[DOE LETTERHEAD]

July 12, 1995

Mr. John T. Conway
Chairman
Defense Nuclear Facilities Safety Board
625 Indiana Avenue, N.W., Suite 700
Washington, D.C. 20004

Dear Mr. Conway:

In response to the Defense Nuclear Facility Safety Board Recommendation 94-4, my staff reviewed the Department of Energy independent oversight activities conducted at the Y-12 Plant and other Oak Ridge sites since 1986. We found that the Department of Energy Oversight staff had discovered and reported a number of deficiencies very similar to those identified by the Board relative to conduct of operations and criticality safety. Although these deficiencies were communicated to the Oak Ridge Operations Office, the operating contractor, and the Cognizant Headquarters Secretarial Officers, many of these issues were not adequately addressed, and there was no effective follow-up by the independent oversight organization.

The attached report addresses the Office of Environment, Safety and Health's assessment of its role in oversight of Y-12 Plant safety issues as required by the Department of Energy Implementation Plan for Recommendation 94-4.

Sincerely,

Tara O'Toole, M.D. M.P.H
Assistant Secretary
Environment, Safety and Health

Enclosure

OFFICE OF ENVIRONMENT, SAFETY AND HEALTH RESPONSE TO DEFENSE NUCLEAR FACILITY SAFETY BOARD RECOMMENDATION 94-4

INTRODUCTION

In response to the Recommendation 94-4 of the Defense Nuclear Facility Safety Board (DNFSB), the Department of Energy (DOE) has prepared and submitted an Implementation Plan requiring initiatives by various DOE organizations. The Office of Environment, Safety and Health (EH) committed to assess its role in the oversight of Y-12 Plant safety issues.

SURVEY OF SELECTED OVERSIGHT ACTIVITIES RELATED TO Y-12 PLANT

Recommendation 94-4 noted a number of violations of Operational Safety Requirements and other safety limits at the Y-12 Plant. The Board specifically identified deficiencies in the execution of the Y-12 Criticality Safety Program.

The Office of Oversight has reviewed oversight activities dating back to 1986 at the Y-12 Plant and other Oak Ridge sites (Table 1). This review demonstrated that Headquarters oversight staff had repeatedly identified and reported deficiencies in both conduct of operations and criticality safety at Oak Ridge. These deficiencies were communicated to the Oak Ridge Operations Office, the operating contractor, and the Cognizant Headquarters Secretarial Officers. Although these deficiencies were not identical to the deficiencies cited by in the DNFSB Recommendation 94-4, they were symptomatic and directly related to the generic problems noted by the Board. However, many of these issues were not adequately addressed by line management, and there was no effective follow-up by the independent oversight organization. In part, this was due to a fragmented oversight program.

INDEPENDENT OVERSIGHT PROGRAM

In the recent realignment of the Office of the Assistant Secretary for Environment, Safety and Health, all oversight responsibilities for environment, safety, and health (ES&H) were consolidated under a single Deputy Assistant Secretary. This approach will help to correct the past fragmentation. One of the primary objectives of the restructured oversight organization is to focus independent oversight activities on DOE line management effectiveness, since line management has the ultimate responsibility for assuring implementation and follow-up of comprehensive corrective actions. Independent oversight will evaluate line management's effectiveness in utilizing sound management practices in the implementation of their ES&H programs and specifically report on the effectiveness of line management accountability.

Major elements of the new oversight program were specifically created to focus on management level information needed to develop effective corrective actions and prioritize resources. The program has established the capability to uncover safety problems through inspection, monitoring, analysis, and appraisal of performance and to perform more effective followup through the use of sound analytical practices that effectively utilize oversight results with primary focus on risk reduction. Several elements of the new oversight system are discussed below.

An Integrated, Systematic, and Performance-Based Approach

The oversight process consists of many interrelated activities including conduct of appraisals; analysis and interpretation of information; documentation and reporting; and follow-up. Successful execution demands a systematic focus on management practices. The new oversight program has adopted such an approach.

The oversight program conducts appraisal activities based on management performance and is structured to provide more effective analysis of performance information. This will ensure that the fundamental cause of the deficiency is established, that the corrective action addresses the root cause of the deficiency, and that the corrective action is completed in a timely manner. In addition, corrective actions, lessons learned, and root cause information

collected by the oversight organization will be shared with other DOE organizational elements that may be facing similar problems.

Development and maintenance of an overall profile for each site will provide the basis for assessing facility performance over time. Information is obtained from internal documents, ongoing appraisal activities, the Occurrence Reporting and Processing System (ORPS), and external sources. Appraisal activities include periodic comprehensive inspections conducted by EH, and surveillance conducted by the EH residents. In addition to supporting real-time assessment of performance, the site profile will be used to focus appraisal activities and evaluate trends in performance. Finally, the oversight program is supported by a strong infrastructure. Major elements of this infrastructure include a management information system, a training and certification program for oversight personnel, quality and self-assessment activities, and an internal and external communications program.

Follow-up Activities With a Primary Focus on DOE Line Management

The oversight program is working to execute aggressive follow-up activities. Effective follow-up on the status of corrective actions will assist in ensuring accountability by line management. The process involves review of corrective action plans, tracking of corrective actions, and verification that appropriate actions have been taken; this process requires a determination of the appropriateness of the level and extent of the corrective action based on the seriousness of the weakness and elevating poor performance to senior DOE management. Special emphasis during appraisals will be placed on the overall responsiveness of the line organizations in identifying and resolving weaknesses. An information management structure for tracking progress and publication of annual site-specific and DOE-wide effectiveness reports will assure that line management will implement corrective actions in a timely and efficient manner.

How line management responds to identified weaknesses issued by the independent oversight organization is a direct indicator of the effectiveness of line management. Corrective actions that are well analyzed and prioritized, timely, innovative, and cost effective are also excellent indicators of line leadership and commitment.

An Enhanced EH Resident Program

In response to the previous EH Resident Program which was fragmented and not fully effective, the new EH Resident Program provides for organizational, programmatic, and staffing improvements. All major weapons sites are staffed with full-time oversight residents and all the residents report to the Deputy Assistant Secretary for Oversight. Surveillance activities will be focused on the most significant weaknesses. Policies and procedures have been developed to ensure consistency of approach within the EH Resident Program. The EH residents through their surveillance activities will focus on the most significant programmatic and management system weaknesses and will provide an effective mechanism for assuring closure of corrective actions.

An effective oversight program demands trained and qualified oversight staff. Several steps have been taken to achieve this objective. First, positions descriptions, qualifications standards and selection criteria, and job and task analysis are being developed for all

oversight positions. Second, training modules and associated documentation are being prepared. Third, prior to a comprehensive inspection, all personnel receive training specific to their function on the inspection team, to the hazards of the site, and on the objectives of the appraisal process. Finally, all EH Residents have been identified and selected based on their knowledge of the mission(s) and program(s) of the particular site.

CONCLUSION

The Secretary's October 21, 1994, response to the Board provided a comprehensive exposition of the functions that the Department deemed necessary for an effective nuclear safety management program. An effective independent oversight system was identified as a principle element of that safety management program. Effective execution of that program, including the elements discussed above, will lead to the discipline necessary to ensure nuclear safety.

TABLE 1: SELECTED DEFICIENCIES IDENTIFIED BY OVERSIGHT ACTIVITIES

1986	**Technical Safety Appraisal**
	Criticality Safety approval (CSA) documents overdue for periodic review or overdue for re-issue; and
	CSA violations accumulating because CSA were not updated.
1988	**Technical Safety Appraisal**
	Requests for CSAs did not contain required information;
	Criticality Safety Engineers approved incomplete CSAs; and
	Criticality Safety Engineer analyses were not properly documented and could not be independently verified.
1989	**Technical Safety Appraisal**
	Very little progress had been made in correcting out-of-state CSA reviews; and
	The Criticality Safety Group had not kept pace with all of its program responsibilities.
1990	**Multidisciplinary Appraisal**
	Attention to detail regarding allowed container sizes and spacing, and control of empty containers was less than adequate; and
	Action by operating groups to reduce level 1 Criticality Safety Incidents was

	less than adequate.
1992	**Progress Assessment** There was a backlog of over 300 CSAs that needed upgrading; and Y-12 Plant Criticality Safety Incident Reports were not effectively analyzed for casual factors and root causes, and the results were not used by the line.
1992 to 1994	**Site Representative Surveillances** There were recurring deficiencies in conduct of radiological operations; There was a lack of management attention to corrective actions; and Problems with Y-12 uranium discharges to the sewer were not aggressively corrected.
1994	**Site Representative Quality Assurance Audit** Quality Assurance systems do not have adequate management support to ensure nuclear operations are conducted safely; and Quality Assurance audits are ineffective.