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# DEFENSE NUCLEAR FACILITIES SAFETY BOARD

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98-0003113



September 28, 1998

The Honorable Bill Richardson  
Secretary of Energy  
1000 Independence Avenue, SW  
Washington, DC 20585-1000

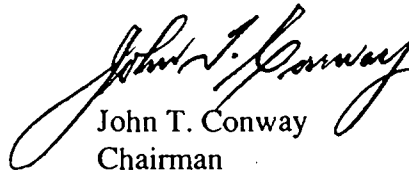
Dear Secretary Richardson:

On September 28, 1998, the Defense Nuclear Facilities Safety Board (Board), in accordance with 42 U.S.C. § 2286a(a)(5), unanimously approved Recommendation 98-1, which is enclosed for your consideration. Recommendation 98-1 deals with Integrated Safety Management and the Department of Energy (DOE) facilities.

42 U.S.C. § 2286d(a) requires the Board, after receipt by you, to promptly make this recommendation available to the public in DOE's regional public reading rooms. The Board believes the recommendation contains no information which is classified or otherwise restricted. To the extent this recommendation does not include information restricted by DOE under the Atomic Energy Act of 1954, 42 U.S.C. §§ 2161-68, as amended, please arrange to have this recommendation promptly placed on file in your regional public reading rooms.

The Board will publish this recommendation in the Federal Register.

Sincerely,

  
John T. Conway  
Chairman

c: Mr. Mark B. Whitaker, Jr.

**DEFENSE NUCLEAR FACILITIES SAFETY BOARD**  
**RECOMMENDATION 98-1 TO THE SECRETARY OF ENERGY**  
**Pursuant to 42 U.S.C. § 2286a(a)(5)**  
**Atomic Energy Act of 1954, As Amended.**

Dated: September 28, 1998

On October 11, 1995, the Defense Nuclear Facilities Safety Board (Board) issued to the Secretary of Energy its Recommendation 95-2, entitled *Safety Management*. The Recommendation proposed adoption by the Department of Energy (DOE) of a concept termed "Integrated Safety Management" (ISM) as a means of improving assurance of safety at DOE's defense nuclear facilities. The Secretary of Energy provided an implementation plan for the Recommendation on April 18, 1996, which the Board accepted in turn. In accordance with the implementation plan, DOE issued its Policy Statement 450.4 to be the basis for initiation and conduct of ISM at its facilities.

DOE and its contractors are making good progress in implementing the concept of ISM at defense nuclear facilities. One of the central functions of ISM called out both in the Recommendation and the implementation plan is "feedback and improvement." That function is exercised both in planning work and establishing safety controls at the outset, and in subsequent assessment of the diligence in application and the success in achievement of safety.

DOE has established through its directives system its expectation of actions by both the federal work force and contractor management in assessing the effectiveness of its safety management programs as they are practiced. Such safety assessments include both observance of work and determination of long term trends. They are accomplished principally through two major kinds of assessments for feedback and improvement.

- Self-assessment by the contractor of site/facility/activity programs responsive to DOE Policy 450.5, and parallel oversight by DOE line managers and facility representatives responsible for the missions and contractor performance. This is assessment by line management.
- Corporate level assessments by DOE safety specialists (ES&H), independent of the line, responsible for capturing and sharing lessons learned, preparing trend analyses, performing special investigations and otherwise performing corporate-level reviews in support of the Secretarial Offices. This is independent assessment.

These assessments and the corrective actions taken in response to them are important elements of the internal safety management program of DOE.

In the course of its oversight of DOE's safety management program, the Board has noted considerable variability in implementation and effectiveness of the feedback and improvement function as performed by the numerous federal and contractor entities. There appears to be much

collection of data (about 30 DOE directives drive the process) but less evidence of follow-up. To facilitate a closer examination of the matter, the Board in a March 20, 1998, letter stated its observations, and requested a report on how the function was being performed at defense nuclear facilities. DOE, by letter dated June 3, 1998, provided such a report. The report and the matter in general were the subject of discussions with representatives of DOE and its contractors at a public meeting held by the Board in Washington, D.C., on June 24, 1998.

The outcome of these exchanges to date has been a mutual understanding of a number of improvements that are merited. An action plan presented to the Board in DOE's letter of June 3, 1998, proposes to focus on four areas:

- Accelerating implementation of DOE Policy 450.5,
- Improving DOE's tracking and follow-on processes,
- Improving DOE's Lessons Learned processes, and
- Improving implementation of the Functions, Responsibilities, Accountability Manual (FRAM) relative to feedback and improvement.

The Board commends DOE for these initiatives. As worthy as they are, however, they are not, in the Board's view, sufficient to cover all aspects of DOE's feedback and improvement of its safety management programs. The Board has noted that the initiatives for improvement, particularly DOE's actions on findings, are limited to results of oversight by line operations. They do not address deficiencies in feedback and improvement based on results of independent oversight by the Office of the Assistant Secretary for Environment, Health and Safety (EH)—more specifically that of the Deputy Assistant Secretary for Oversight (EH-2). The purpose of this recommendation is to address that matter.

For many years, it has been commonplace for DOE's Headquarters to conduct independent assessments of safety management by the field offices and their contractors, in relation to performance of DOE's hazardous work. This parallels a normal practice of headquarters of commercial hazardous industries which have multiple product lines and facilities and which therefore delegate primary responsibility for doing work safely to officials of a facility or a product line. But assessment of safety is not sufficient. To be effective, the constructive criticisms must be brought to the attention of corporate management. There they must be evaluated, and course corrections must be directed, if the benefits of assessment are to be achieved. This is especially true where resource issues are involved and allocation or re-allocation of funds is required.

Recognizing that at times there is a need for Secretarial involvement at levels above the program offices and the corporate role of the independent assessors, in September 1989 Secretary Watkins established the Office of Nuclear Safety (ONS), reporting directly to him as described in SEN-6E-92. That led to Secretarial review of all findings of ONS, and an opportunity for response at the Secretarial level if necessary. With the change in Administration in 1994, this Office was assigned to report to the Assistant Secretary for ES&H, and it was redesignated as

EH-2 with direction by a Deputy Assistant Secretary. In that capacity, EH-2, according to the DOE Manual of Safety Management Functions, Responsibilities, and Authorities (DOE M 411.1-1), performs corporate level assessments, independent of the safety management programs as implemented by DOE program offices and associated contractors.

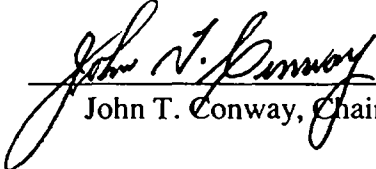
Evaluations are provided to the Secretary of Energy, Congress, Cognizant Secretarial Offices, Field Managers and Contractors. However, under this organizational arrangement, most of the assessments and findings by EH-2 are treated largely as advisories. Such follow-up actions as are taken are no longer subjected to a deliberative process involving, when appropriate, the Office of the Secretary of Energy (Secretary, Deputy Secretary, Under Secretary). Rather, they become discretionary to lower levels of DOE line management (such as cognizant Secretarial Officers and Field Managers). An exception to this general discretionary pattern occurs when an accident results in death or serious injury of workers, or threatens the public. For example, Type A accident investigations require, among other things, corrective action plans (CAPs), approval of the CAPs by the cognizant secretarial officer, and completion of corrective actions subject to independent verification. These requirements, in DOE Order 225.1A, *Accident Investigations*, November 26, 1997, and supporting guidance effectively close the loop on accident investigations.

EH-2 does make a practice of requesting a CAP after submission of a report on other types of investigation, and usually receives one from the cognizant party. Proposed corrective actions in these CAPs are frequently incomplete and are sometimes only loosely related to findings in the oversight report. Some CAPs are no more than commitments to provide a CAP in the future. The Department of Energy has not identified criteria for adequate CAPs, nor has DOE authorized EH-2 to require adequate CAPs which are responsive to evaluation reports. As a result, problems identified as accident precursors are not handled with the same rigor as accidents themselves. The end effect is that corrective action under the current system is reactive rather than proactive.

Nothing prevents EH-2 from elevating safety issues via its management (Assistant Secretary for ES&H), but the process of elevation is now ad hoc, not institutionalized and protocol driven. There is a natural tension between those charged with doing work safely and those tasked by management to monitor and evaluate how well the doers perform. There is also a natural resistance to having to reallocate resources when deficiencies are found. Such factors cause outcomes to depend highly on the forcefulness of the personalities involved. It is precisely at this interface between the Secretarial Program offices and the independent reviewers of safety performance (EH-2) that DOE's safety management program merits additional attention. The need for an institutionalized protocol for content and treatment of a CAP, and for addressing and resolving differences are the central points of issue.

The Board is of the opinion that the Department of Energy should take additional action with respect to its program for improvement of feedback and safety for defense nuclear facilities by establishing clearer lines of authority and responsibility for resolution of safety findings of its internal, independent safety organization. Towards such end, the Board recommends that the Department of Energy:

1. Establish by policy statement, directives, or other protocols, the manner in which the Secretary expects Cognizant Program Secretarial Officers (Assistant Secretaries) and Field managers to address and resolve findings of its independent internal corporate safety organization (Assistant Secretary for ES&H). In so doing, consideration should be given to direction and guidance for the following:
  - Establishing authority and responsibility for conducting and responding to independent oversight, preparing and approving corrective action plans, reporting on progress toward timely and adequate closure of findings, and subsequent closure, including independent verification of closure.
  - Elevating cases of inadequate or untimely response to findings to the Office of the Secretary for resolution.
  - Describing the purpose and content of corrective action plans responsive to oversight findings (e.g., cause identification, actions to correct immediate problem, lessons learned, actions to prevent recurrence).
  - Scheduling the time frames within which the evaluation and process activities must occur.
  - Periodically reporting the status of corrective actions by the responsible entity.
  - Tracking findings and corrective actions to closure with a system accessible to DOE line management and the independent oversight organization.
2. Make explicit the Secretarial Officer or designee assigned the resolution function.

  
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John T. Conway, Chairman