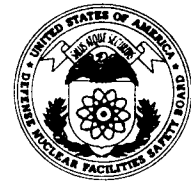


John T. Conway, Chairman
A.J. Eggenberger, Vice Chairman
Joseph J. DiNunno
Herbert John Cecil Kouts
John E. Mansfield

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

625 Indiana Avenue, NW, Suite 700, Washington, D.C. 20004
(202) 208-6400



March 20, 1998

The Honorable Elizabeth A. Moler
Deputy Secretary of Energy
Department of Energy
Washington, DC 20585-0119

Dear Ms. Moler:

Bel 29

The Department of Energy (DOE) has issued Policy Statement 450.4, *Safety Management System Policy*, in furtherance of protection of the public, workers, and the environment. One key function of the methods to achieve the policy is feedback of operating experience so as to improve the safety of operations. The Board wishes to explore this matter further as part of its continuing review of Integrated Safety Management.

DOE's program for assessing work performance in support of this function is accomplished in a variety of ways and by a number of different organizational units. Relative to organizational units, there are three main streams of data:

- Contractor: DOE through its Policy 450.5, *Line Environment, Safety and Health (ES&H) Oversight*, established contractor self-assessments as fundamental to their efforts to seek continued attentiveness to and improvements in safety management.
- Program Offices: The federal line managers responsible for authorizing and overseeing work perform assessments regularly per provisions of Policy 450.5.
- Environment, Safety and Health (EH) Oversight Office: DOE-EH performs periodic assessments, independent of line management, including accident investigations when failures to achieve safety management objectives are experienced. Additionally, EH Site Residents maintain a day-to-day site presence to monitor ES&H practices and provide weekly reports on its surveillance.

Such assessments provide valuable insights as to effectiveness of safety programs as implemented, but improvements result only if the lessons learned lead to effective follow-up actions. Positive experiences and findings need to be shared and institutionalized as part of DOE's directives system when judged to be generally applicable to DOE's varied missions. Negative experiences and findings need to be investigated for root causes of difficulties and corrective action programs put in place. Particularly, with respect to negative findings such as those illustrated in Enclosure 1, one might reasonably expect documented responses by those assessed either as rebuttal or an agreed-upon path forward to effect improvement.

While the Defense Nuclear Facilities Safety Board (Board) is aware of corrective action plans addressing negative findings of some evaluations, it is also aware of cases where effective follow-up action was not accomplished (e.g., the Chemical Safety Vulnerability Study, DOE/EH.0396P, September 1994, and the Independent Oversight Evaluation at Hanford, April 1996). The Board is also aware that the pilot program at DOE laboratories for testing the viability of the contractor self-assessment concept was not an unqualified success. These observations raise questions as to whether DOE has in place a cohesive and systematic program for assimilating these diverse flows of assessment results and effectively performing the feedback and improvement function that is vital to its safety management program.

The Board proposes this topic of feedback and improvement be included among the topics for discussion at the June quarterly status review briefing by DOE on the 95-2 implementation program. In preparation for such, the Board pursuant to 42 U.S.C. 2286b(d) would like a report within 60 days that addresses the following:

- Contractor Self-assessment Program/Corrective Action Programs:
 - Status of programs cited in Policy 450.5 and 10 CFR Part 830.120.
 - Evidence of successful programs developed by the contractor as a self-imposed work practice.

- DOE Line Management Assessments/Corrective Action Programs:
 - Operational Awareness/Facility Representatives.
 - Periodic and "For Cause" assessments.
 - Occurrence reporting/follow-up.
 - Vulnerability Assessments corrective action programs.
 - Accident investigations/corrective actions.
 - Validations of contractor self-assessments.
 - Evaluations of contractor performance measures.

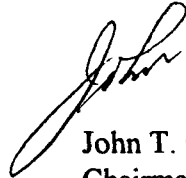
- EH Independent Assessments/Corrective Action Programs:
 - For Evaluations Listed in Enclosure 2:
 1. Actions taken by EH in the way of follow-up with respect to findings and observations.
 2. Current status of findings and observations.
 3. Type of tracking system, if any, used by EH and the line organizations to monitor status to closure.
 4. Rationale and associated mechanisms for ensuring that identified weaknesses, posing the most severe health and safety threat, are addressed on a priority basis.

- For Generic Issues:
 5. Obstacles, if any, to obtaining line management corrective action commitments, e.g., allocation of resources.
 6. Resolution mechanisms, if any, for EH/Program Office impasses with respect to identified weaknesses or in the setting of priorities for action.

In addition to the above, you are encouraged to provide such additional information you believe might be helpful to the Board in better understanding this matter.

If you have questions, please feel free to call me.

Sincerely,



John T. Conway
Chairman

c: Mr. Mark B. Whitaker, Jr.
Mr. Richard C. Crowe

Enclosures

Enclosure 1

Examples of Findings Extracted from EH Evaluations

1. Reference: Independent Oversight Evaluation of Environment, Safety and Health (ES&H) Programs at the Hanford Site, April 1996.
 - Richland Field Office (RL) is not yet sufficiently engaged in the safety management and oversight of contractor ES&H performance. Problems were evident in defining applicable requirements, policies and priorities; clarifying roles and responsibilities; responding to contractor submittals and safety questions; monitoring and analyzing safety performance; and establishing individual accountability for ES&H performance.
 - Continuing events ... indicate that some managers, supervisors, and workers have not yet recognized the importance of compliance with approved procedures.
 - ... the authorization bases for several facilities reviewed are out of date and do not reflect current site hazards, conditions or activities. (Note: The Plutonium Finishing Plant (PFP) is one of these facilities.)
 - ... safety management at the Hanford Site is in need of improvement in many areas.
 - (1) RL needs to be more engaged in the management and oversight of ES&H performance and needs to be monitoring ES&H performance through on-site observations.
 - (2) Both the Department of Energy (DOE) and contractors need to be more aggressive in achieving disciplined operations and work controls
 - (3) Systems for prioritizing and implementing corrective actions need improvement
2. Reference: Integrated Safety Management Evaluation of Sandia National Laboratory (SNL), EH2MGT/08-97/03SH, August 1997.
 - Defense Programs (DP) and Albuquerque (AL) have also adopted, but not yet implemented, the recommendations of a recent independent assessment of DOE's management of the weapons complex—commonly referred to as the 120 Day Study—to address long standing issues with unclear lines of authority conflicting directions to contractors and ineffective safety review processes.

- The effectiveness and implementation of DOE and SNL environment safety and health initiative is limited by a number of weaknesses. The most significant issues included:
 - (1) Roles, responsibilities and accountability for performance have not been clearly defined or coordinated to support important safety management functions.
 - (2) Processes for identifying and incorporating requirements into operational controls and procedures are not formal and sometimes not effective.
 - (3) SNL processes for identifying and analyzing hazards and for planning and controlling work are not institutionalized and are ineffective in controlling hazards.
 - (4) DOE & SNL assessments and corrective action programs have not been sufficient to monitor and assess environment, safety and health management and performance, and ensure that identified deficiencies are properly addressed.
 - (5) AL and Kirtland Area Office (KAO) have not implemented an assessment program that is consistent with the requirements of DOE's policy on line management oversight (DOE 450.5).
 - (6) AL, KAO and SNL recognize most of the identified differences ... they will be addressed as a part of the integrated safety management initiative. The implementation plan calls for initiating integrated safety management in all SNL divisions by October 1997 and having integrated safety management fully implemented by September 1998.

3. Reference: Final Report Type A Accident Investigation Board, EH 2 TEC/04-97/01AI, Welding/Cutting-Fatality at the K-33, K-25 Site, Oak Ridge, Tennessee.

- There are some urgent policy issues with respect to flame-retardant clothing and fire watch responsibilities that must be addressed as a result of this accident. However, the overarching concern stemming from this investigation is the failure to conduct adequate work planning and hazards analyses. Part of this failure may be because classifications assigned to many work activities, for example, "routine maintenance," are interpreted by some as obviating the need for sound work planning/control or because of complacency expressed by line management who believe structured work planning is not necessary because "this is a job we have performed thousands of times before." Another contributor to poor work planning may be the assumption that such activities require very elaborate analysis of the hazards and preparation of a thick report. None of these reasons are accurate, nor do they reflect the policy or guidance the DOE has promulgated to date.

- The increasing emphasis on decontamination and decommissioning activities within the DOE and the lessons learned from this accident underline the pressing need to implement the commitments made in the DOE's response to DNFSB 95-2 and the DOE Enhanced Work Planning Program. Both of these initiatives emphasize a shift in focus from "paper requirements" to a disciplined, analytical, and collaborative approach to work planning, hazards analysis, and hazards control. If we are to minimize worker injuries and fatalities in the DOE's changing mission, then emphasis must be placed on a multidisciplinary approach to pre-job planning where each step of the work to be done is reviewed for the hazards expected and appropriate controls are put in place.

ENCLOSURE 2

ENVIRONMENT SAFETY AND HEALTH EVALUATIONS

Independent Oversight Evaluation at the Savannah River Site, January 1996
Independent Oversight Evaluation at the Hanford Site, April 1996
Independent Oversight Evaluation at the Los Alamos National Laboratory, October 1996
Independent Oversight Evaluation at the Pantex Plant, October 1996
Integrated Safety Management Sandia National Laboratory, August 1997
Integrated Safety Management of the Lawrence Livermore National Laboratory, November 1997
Independent Oversight Evaluation of ES&H Programs at Fernald Environmental Management Project

SPECIAL STUDIES AND REVIEWS

Chemical Safety Vulnerability Study, DOE/EH.0396P, September 1994
Plutonium Vulnerability Study, DOE/EH-0415, November 1994
Independent Oversight Baseline Assessment of the Effectiveness of Safety Management Programs within DOE, April 1996
Radiological Protection Programs in the DOE Complex, May 1996
Highly Enriched Uranium Vulnerability Study, DOE/EH-0525, December 1996
Effectiveness of ES&H Management Systems within the DOE - January 1—December 31, 1996
Independent Oversight Review of the Radiation Protection Program at the Albuquerque Operations Office, Transportation Safeguards Division, November 1997
Follow-up Review of Weaknesses at Rocky Flats, June 1997

SITE PROFILES

Fernald Environmental Management Project, October 1997
Hanford Site, October 1997
Idaho National Engineering Laboratory, October 1997
Lawrence Livermore National Laboratory, October 1997
Los Alamos National Laboratory, October 1997
Oak Ridge - Y-12 Plant, October 1997
Pacific Northwest Laboratory, October 1997
Pantex Plant, October 1997
Rocky Flats Environmental Technology Site, October 1997
Sandia National Laboratories, October 1997
Savannah River Site, October 1997

EH SITE RESIDENTS SURVEILLANCE ACTIVITIES

EH Resident Surveillance Report, EH Report No. SR-97-007, January 9, 1998
Special Surveillance Report of RFETS Radiation Protection Program, November 3, 1997

ACCIDENT INVESTIGATIONS

Fall Fatality at Radioactive Waste Management Complex TRU Storage Area, INEL, March 1996
Electrical Accident with Injury in Building 209, LANL, April 1996
Electrical Shock at Technical Area 53, Los Alamos National Laboratory, August 1996
Electrical Shock at TRA-609 Test Reactor Area INEL, September 1996
Construction Fatality at the Brookhaven National Laboratory, June 1997
Welding/Cutting Fatality at K-33 Building, K-25 Site, Oak Ridge, Tennessee, February 1997
Los Alamos National Laboratory Accident Follow-up Review, January 1998
Plutonium Intake by Crane Operator at SRS F-Canyon, 1997
Curium Intake by Shredder Operator, Building 513, LLNL, 1997