



Energy Facility Contractors Group

Safety Analysis Working Group

2000 Annual Report to the Directors

April 2001



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**ENERGY FACILITY CONTRACTORS GROUP (EFCOG)
SAFETY ANALYSIS WORKING GROUP (SAWG)
2000 ANNUAL REPORT TO THE DIRECTORS
April 2001**

I. Purpose

The purpose of the EFCOG Safety Analysis Working Group (SAWG) is to promote excellence in safety analysis programs throughout the DOE community. The SAWG is actively involved with our facility and DOE customers to accomplish the following:

- Establish initiatives and priorities
- Facilitate initiatives through subgroups and task teams
- Investigate safety analysis strategies, leverage experiences, share lessons-learned
- Maintain safety analysis networking and interfaces using current technology
- Provide a forum to effectively accomplish activities and conduct business
- Train safety analysts, engineers, and managers

The SAWG adheres to the following principles:

- Operate within the framework of the EFCOG charter
- Ensure that planning and actions promote EFCOG objectives
- Follow applicable DOE and contractor requirements

II. Membership

The membership of the SAWG Steering Committee and its subgroups includes representatives from EFCOG member companies representing most DOE Sites, National Laboratories, and contractors that support their work.

Steering Committee

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Safety Analysis Working Group Report

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III. Status

The SAWG conducts business through its Steering Committee (SC) and subgroups. The SC coordinates the subgroup actions, recommends changes, and establishes priorities. The SC also undertakes short-term activities through informal task teams or as a collective effort.

A. Key Objectives, Activities, and Benefits for CY 2000

Annual Safety Analysis Workshop

The most significant SC activity each year is planning the Annual Safety Analysis Workshop (SAW). The SAW provides a vehicle for training, technical presentations, and interaction among the entire DOE community. Despite ever-tightening budgets, participants continue to report substantial benefit from the SAW and support it.

In recent years, training has grown in significance at the SAW, and the workshop has expanded to accommodate formal training, invited speakers, and panel discussions. Los Alamos and Sandia National Laboratories hosted the 2000 SAW in Santa Fe, New Mexico. A total of seventeen formal classes provided training for over 400 registrants. Invited speakers included Robert W. DeGrasse, Jr. DOE Principal Deputy Assistant Secretary for Defense Programs Operations, Beverly A. Cook, DOE Idaho Operations Office Manager, Dr. Ines Triay, Area Manager, Department of Energy, Carlsbad Area Office, and Dr. Thomas P. McLaughlin, Nuclear Criticality Safety Group Leader, LANL. Workshop Proceedings are available from David Seidel at LANL (see his address in Membership section).

Issuance of the Interim 10 CFR 830, Subpart B, Safety Basis Requirements

A significant development in 2000 was the issuance by DOE October 10, 2000 of the "Interim Final" regulation, 10 CFR 830, "Nuclear Safety Management," particularly the new Subpart B, *Safety Basis Requirements*. This regulation codifies many of the authorization basis requirements contained in existing DOE Orders, plus added additional activities, such as onsite transportation, to the scope of these requirements.

The SAWG Steering Committee met with DOE-HQ, EH, EM, DP, and SC in November 2000 regarding 10 CFR 830 comments on the Rule and the draft Implementation Guides. Potential issues and recommendations were identified for incorporation into the "Final" 10 CFR 830 in 2001.

Subgroups

The SAWG conducts the majority of its activities through its subgroups. In addition to their planned activities, the Authorization basis, Controls Selection, and Unreviewed Safety Question subgroup helped to develop and review drafts of the Implementation Guides for this regulation. The subgroups, particularly the Authorization Basis Subgroup, also led the effort to plan and host the 2001 AB Workshop to update the primary Technical Standard (DOE-STD-3009-94) cited by 10 CFR 830, Subpart B.

Key objectives and goals for each subgroup include the following (refer to Appendices A-F, subgroup reports, for details):

Accident Analysis Subgroup

- Complete the development of the Accident Analysis Guidebook (AAG)
- Provide input and assist the DOE in the resolution of issues associated with DNFSB/TECH-25 (*Quality Assurance for Safety-Related Software at Department of Energy Defense Nuclear Facilities*, January 20, 2000).
- Conduct in-depth training in source term analysis and chemical and radiological dispersion / consequence analysis.

Authorization Basis Subgroup

- Assist DOE HQ in the development and review of the 10 CFR 830 Implementation Guide for Documented Safety Analysis requirements.
- Assist DOE HQ in developing guidance on Authorization Agreements.
- Develop guidance on the use of Nuclear Regulatory Commission (NRC) versus DOE requirements for new construction.
- Planning for, hosting, and publishing the results of the 24-25 January 2000 Authorization Basis Workshop in Las Vegas, NV.

- Planning for the 6-7 February 2001 Authorization Basis Workshop in Albuquerque, NM to update DOE-STD-3009-94.
- Maintaining the Authorization Basis Database on the AB Subgroup Web page.

Chemical Safety Subgroup

- Establish a clearinghouse network of information on chemical safety requirements: http://tis.eh.doe.gov/web/chem_safety/
- Complete a draft Chemical Management Handbook: http://tis.eh.doe.gov/web/chem_safety/
- Co-hosted with DOE the 2000 Chemical Safety Workshop in Washington, DC on October 24-26, 2000, also conveyed via videoconference to DOE Operations and Field Offices.

Controls Selection Subgroup

- Assist DOE HQ in the development and review of the 10 CFR 830 Implementation Guide for Technical Safety Requirements.
- Review and comment of TSR Document of Examples for DOE HQ/DP.

Training Subgroup

- Supported organization and coordination of 17 different training courses offered in 21 training sessions at the 2000 SAW. A total of 480 participants attended this training at a cost savings of over \$150,000.
- Facilitated two 4-hour sessions at the January 25-26, 2000 AB Workshop held in Las Vegas, NV to determine types of training and qualification criteria in existence and needed for contractor independent safety reviewers of safety analysis documentation. The "Guidelines for Training and Qualification of Safety Analysts," previously developed by the Training Subgroup, was used as a baseline document in determining this criteria.
- Developed and published a Training Subgroup Survey to gather and share training information with DOE Sites to reduce the level of effort in creating training/qualification programs and determine the most cost effective training methods used. Survey is published at http://www.efcog.org/publications/WG%20Minutes/sawg-trn/Training%20Survey.032601/efcog_survey.htm

Unreviewed Safety Question Subgroup

- Assist DOE HQ in the development and review of the 10 CFR 830 Implementation Guide for Unreviewed Safety Questions.
- Supported Unreviewed Safety Question training at the 2000 Safety Analysis Workshop.

The USQ Subgroup's activities were largely restricted to those identified above. However, it continues to provide a resource in addressing new or ongoing USQ issues as they arise. Due to its limited set of objectives for CY 2001, the SAWG SC will determine whether to move the subgroup to an advisory status after CY 2001.

B. Key Objectives, Goals, Processes, and Timelines for CY 2001

2001 Safety Analysis Workshop

The 2001 Safety Analysis Workshop is planned as an embedded meeting with the Annual Meeting of the American Nuclear Society (ANS), June 17-21, 2001 in Milwaukee, WI. This year, the workshop is hosted by Westinghouse Safety Management Solutions in cooperation with the Nuclear Installation Safety Division of ANS. Based on the success and feedback from the workshop, close ties with ANS may continue.

Teaming with ANS is part of the ongoing effort to seek out opportunities to improve the quality, value, and cost-effectiveness of the SAW. Four full days of training are offered in advance of the technical sessions. The Keynote Speaker, General John A. Gordon, is the Under Secretary for Nuclear Security and Administrator of the National Nuclear Security Administration (NNSA). Other invited speakers include Dr. Herbert Kouts of the Defense Nuclear Facilities Safety Board, Beverly A. Cook, Manager, DOE Idaho Operations Office Manager, and Gregory Rudy, Manager, DOE Savannah River Operations Office.

Details on the SAW are available at <http://www.2001.sawg.org/>.

Significant Issues

- Begin to implement of 10 CFR 830 safety basis requirements for onsite transportation activities, assessment of Rule compliance, and development of common implementation strategies. The SAWG will work with the DOE HQ Program Offices, Operations and Field Offices and contractors to share information and coordinate strategies to support cost-effective Rule implementation. This activity will proceed throughout CY 2001 until the final Rule implementation date of April 2003.
- Finalize the input to DOE-STD-3009-94 and planning for update of DOE-STD-3011-94, a second DOE Technical Standard supporting 10 CFR 830, Subpart B. In taking the lead to support these DOE HQ activities, the SAWG can recommend effective and cost-effective means of to evaluate hazards and develop controls. The draft update to DOE-STD-3009-94 is planned for completion in May 2001. A schedule for updating DOE-STD-3011-94 has not been developed.
- The DOE has a much broader range of chemical hazards in combination with radiological hazards than is found in commercial industry. As a result, treatment of chemical safety hazards in DOE facilities continues to challenge the DOE community due to their number and complexity. The SAWG, in tandem with the DOE Chemical Safety Topical Committee, is attacking specific issues and supporting the development of new information about DOE chemical hazards (see Chemical Safety Subgroup Report). This is judged to be a continuing issue throughout CY 2001.

Subgroups

In addition to the issues identified above, each of the SAWG subgroups has planned activities for CY 2001. Refer to the specific subgroup reports in Appendices A-F.

IV. Subgroups' Status

There were no new subgroups or task groups formed during the past year. The Technical Safety Requirements Subgroup was renamed as the Controls Selection Subgroup to reflect the broader scope of overall hazard control selection.

The Facility Disposition subgroup was merged into the Authorization Basis Subgroup. It had been largely inactive for a year but the Steering Committee desires to retain a core competency in facility disposition activities.

The Human Factors Subgroup was closed out the beginning of 2000. It had been inactive for over a year with most Human Factors professionals involved with the Human Factors Professional Society.

The "SAR Implementation Guide and Standards" and "Evaluation Guidelines" task groups work was rolled into the effort to update DOE-STD-3009-94 at the February 2001 Authorization Basis Workshop. These task groups were subsequently disbanded.

See Appendices A-F for detailed subgroup reports.

V. Lessons Learned

Over the past several years, the working group has tried to work closely with DOE-EH, EM, DP, and SC, the program offices who are our primary customers. In addition, we have increasingly involved field office representatives in our activities. This combination of HQ and field involvement in process development, training, and workshop activities has significantly increased the effectiveness and value of our activities. We will strive to increase field office presence in SAWG functions.

Funding of activities is a primary problem. While significant issues continue to challenge the DOE community in the area of facility safety, safety basis requirements, and methods for performing safety analyses, it is increasingly difficult to fund activities that may provide long-term benefit. The lesson learned is that while using technology to go to more and more electronic communication, the benefit of face-to-face interaction is invaluable. See Recommendation 1 below.

VI. Recommendations

1. The EFCOG should provide facilities for each working group to hold a face-to-face meeting in Washington, D.C. coincident with one of the planned semiannual Working Group Chairs meeting. This would provide a means for each working group to interact with their EFCOG and DOE-HQ sponsor while in Washington, and save travel expense for the Chairs by allowing them to combine these activities.
2. The working group should be maintained, as it continues to provide cost-effective service to our contractors and DOE customers in training, development, and review of Technical Standards, and ongoing interaction. In particular, beginning in 2000, the SAWG has actively facilitated complex-wide communication in meetings, workshops, and all manner of information-gathering relative to pursuing efficient implementation of 10 CFR 830.
3. The SAWG recommends the formation of a dedicated task group to make specific recommendations for implementation of 10 CFR 830, Subpart B for transportation issues. The traditional facility safety basis practitioners are typically ill informed regarding transportation issues and vice-versa, so the group should include

representatives of both communities. Similarly, DOE is struggling to develop guidance in the area of compliance to 10 CFR 830 for transportation activities, so such a group would be well received.