



## Department of Energy

Washington, DC 20585

JUN 09 1994

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:

This fifth progress report provides a summary of actions conducted in accordance with Recommendation 93-1 Implementation Plan (IP) and other interactions with the Board staff during the April-June 1994, period.

During this period, the working group completed the preliminary findings of Action 3. These findings were presented to the Board staff in a draft document dated May 27, 1994. The 93-1 working group completed Action 3 and initiation of Action 4 nuclear safety and nuclear explosive safety orders evaluations and initiated Action 4 of the Department's IP. Details concerning individual Recommendation 93-1 actions are presented in Enclosure 1. Some highlights include:

**Action 3 - "Identify the areas of inconsistency or discontinuity between the sets of Nuclear Safety Orders and Nuclear Explosive Safety Orders".**

A progress briefing was provided to the DNFSB staff on May 5, 1994, concerning the Action 3 status and schedules and proposed Action 4 activities. On May 20, 1994, a background briefing was provided to the DNFSB staff and support personnel on Action 3 evaluation methodology and report organization. The briefing also included background information concerning the previously delivered Action 1 and 2 reports.

The preliminary results of Action 3 were forwarded as draft documents on May 27, 1994. The draft contained: (1) extract copies of controlling orders and directives; (2) the SME worksheets with the SME-Critical Safety Elements team observations, findings, and issues resolutions; and (3) supporting quality assurance and technical review worksheets and comments.

DOE will provide a final copy of the Action 3 report pending internal coordination of Action 3.

**Action 4 - "Where appropriate, identify areas where the Orders and directives can and should be strengthened."**

Action 4 activities were initiated on May 23, 1994. This comparison forms the basis of a DOE plan to strengthen the orders governing facilities that assemble, disassemble, or test nuclear explosives.



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2

**Action 5 - Expedite Order Compliance Review.**

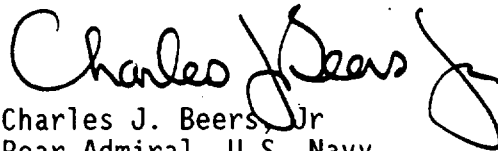
A meeting was held between the staff of the DNFSB and Defense Programs on April 29, 1994, on the status of order compliance self-assessments at the facilities described in the IP, Action 5. Reports for each facility are being prepared (Pantex, Lawrence Livermore National Laboratory, Los Alamos National Laboratory, and the Nevada Test Site) with the goal for report completion by June 24, 1994.

Schedule

Recommendation 93-1 near-term activities and schedule have been discussed with DNFSB staff during meetings in the April-May 1994, period. Preparation of the Action 4 report is proceeding and a first draft was completed on June 24, 1994.

If further information is needed regarding this report, please contact Captain David Olson at 301-903-3463.

Sincerely,



Charles J. Beers Jr  
Rear Admiral, U.S. Navy  
Acting Deputy Assistant Secretary for  
Military Application and  
Stockpile Support  
Defense Programs

3 Enclosures

PROGRESS REPORT  
APRIL-MAY 1994  
DEFENSE NUCLEAR FACILITIES SAFETY BOARD  
RECOMMENDATION 93-1

**Action 3 - Identify the areas of inconsistency or discontinuity between the sets of Nuclear Safety Orders and Nuclear Explosive Safety Orders, if any.**

A subject matter experts (SMEs) group reconvened on April 15-18, 1994, to complete the Action 3 evaluations. Participants included DOE Headquarters (DP-21, EH-30, EH-60, DP-23, DP-25, DP-12, DP-12, DP-13, and 31, and consultants), the Albuquerque and Nevada Operations Offices, Pantex and Nevada Test Site Management and Operating (M&O) contractors, and the weapons laboratories and other contractor support personnel.

The Federal employees and other personnel selected for service as SMEs had the background and experience to provide a breadth and depth of capabilities for the Action 3 analysis in specific subject areas. The SME personnel have knowledge and experience in the areas of nuclear explosive safety, explosive safety, nuclear facility operations, commercial nuclear safety, in addition to personnel with environmental, safety, and health backgrounds.

SME working teams of five-eight personnel were formed to provide an appropriate mix of background and experience in nuclear explosive test, assembly and design operations to match the basic capabilities desired for the specific Critical Safety Elements (CSEs) groupings. The CSEs had previously been grouped into six major areas, reflecting a number of common skills and knowledge associated with related topics.

The Action III analysis CSE Groups used by the SME Teams were: Group 1: Plant and Hardware and Management Systems, Group 2: Operations and Procedures and People, Group 3: Safety Programs and Environmental Safety and Health. This permitted tailoring the SME groups to the specific subject matter, and promoted continuity of effort during the evaluation period as new personnel were added to the SME teams. This became valuable towards the end of the evaluation period and after personnel returned to their normal duty location. Team members continued their efforts through telephone conferences, facsimile transmissions, and other techniques in order to continue the evaluation process after leaving the Washington area. This permitted the team members to consider reviewer comments after they departed the area.

Mentors were employed to promote SME team interaction and dynamics and to identify areas of potential weakness for specific CSEs. When specific background and experience deficiencies were identified, action was taken to obtain a new team member or special consultant to improve capabilities of the SME teams. In addition, this action broadened the individual team's background and experience with a mixture of NRC, commercial/industrial operations, nuclear explosive operations, Naval/military reactors experience, and other nuclear activities. Team sessions were conducted to review the CSEs; where necessary, develop subelement descriptions, and complete the technical analysis. This was followed by a generalized

technical reviews on a near real-time basis, preliminary quality assurance reviews were performed and provided the individual SME Team for early resolution.

The Action 3 report contains the DOE nuclear explosive safety and nuclear safety orders evaluation results which were scheduled for delivery to the DNFSB on May 27, 1994. This report was produced through a cooperative effort involving Headquarters organizations (DP-21, DP-31, EH-30 and EH-60), the Albuquerque and Nevada Operations Offices, the national laboratories (SNL, LLNL, and LANL) and the Pantex and NTS management and operating contractors. The Action 3 results provide the basis for development of the corrective action plan scheduled in Action 4.

**Action 4 - Identify areas where the Orders and directives can and should be strengthened, where appropriate.**

The first meeting of the Action 4 Technical Planning Group responsible for developing the Recommendation 93-1 Corrective Action Plan met at the Nevada Operations Office on May 24, 1994. Primary activities directed toward the aggregation of the individual CSE evaluation results were grouped to assist in the resolution of the inconsistencies and discontinuities identified in the Action 3 report.

An Action 4 task group composed of representatives from HQ (DP-21, DP-31, EH-30, and EH-60), the Albuquerque and Nevada Operations Offices, and other staff as may be required, will conduct working meetings at DOE/HQs during the June 9-17, 1994, period to prepare the Action 4 report. The task group will evaluate the current department's program to upgrade and revise the ES&H orders and directives, the operations offices initiatives, and corrective action plans resulting from other DNFSB Recommendations. The Action 4 report is scheduled to be submitted by June 24, 1994.

**Action 5 - Expedite Order Compliance Review.**

A meeting was held between the staff of the DNFSB and Defense Programs on April 29, 1994, on the status of order compliance self-assessments at the facilities described in Implementation Plan Action 5. It was agreed that an outline (provided by Jim McConnell, DNFSB staff) could be used to develop reports appropriate to close the sub-recommendation 4 of Recommendation 93-1 Implementation Plan Action 5. This outline was provided on May 6, 1994, and reports for each facility are being prepared (Pantex, Livermore National Laboratory, Los Alamos National Laboratory, and the Nevada Test Site) with the goal for completing the reports by July 22, 1994, and submission with the sub-recommendation 3 final report at the same time.

**Board Staff Meetings:**

Two briefings for the Board staff were held during this period. Enclosure 2 provides a copy of the minutes from the May 5, 1994, meeting with a summary of the briefing materials used during that meeting. The second meeting occurred on May 20, 1994, with the principal focus of providing background and procedural information on Recommendation 93-1 activities. A copy of the minutes and briefing materials are found at Enclosure 3.

DNFSB RECOMMENDATION 93-1 DISCUSSIONS WITH DNSFB STAFF

May 5, 1994

**SCOPE:**

A status briefing and discussions were held with the Defense Nuclear Facility Safety Board (DNFSB) staff on May 5, 1994. The purpose was to appraise the DNFSB Staff on Action 3 developments to include preliminary results and conclusions, initial Action 4 activities, and the proposed schedule for Action 3 and Action 4 reports delivery during the May-June 1994 period.

The participating personnel are shown on the attached attendance list (Appendix 1).

The briefing outline is provided (Appendix 2).

**ACTIONS:**

At the end of the meeting, the Board staff accepted the proposed Recommendation 93-1 activities schedule:

Action 3 Report	Board Deliverable	May 20, 1994
Action 3 Process Training	Training Session for Board Staff	May 20, 1994
Status Briefing	Board Staff	June 14, 1994 (1 P.M.)
Action 4 Report	Board Deliverable	June 24, 1994

**SUMMARY OF DISCUSSIONS:**

Action 3:

The Board staff requested information concerning the Quality Assurance and other review work sheets for the Action 3 data packages. Response was provided that quality assurance (QA) and technical review worksheets will be included in the individual CSE data packages.

Questions were raised by the Board staff concerning the variability in Subject Matter Expert (SME) team operations and their results. Discussions focused on SME Team improvements which occurred during the three working sessions. The Department representatives discussed some inconsistencies which occurred during the first SME meetings with differences in SME team operations and the results. They described the evolutionary actions to enhance SME team dynamics: expanding membership from Pantex and NTS-site personnel, DP and EH members, and the Albuquerque and Nevada operations offices.

The Department believes that improvements through increased EH-personnel participation, mentoring, and quality review feedback to the teams have benefitted the process and the product, and other improvements are being pursued during the final Action 3 review process. Several examples of CSEs requiring rework by the SME teams were discussed: training and qualifications, safety analysis, and criticality safety. Final results of these changes will be identified in the final package which will be presented to the Board.

The Staff indicated their interest in the review and comment resolution process, and the methods and means which will be used to document the process. An extended discussion occurred on the methods and means to be employed for review comment resolution. It was discussed that the anticipated general review comments could be binned into several groups: (1) no comment required when reviewer agrees with the evaluation; (2) comparatively minor comments which could be easily resolved; and (3) more complex situations which might require reworking the evaluation.

At the time of the briefing, only two CSE packages had been returned following EH-reviews, and no major disagreements or issues had been identified. The review results will be retained in the CSE data package permanent records.

The Board Staff prompted discussions on the preliminary results which can be drawn from the work to date. The Department's interpretation of 93-1 includes issues identification, and the process appears to be working. The evaluation has identified areas where a particular HQ DOE order does not cover a single topic, but the collective material of several orders may do so. In addition, there are instances where supplementary directives cover a topic without a corresponding HQ level order.

The Board staff expressed concerns that NUREG-1324, as the CSE-basis may not provide the best yardstick for the Action 3 evaluation. While the 93-1 evaluation could conclude that the existing orders provide equivalent safety assurance, there exists the possibility that the underlying orders might be compared to an inadequate CSE thus making the conclusions questionable. The Decommissioning and Decontamination CSE became the focus of discussion on the inadequacy of the CSE. The Department representatives believe the issue of orders adequacy is outside the bounds of Recommendation 93-1 actions, and would be handled either under Recommendation 90-2 or via other process.

The Board staff expressed a desire to see the complete CSE evaluation worksheet data packages when the Action 3 report is forwarded. This would provide a complete CSE package for their review. The Department's representatives accepted this action.

The Board staff requested that an orientation or training session on the Action 3 process be provided for their reviewers. This request was accepted and a session will be scheduled with the Board staff for the afternoon of May 20. They would like one or more of the SME team chiefs to attend. This action was accepted.

Ted Lewin, Sonalysts, Inc., provided mentoring comments on the Action 3 SME process activities. The quality of the SMEs is considered to be generally

satisfactory while the quality of the SME teams has varied during the process, due mostly to different approaches taken by the three teams. One group remained and worked together during the entire period while the others had different levels of participation by other SME and EH personnel. His comments included observations on the confusion caused by the different exclusion and/or exemption statements affecting the nuclear explosive assembly, disassembly and testing operations. Overall, the process appears to be working and the final product should be reasonable.

Also, the Board staff was interested in the use of "standards" in the orders evaluation processes. The department representatives stated that specific standards are included under the orders prescribing them, but were not specifically addressed during Action 3.

#### Action 4:

No significant comments were generated when the proposed Action 4 process was presented. The preparation and review cycle for Action 4 will begin when the Action 3 product is being prepared. No significant delays are anticipated in the Action 4 delivery date of June 24, 1994.

General comments were made concerning the possible impacts of the department's program to reduce the numbers of orders. Consensus of the discussion was that it was not possible to evaluate any impact at this time.

#### General:

The Board staff commented that Recommendation 93-1 efforts had evolved since last year, and the results of this work might provide some assistance to the people supporting Recommendation 93-6 operations which are currently getting started. Specifically, monthly meetings were helpful to the process. Department personnel stated that they thought monthly meetings with the Board staff were helpful especially during the early days of this process.

DEFENSE NUCLEAR FACILITIES SAFETY BOARD  
93-1 Meeting  
May 5, 1994  
- Attendance List -

Monet Harrison	.AL	505/845-5378
David Olson	HQ/DOE	301/903-3463
Thomas M. Mills	HQ/DOE(DP-21/SRA)	301/903-4802
Robert F. Miller	AL (Stone & Webster)	505/845-5775
J.T. Arcano	DNFSB Staff	202/208-6547
Ralph Arcano	DNFSB Staff	202/208-6547
David Cleaves	MITRE	703/883-5470
Shiv Seth	MITRE	703/883-5440
Dennis Kelly	MITRE	703/883-7823
T.E. Lewin	Sonalysts, Inc.	301/417-9774
Victor Loczi	DOE/DP-311	301/903-3892
Ed Little	Sonalysts, Inc.	301/417-9774
S. L. Krahn	DNFSB Staff	202/208-6400
Farid Bamdad	DNFSB Staff	202/208-6588
Joe Roarty	DNFSB Staff	202/208-6436
Sol Pearlstein	DNFSB Staff	202/208-6407
Jim Ahlgrimm	DOE/EH-6	202/586-3685
Steve Guidice	DOE/AL	505/845-5378
Lester Ettinger	DNFSB Staff	202/208-6439
Jim Mc Connell	DNFSB Staff	202/208-7479
Don Owen	DNFSB Staff	202/208-6580
Mike Mitchell	DOE/DP-24	301/903-9408