, 1994	Executive Management Team for Dismantlement meeting at Albuquerque - review progress of dismantlement and status of DNFSB Recommendation 93-6. (Supports Commitments 1.1, 1.2, and 1.3)
November 3, 1994	KISMET Planning Group meeting at NTS - progress meeting. (Supports Commitments 7.1.1 and 7.1.2)
November 15-16, 1994	DNFSB Recommendation 93-6 Task 8 Group meeting at Albuquerque - review status and gather additional data for the report. (Supports Commitment 8.1)
December 12, 1994	KISMET Planning Group meeting at Nevada Operations Office (NVO) - progress meeting. (Supports Commitments 7.1.1 and 7.1.2)
December 13, 1994	KISMET Planning Group meeting at NVO - progress

meeting to go over freeze plan and distribute to members of the planning group and chairmen of functional areas. (Supports Commitments 7.1.1 and 7.1.2)

Meetings planned for the first quarter of calendar year 1995 are as follows:

January 10-11, 1995	Nuclear Weapons Archive Working Group meeting at Sandia National Laboratories. (Supports Commitments 5.2 and 5.3)
January 12, 1995	KISMET Planning Group meeting at Nevada. (Supports Commitments 7.1.1 and 7.1.2)
January 23-25, 1995	Executive Management Team for Dismantlement meeting at Albuquerque. (Supports Commitments 1.1, 1.2, and 1.3)
February 16, 1995	W56 system and dismantlement program review. (Supports Commitment 6.3)

ATTACHMENT 1, COMMITMENT 2.1.1

Identify key positions associated with the critical safety activities, functions and operations, with emphasis on the skills and knowledge to conduct operations safely such as assembly, onsite transportation, insertion/emplacement, arming and firing, timing and control, and postshot operations for preparation of an underground nuclear test.

Deliverable: List of key positions critical to the safe conduct of nuclear weapons testing.

CRITICAL SAFETY FUNCTIONAL AREA KEY POSITIONS
ORGANIZATIONAL REQUIREMENTS

Key Position Title	DOE HQ	DOE NV	LLNL	LANL	SNL	REECo	WSI	EG&G/EM
Air Force Liaison Officer		YES						
Air Operations Officer		YES						
Arming and Firing Technician					YES			
Assembly Technician			YES	YES				
Construction Engineer			YES	YES				
Control Room Technician								YES
Containment Advisor			YES	YES	YES			
Containment Evaluation Panel Member		YES						
Containment Scientist			YES	YES				
Convoy Commander							YES	
Deputy Assistant Secretary for Military Application and Stockpile Support	YES							
Deputy Assistant Secretary for Research and Development	YES							
Device Engineer			YES	YES				
Downhole Crane Operator						YES		
Downhole Superintendent						YES		

Key Position Title	DOE HQ	DOE NV	LLNL	LANL	SNL	REECo	WSI	EG&G/EM
Drilling Engineer			YES	YES				
Drilling Superintendent/Rig Superintendent						YES		
Plan/Event Coordinator							YES	
Event Radiation Fallout Support Specialist (ARL/SORD)		YES						
Health Physicist			YES	YES	YES			
Health Physics Advisor		YES						
Medical Advisor		YES						
Meteorological Advisor (ARL/SORD)		YES						
Nuclear Explosives Assembly Facility Coordinator			YES	YES				
Nuclear Explosive Safety Engineer		YES						
Off-Site Radiological Safety Officer (EPA)		YES						
Off-Site Radiological Safety Program Project Officer (EPA)		YES						
Radiological Operations Officer		YES						
Red Shack Technicians								YES
Safety Analytical Engineer			YES	YES				
Scientific Advisor			YES	YES				

Key Position Title	DOE HQ	DOE NV	LLNL	LANL	SNL	REECo	WSI	EG&G/EM
Security Advisor		YES						
Test Controller		YES						
Test Director			YES	YES				
Test Operations Officer		YES						
Timing and Firing Engineer			YES	YES				
Weather Event Support Meteorologist (ARL/SORD)		YES						

ATTACHMENT 2, COMMITMENT 2.1.2

Each testing organization, including DOE Headquarters, will identify and document the skills and knowledge of the key personnel presently employed in the critical positions identified in Commitment 2.1.1 above. Those identified personnel will document their skills and knowledge, and management will review and validate that document. This information will form a data base that will be used to contribute to the development of a training and qualification plan. This document will also provide input to the Nevada Operations Office to aid in the implementation of ISSKP 3, ISSKP 5, and Task 7.

Deliverable: Description of skills and knowledge for each key position.

Status: 23 out of 38 Job Task Analyses (JTA's) are complete. The attached matrix indicates which JTA's are complete and the completion date for the remaining JTA's. The completed JTA's will be sent under separate cover due to the size of the document.

JOB TASK ANALYSIS COMPLETION STATUS

Key Position Title	Complete	Due Date	Responsible Organization(s)
Air Force Liaison Officer	YES		
Air Operations Officer	YES		
Arming and Firing Technician		1/95	SNL
Assembly Technician		2/95	LLNL, LANL
Construction Engineer		1/95	LLNL, LANL
Control Room Technician	YES		
Containment Advisor		2/95	LLNL, LANL, SNL
Containment Evaluation Panel Member		3/95	DOE NV
Containment Scientist		1/95	LLNL, LANL
Convoy Commander	YES		
Deputy Assistant Secretary for Military Application and Stockpile Support	YES		
Deputy Assistant Secretary for Research and Development	YES		
Device Engineer		2/95	
Downhole Crane Operator	YES		
Downhole Superintendent	YES		
Drilling Engineer		1/95	
Drilling Superintendent/Rig Superintendent	YES		
Plan/Event Coordinator	YES		
Event Radiation Fallout Support Specialist (ARL/SORD)	YES		
Health Physicist		1/95	
Health Physics Advisor	YES		
Medical Advisor	YES		
Meteorological Advisor (ARL/SORD)	YES		

Key Position Title	Complete	Due Date	Responsible Organization(s)
Nuclear Explosives Assembly Facility Coordinator		2/95	LLNL, LANL
Nuclear Explosive Safety Engineer	YES		
Off-Site Radiological Safety Officer (EPA)	YES		
Off-Site Radiological Safety Program Officer (EPA)	YES		
Radiological Operations Officer	YES		
Red Shack Technicians	YES		
Safety Analytical Engineer		3/95	LLNL, LANL
Scientific Advisor		1/95	LLNL, LANL
Security Advisor	YES		
Test Controller	YES		
Test Director		1/95	LLNL, LANL
Test Operations Officer	YES		
Timing and Firing Engineer		2/95	LLNL, LANL
Weather Event Support Meteorologist (ARL/SORD)	YES		

Key Position Title	Complete	Due Date	Responsible Organization(s)
Nuclear Explosives Assembly Facility Coordinator		2/95	LLNL, LANL
Nuclear Explosive Safety Engineer	YES		
Off-Site Radiological Safety Officer (EPA)	YES		
Off-Site Radiological Safety Program Officer (EPA)	YES		
Radiological Operations Officer	YES		
Red Shack Technicians	YES		
Safety Analytical Engineer		3/95	LLNL, LANL
Scientific Advisor		1/95	LLNL, LANL
Security Advisor	YES		
Test Controller	YES		
Test Director		1/95	LLNL, LANL
Test Operations Officer	YES		
Timing and Firing Engineer		2/95	LLNL, LANL
Weather Event Support Meteorologist (ARL/SORD)	YES		