

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. 20004-2901
(202) 208-6400



December 21, 1998

Mr. Richard Kiy
Technical Director
Environment, Health & Safety
Department of Energy
1000 Independence Avenue, SW
Washington, D.C. 20585-0119

Dear Mr. Kiy:

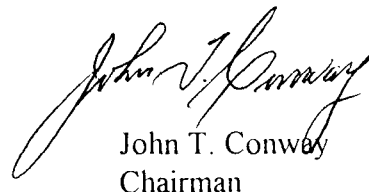
Enclosed for your information and such follow-up action as you deem appropriate is a report by the staff of the Defense Nuclear Facilities Safety Board (Board) on a workshop sponsored by the Department of Energy (DOE) and the Energy Federal Contractors Group to address chemical safety issues.

Board Member Joseph DiNunno, who spoke at the workshop, encouraged the treatment and safety management of chemical hazards within the framework of the Integrated Safety Management concept DOE has endorsed. A copy of Mr. DiNunno's remarks is enclosed for your information.

Although the principles of Integrated Safety Management clearly place the primary responsibility for implementation of the concept with line management, few line managers attend and participate in initiatives of the Office of Environment, Safety and Health (EH) such as this workshop. If such efforts to improve safety practices are to be effective and useful to the line, it behooves EH to structure and pursue new safety initiatives in much closer collaboration with line management, and with recognition by all parties of the safety benefits likely to accrue. This chemical safety initiative and the EH-5 activity on job hazard analysis, as discussed at the workshop, are cases in point.

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

Sincerely,


John T. Conway
Chairman

c: Mr. Mark B. Whitaker, Jr.

Enclosures

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

Staff Issue Report

November 19, 1998

TO: G. W. Cunningham

FROM: W. Von Holle

SUBJECT: Energy Federal Contractors Group/Department of Energy
Chemical Safety Issues Workshop

This report documents attendance at the Energy Federal Contractors Group (EFCOG)/Department of Energy (DOE) Chemical Safety Issues Workshop on November 3–5, 1998, by members of the staff of the Defense Nuclear Facilities Safety Board (Board) B. Von Holle, J. Roarty, and M. Moury.

Summary. The EFCOG and DOE held a workshop to identify DOE/contractor chemical safety issues and related concerns, for subsequent follow-up by line management. An additional objective of the workshop was formation of a DOE/Contractor Chemical Safety Interest Group to work with the newly formed EFCOG Chemical Safety Subgroup and others to promote complex-wide communication and cooperation. It did not appear that input had been received from the line organization on the issues that need to be addressed, and there were only a few line managers in attendance.

Discussion. All of the introductory speakers at the plenary session, including Bruce Twining and Joe Fitzgerald, endorse Integrated Safety Management as the vehicle for correcting deficiencies associated with chemical safety. However, none of the senior managers remained at the workshop to demonstrate their involvement in ongoing actions to this end. The fact that line managers were not present during most of the workshop may hinder communication and action related to the issues addressed. In addition, the breakout sessions were unevenly attended, with some sites being underrepresented at sessions where more interest might have been expected.

Board Member Joseph DiNunno outlined his expectations for the workshop in terms of Integrated Safety Management. Representatives from the Center for Chemical Process Safety and the Chemical Manufacturers Association gave their perspectives on chemical safety. They also explained how DOE could benefit from programs in place and from future cooperation with their respective organizations.

The workshop organizers preselected 10 issues to be discussed in breakout sessions during the first 2 days. (A list of these issues is included in the attached workshop agenda.) Each breakout session was introduced by one or more short talks by various contractor personnel. The group then discussed its issue and identified the highest-priority concerns

associated with that issue. Each group asked for a volunteer to “champion” its issue and concerns during the remainder of the workshop. In some cases no champions came forward, but for most of the issues, the champions then summarized their concerns in a plenary session. The concerns raised fell into two main groups: those requiring DOE “guidance” and those involving “technology” (i.e., communications or administrative assistance). A list of the final issues, reflecting associated concerns, is planned to be posted on the DOE chemical safety website. In addition, Ken Murphy of DOE’s Office of Environment, Safety and Health (EH) plans to write a report to inform line managers of the issues and related concerns for possible action.

The Board’s staff attended selected breakout sessions. During the session on integrating chemical safety into Integrated Safety Management, a presentation was made on the Management System Verification (MSV) process pilot performed at Hanford. Many MSV elements are similar to, and in fact redundant with, the Integrated Safety Management System verification. The staff encouraged the group to provide the best elements of the MSV to the Safety Management Implementation Team (SMIT) personnel who are revising the Integrated Safety Management System Team Leaders Guide. Many issues identified during this session, although worth raising, were outside the scope of the EFCOG to correct. In addition, many comments made by participants displayed significant misunderstanding of Integrated Safety Management.

During the breakout session on work planning, EH-5 personnel made a presentation on a checklist for performing job hazard analysis that they are developing. Unfortunately, this initiative is not integrated with the work of the SMIT or with previous hazard analysis work performed under the Enhanced Work Planning initiative. It is also not clear who the customer for this product is since most sites already have a job hazard analysis process in place and are now refining those existing systems.

During the session on integrating chemical and nuclear safety, the discussion was dominated by frustration over the myriad of release criteria. There was little discussion of how the two elements are integrated, although the discussions on deficiencies and weaknesses in chemical dose guidelines compared with nuclear doses were beneficial.

Future Staff Actions. The Board’s staff will follow developments resulting from the workshop.

REMARKS

PRESENTED AT THE
ENERGY FACILITIES CONTRACTORS GROUP
WORKSHOP
ALBUQUERQUE, NEW MEXICO
NOVEMBER 3, 1998



JOSEPH J. DINUNNO
BOARD MEMBER
DEFENSE NUCLEAR FACILITIES SAFETY BOARD
WASHINGTON, D.C.

I am pleased to be here with you and to be able to share with you some thoughts on the Energy Facilities Contractors Group's (EFCOG's) interest and focus on chemical safety.

As you know, the Defense Nuclear Facilities Safety Board (Board) provides oversight of the Safety Management Program of the Department of Energy (DOE). The principal objective of Congress in establishing the Board was to bring about improvements in DOE's program for ensuring protection of the public, workers and the environment. The Board was envisioned as a constructive entity, independent of DOE. The Board was given sufficient statutory authority to force corrective actions with respect to nuclear safety aspects of DOE's weapons program. However, the Board and DOE have found it much more effective to work in full cooperative fashion on mutually-recognized areas for affecting improvements. The Board, to date, has issued 38 Recommendations. Of this 38, the two issued this year are still under consideration by DOE. Of the 36 others, all have been accepted by DOE. Under implementation plans established by the Secretary of Energy, roughly 50 percent of the actions recommended by the Board have been completed to date.

There is no one who knows better than the Energy Facilities Contractors the multiplicity of regulatory and departmental safety requirements that must be satisfied in performing the hazardous work of DOE. This current framework of requirements has evolved over the years, not as an integrated whole, but by parts (e.g., Atomic Energy Act, RCRA, CERCLA, TSCA, Clean Air Act, Water Pollution Control, etc.). Unfortunately, requirements established by parts are also regulated by parts. While this regulatory framework is not one any of us will be able to change in any near term, we can move to establish a common safety management program for planning and performing hazardous work, with safety measures for any specific hazardous activity tailored to the specifics of the work. Integrated safety management is, in effect, what the Board recommended to DOE in 1995, and DOE is working to effect.

While Secretary Richardson has recently reaffirmed DOE's commitment to the concept of integrated safety management, and a safety management integration team (SMIT) has been assigned to leading and facilitating the initial efforts, such integration will not be accomplished until DOE's contractors put into place the infrastructure and organizational structure to make integration a reality. It is not so much that infrastructure in the form of manuals of practice and standards are totally lacking as it is the lack of organization of practices into a cohesive and complementary whole. Similarly, in this age of specialization and a multiplicity of subject matter experts, safety management is not being exercised in a holistic sense so much as by safety sectors (public, workers and the environment), by hazards characteristics (radioactive, toxic, corrosive, reactive, ignitable), and by media potentially affected (air, water and land (solid waste disposal)). This is evident by the significant number of different single-purpose practices and initiatives that have been undertaken over the years by both the government and the private sector. All of you, I am sure, are familiar with many of them. For example:

- The Voluntary Protection Plan (VPP)
- ISO 14000 Environmental Management System (EMS)

- **Enhanced Work Planning (EWP)**
- **Hazardous Waste Operational (HAZWOPER)**
- **Responsible Care Chemical Safety Management/Chemical Manufacturers Association (CMA).**

Many of you undoubtedly are qualified under these programs. My observation is that the management underpinnings of all of these programs as reflected in objectives and principles are basically the same. The challenge is for each site to amalgamate the best of these separate programs into one integrated safety management program, one best suited to the site's activities. I recently read a statement by Mike Humphries and Paul Krueger about what they are trying to do at Hanford. They stated that they:

“Intend to combine these initiatives, so that we don't have numerous, disjointed initiatives, but rather a solid integrated approach to ES&H, that places ES&H responsibility, accountability and performance with line management and enables the workforce to perform work in a safe and environmentally sound manner.”

My reaction to this expressed intent was “right on.” That is exactly where I believe we need to go with the integrated safety management concept and exactly the challenge you Energy Facilities Contractors have before you.

Having set before you what I believe to be the end objective, let me then comment on the more limited chemical safety focus of this workshop. First, let me say that use of hazardous chemicals is commonplace throughout the DOE complex. Chemical processing of radioactive material is commonplace. Lack of adequate controls has led, on occasions, to serious accidents in the workplace. Not only is DOE required to comply with statutory requirements for control of these hazardous chemicals, DOE has the added worry about the potential for accidents involving energetic chemicals dispersing radioactive materials in a manner to threaten workers, the public or the environment. It is absolutely essential that the integration of work planning and safety planning which is fundamental to integrated safety management include all hazards, nuclear and non-nuclear, and such planning should be done at the site, facility and activity/task levels. The practical reality is that for much of the hazardous work of DOE, nuclear safety and chemical safety are like Siamese twins, inseparably bound together. The chemical industry brought its safety practices to the nuclear industry, not the other way around. Much of the nuclear industry today, especially the government's nuclear establishment, was brought into being by giants of the chemical industry—names such as Dupont, Dow Chemical, Allied, Monsanto, Union Carbide, and Phelps Petroleum come immediately to mind. Their experiences in safety management of non-radioactive chemical materials and processes were brought to bear. In focusing upon chemical safety, you are in effect going back to the roots of nuclear safety as practiced today.

I believe the DOE initiative undertaken in 1996 to benefit from the Chemical Manufacturers Association's effort to develop a consensus on good practices for ensuring chemical safety by the chemical industry was a good one. However, I would counsel that the precautions reflected in the Memorandum of Understanding DOE (Dr. Tara O'Toole) signed with the CMA be kept in mind. It is quite clear DOE did not visualize its contractors qualifying under the CMA's responsible care program as a substitute for the more encompassing integrated safety management program DOE expected its contractors to put in place. In this same sense, one can place contractor qualification under ISO 14000, VPP and similar single focus programs. Rather, the intention was to benefit from the chemical industries efforts to codify good practices and enrich DOE's safety management programs by adopting or adapting components of these practices to the safety management of DOE's unique hazardous work. It is evident from the issues identified for exploration at this workshop that you recognize this intent and are exploring how best to satisfy it. The Board will look forward with interest to your path forward.

Let me share with you some additional thoughts that may help you in charting your path forward. These come to mind from experiences to date in advancing the concept of integrated safety management.

1. Line management of DOE has primary responsibility for safety. While ES&H subject matter experts in DOE and contractors organizations often play key roles as strong advocates of improved safety practices, this advocacy will come to essentially naught without buy-in of the line managers. My advice: make certain that line managers are informed, involved and supportive of new safety initiatives.
2. DOE's contractors are expected to bring to the DOE workplace a demonstrated corporate expertise for doing hazardous work safely. Yet, at times, the Board has observed that considerable differences in safety management practices exist among contracts under the same corporate umbrella. Just as the Board has been urging DOE to develop and administer its safety management program in a corporate-consistent fashion across all sites and programs, it behooves the corporate entities with more than one DOE support role to capture at the corporate level practices found to be most effective, and to see that they are consistently implemented as the corporate way of doing work at all DOE sites where they are involved.
3. Manuals of good practices developed with government funds should not be treated as proprietary documents but shared across the complex to the extent that benefits will accrue. Cross fertilization should be a key element in any path forward.
4. By bringing an industry consensus view to initiatives of the DOE, such as this one, for safety management improvements, the EFCOG Organization can make a very valuable contribution.

I look forward to listening to some of the discussions and to learning about the path forward that may result from this DOE/EFCOG initiative. Several of the Board's staff are here to listen and contribute to the dialogue on the subject matter. The Board has had several staff members take training in the management verification process for the Responsible Care program of the CMA. Mr. Von Holle who is in attendance at this session is the staff person the Board looks to on chemical safety issues. He has been tasked to maintain contact with those of you leading this initiative. I wish you well in your efforts.