

[DOE LETTERHEAD]

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 [For a Hardcopy of this Table, Call 202-586-1857 or 3887]

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 concerns. The Job Task Analyses (JTA's) for each position, Commitment 2.1.2, will provide a detailed description of the skills and knowledges, 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 Conduct a review of the effect of the recent loss of Headquarters personnel.

During this reporting period, Pacific Northwest Laboratory staff completed their study of Defense Programs (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 [For a Hardcopy, Call 202-586-1857 or 3887]

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 [For a Hardcopy, Call 202-586-1857 or 3887]