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## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

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April 14, 1995

The Honorable Victor H. Reis  
 Assistant Secretary for Defense Programs  
 Department of Energy  
 Washington, D.C. 20585

Dear Dr. Reis:

The Defense Nuclear Facilities Safety Board (Board) recently received four documents from your office that could negatively impact the Department of Energy's (DOE's) execution of the Implementation Plan for Board Recommendation 93-1, *Standards Utilization in Defense Nuclear Facilities*. These documents (which are discussed in more detail in enclosure 1) concern development of Orders and standards at nuclear explosives facilities and assessment of compliance with Orders and standards at DOE Defense Programs (DP) defense nuclear facilities.

A major focus of DOE's Implementation Plan for the Board's Recommendation 93-1 is to improve the nuclear safety Orders and standards that govern nuclear explosives facilities. DOE committed to make this improvement by using a number of DOE nuclear facility safety Orders and standards that were not previously applicable to nuclear explosive facilities. However, recent DP guidance to the field appears to weaken this commitment.

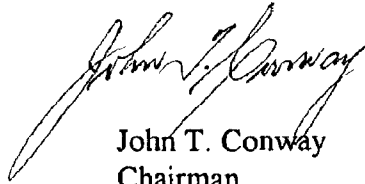
A second major focus of DOE's Implementation Plan is to expedite and upgrade the Order Compliance Self-Assessment (OCSA) Programs at DP sites associated with nuclear explosives assembly, disassembly, and testing. Reports of status on this task indicate that sites such as the Pantex Plant and Los Alamos National Laboratory have made progress. Conversely, the Lawrence Livermore National Laboratory and the Nevada Test Site have made almost no apparent effort to expedite or upgrade their programs and have no formal plans to do so. DP further complicated the problem of ensuring compliance with safety requirements by issuing direction to Operations Office Managers so that they may determine which mandatory requirements in the current DOE Orders are "inappropriate" or provide "negligible safety benefit" and terminate plans to assess compliance with those requirements.

The Board supports efforts to improve the efficiency of the OCSA process by minimizing the time and effort required to analyze and document compliance with requirements that incontrovertibly provide no safety benefit. However, the DP guidance does not define the terms "appropriate" or "negligible safety benefit." It is unclear how the field can consistently evaluate the safety significance of DOE Order requirements without this technical direction from Headquarters.

Many of the proposed actions in these recent letters relate to DOE commitments under Board Recommendations 90-2 and 93-1 (enclosure 2) and cannot be changed unilaterally by DOE. The Board has consistently supported DOE efforts to define and implement a rational and coherent set of safety standards at each DOE defense nuclear facility and looks forward to reviewing any plans DOE develops to accelerate achieving that goal.

The Board requests that resolution of the concerns in this letter and the enclosures be addressed in the next progress report for Recommendation 93-1. Please contact Mr. Steve Krahn of the Board's staff at (202) 208-6580 if you require any additional information or assistance.

Sincerely,



John T. Conway  
Chairman

c: The Honorable Tara O'Toole  
Mr. Mark Whitaker

Enclosures

## **Enclosure 1 - Review of Recent DOE Documents Relating to Board Recommendation 93-1**

The Board's staff reviewed recent DOE documents concerning Board Recommendation 93-1, *Standards Utilization in Defense Nuclear Facilities*, that could adversely impact the implementation of the Recommendation. The following discussion provides an analysis of those documents:

The January 24, 1995, memorandum from Dr. Reis, *Implementation of the Defense Nuclear Facilities Safety Board Recommendation 93-1 Action 4 Report and the Nuclear Explosive Safety Study Review Team Report*, appears to provide guidance to working-level groups on satisfying the commitments DOE made in the August 8, 1994, Action 4 Report regarding Recommendation 93-1. Action 4 is the plan to adopt previously excluded nuclear facility safety Orders and requirements into the set of safety Orders and requirements applicable to nuclear explosives operations. The following summary compares the approved report and the new plan. A more detailed comparison is included as enclosure 2.

- DOE previously committed to adopt eight Orders applicable to nuclear facilities for use at nuclear explosives facilities; however, the new guidance to the field only requires that the working groups "evaluate" whether these Orders could be made applicable. The Board's interpretation of "adopt by reference" is that the 5610 series of Orders will be modified to require that relevant functions be completed in accordance with the eight adopted Orders. If mandating a requirement from an adopted Order would be detrimental to nuclear explosives safety, than the 5610 series Order (or a standard) would exempt nuclear explosives facilities from that specific requirement.
- In several task statements, DOE Headquarters guidance has shifted from "review the applicability of current guidance and develop additional standards as necessary" to "determine the adequacy of existing guidance." The new guidance will result in repeating work completed (and approved by the Board) during an earlier action of the Implementation Plan for Recommendation 93-1. This earlier action (Action 3) was performed over several months using handpicked DOE and contractor subject matter experts to determine precisely the adequacy of existing guidance. There is no apparent reason to repeat that analysis.
- The approved plan has many intermediate completion dates for individual actions prior to the final revision of DOE Orders 5610.10 and 5610.11. Most of those commitments have been replaced with estimates of the time required to conduct reviews and provide suggestions to the 93-1 Working Group. It appears that, at the end of an extended review, all products will be delivered to the Board at the same time. This approach has not worked well in the past.

The February 21, 1995, memorandum from Dr. Knuth (DP-30) to the managers of Albuquerque Operations Office, Nevada Operations Office, Oakland Operations Office, Oak Ridge Operations Office, and Savannah River Operations Office, the subject of which is *Supplemental Program Guidance Regarding the Conduct of Order Compliance Self-Assessments at Defense Program*

*Facilities*, provides supplemental program guidance for conducting Order Compliance Self-Assessments (OCSA). The guidance attempts to improve the efficiency of the OCSA process by minimizing the time and effort required to analyze and document compliance with requirements that are not "appropriate" or provide "negligible safety benefit". However, the guidance does not define the terms "appropriate" or "negligible safety benefit." It is unclear how the field can consistently evaluate the safety significance of DOE nuclear safety Order requirements without this technical direction from DOE Headquarters. Also, the memo does not establish a formal system for reviewing field determinations or assessing the application of this authority to grant exemptions. It is unclear how DOE Headquarters can continue to fulfill their obligations under the DOE *Functions and Responsibilities Manual* without assessing and approving the processes by which the field will exercise these delegated powers.

A follow-on memorandum from Dr. Knuth, dated March 2, 1995, clarifies that the DOE Operations Offices - not the M&O contractors - may decide which requirements have "negligible impact on safety." This second memorandum added explicit requirements that the basis for decisions be documented and auditable and announced plans for a workshop to discuss application of the new policy. However, the combination of both supplemental program guidance memorandums still does not address the issues raised above.

**Enclosure 2 - Comparison of Commitments in Original DOE Implementation Plan for Recommendation 93-1 Action 4 and Revised DOE Implementation Plan for Recommendation 93-1 Action 4**

Original Action 4 Report	Action 4 "Implementation Plan"	Discussion
2.1.1	Page 2 #2 and #5	<b>Equal;</b> Issue revised 5610 series Orders
2.1.2	Page 2 #6	<b>Equal:</b> Issue policy integrating the 5480 and 5610 series Orders and precluding future divergence
2.2.1	Page 2 #4	<b>Weakens:</b> No discussion of deleting exclusion statements
3.1.1.1	Page 10 #1	<b>Unilaterally Changed:</b> Commitment was to adopt DOE Orders 5482.1B and 5700.6C on Audits and Inspections
3.1.1.2	Page 10 #2	<b>Unilaterally Changed:</b> Repeats analysis of Action 3
3.1.1.3	Page 11 #3	<b>Equal:</b> Develops training for auditors
3.1.2.1	Page 12 #1	<b>Equal:</b> Adds commitment tracking system
3.1.3.1	Page 16 #1	<b>Weakens:</b> Deletes review of operations vs. goals in developing performance indicators
3.1.3.2	Page 16 #2	<b>Equal:</b> Adopts new PIs
3.1.4.1	Page 17 #1	<b>Unilaterally Changed:</b> Commitment was to adopt DOE Order 5700.6C on Quality Assurance
3.1.4.2	Page 17 #2	<b>Equal:</b> Improves interface between QC-1 and DOE Order 5700.6C
3.1.4.3	Page 18 #3	<b>Equal:</b> Improves QC-2
3.1.5.1	Page 31 #1	<b>Equal:</b> Improves safety review groups
3.1.5.2	Page 31 #2	<b>Equal:</b> Reviews/develops new guidance on safety review groups as necessary
3.2.1.1	Page 34 #1	<b>Unilaterally Changed:</b> Commitment was to adopt DOE Order 5480.20 on Training and Qualification

3.2.1.2	Page 34 #2	<b>Equal:</b> Assesses need to accredit training program
3.2.1.3	Page 35 #3	<b>Weakens:</b> No action specified to develop new standards if required
3.2.2.1	Page 15 #1	<b>Equal:</b> Develops guidance on human factors
3.3.1.1	Page 13 #1	<b>Unilaterally Changed:</b> Commitment was to adopt DOE Order 5480.24 and applicable sections of DOE Order 5480.23 for criticality safety
3.3.1.2	Page 13 #2	<b>Unilaterally Changed:</b> Repeats analysis of Action 3
3.3.2.1	Page 26 #1	<b>Equal:</b> Integrates SARs and NESSs
3.3.2.2	Page 27 #2	<b>Equal:</b> Adds qualifications for NESSG members
3.3.3.1	Page 19 #1	<b>Unilaterally Changed:</b> Commitment was to adopt DOE Orders 5480.22 and 5480.23 on TSRs and SARs
3.3.3.2	Page 19 #2	<b>Unilaterally Changed:</b> Repeats analysis of Action 3
3.3.4.1	Page 21 #1	<b>Unilaterally Changed:</b> Commitment was to adopt DOE Order 5480.21 on USQs
3.3.4.2	Page 21 #2	<b>Unilaterally Changed:</b> Repeats analysis of Action 3
3.4.1.1	Page 22 #1	<b>Equal:</b> Adds configuration management requirements
3.4.1.2	Page 22 #2	<b>Equal:</b> Reviews/develops new guidance as necessary for CM
3.4.2.1	Page 24 #1	<b>Equal:</b> Reviews/develops new guidance as necessary for tooling and special equipment design criteria
3.4.3.1	Page 25 #1	<b>Equal:</b> Adopts the nuclear chapter of DOE Order 4330.4B on maintenance
3.5.1.1	Page 28 #1	<b>Equal:</b> Reviews/develops new guidance as necessary on packaging and transportation
3.5.2.1	Page 29 #1	<b>Unilaterally Changed:</b> Commitment was to adopt DOE Order 5480.31 on ORRs
3.5.2.2	Page 29 #2	<b>Equal:</b> Reviews/develops new guidance on safety review groups as necessary on ORRs