Energy Facility Contractors Group

Safety Analysis Working Group (SAWG)

1998 Annual Report to the Directors

March 1999

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Safety Analysis
Working Group

SAWG
an EFCOG organization

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SAFETY ANALYSIS WORKING GROUP
1998 ANNUAL REPORT TO THE DIRECTORS

I. EXECUTIVE SUMMARY

During 1998 the Safety Analysis Working Group (SAWG) of the Energy Facility Contractors Group continued to provide a very active and meaningful presence in the DOE safety analysis community. The SAWG and DOE HQ, principally EH and EM, actively communicate and interact on a day to day basis to address both short term and long term issues related to safety analysis and documentation in the DOE complex. In addition, the SAWG, primarily through its Steering Committee and Subgroups, has become a uniquely valuable technical resource, based on the depth and diversity of the experience and abilities of its members. SAWG members participate in numerous DOE activities, by invitation, including Secretarial Officers Working Groups, directives and guidance development and review, issue resolution, training resource, lessons learned resource, and workshop development and implementation.

In 1998, three national workshops were hosted by the SAWG. The Authorization Basis Workshop, held in January, the Annual SAWG Workshop, held in June, and the Chemical Safety Workshop (co-hosted with DOE), held in November. The workshops had different purposes, two were issue intensive and the other had focus in training and lessons learned, all related to compliant and applied safety. The workshops were attended by over 500 contractors, commercial representatives, DOE Field and HQ, and the DNFSB personnel. The workshops included DOE panels, invited papers, and diverse and concentrated training in accident analysis, hazards analysis, safety controls, SAR preparation and development, Unreviewed Safety Question Determination, and Technical Safety Requirements.

The cost/benefit of the SAWG to the DOE has become more and more difficult to quantify as the SAWG has evolved into a day to day integral part of the DOE complex and community. In earlier years the cost/benefit was easier to quantify because there was a higher likelihood of identifying a specific issue or site that SAWG data/input was a clear and unique contributor to a specific activity, and an identifiable source of cost reduction. Currently the SAWG is involved continuously on a day to day basis, both with other SAWG member sites and with the DOE, and therefore has become a standard for safety analysis business in the DOE. The conclusive benefit is continuous improvement and enhanced compliant and applied safety.

II. PURPOSE

The purpose of the EFCOG Safety Analysis Working Group (SAWG) is to:

- Promote excellence in DOE-Contractor Safety Analysis Programs;
- Promote, coordinate, and facilitate exchange of successful safety analysis programs, practices, procedures, and lessons learned; and,
- Promote and provide training on safety analysis through workshops, subgroups, and seminars.

III. MEMBERSHIP

The SAWG Steering Committee and its eight Subgroups include members from all the major DOE sites and most of the laboratories.
The 1998 end-of-year roster for the SAWG Steering Committee is as follows:

Chair
Jerry Hansen
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Vice Chair (1999 Chair)
John Rice
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Steering Committee Members

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David Renfro
Lockheed Martin Energy Systems
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Subgroups

The SAWG Subgroups presently include:

Accident Analysis
Kevin O'Kula, Chair
Westinghouse Safety Management Solutions
(803) 502-9620

Authorization Basis
Sam Savani, Chair
Westinghouse Safety Management Solutions
(803) 502-9638

Facility Disposition
Noel Kerr, Chair
Bechtel Hanford
(509) 372-9179

Chemical Safety
Doug Heal, Chair
Westinghouse Safety Management Solutions
(803) 502-9687

Technical Safety Requirements
Jim McCormick, Chair
Westinghouse Safety Management Solutions
(803) 502-9799

Training Subgroup
Eugene Hochhalter, Chair
Lockheed Martin Idaho Technologies Co.
(208)526-1038

Unreviewed Safety Questions
Bob Edwards, Chair
Westinghouse Safety Management Solutions
(803) 502-9813

Human Factors Safety Analysis
Yvonne Alvarez, Chair
Mason & Hanger Corporation, Pantex
(806) 477-5813

Annual reports for the active Subgroups are attached: Accident Analysis; Authorization Basis; Facility Disposition; Chemical Safety; Human Factors; Technical Safety Requirements; Training, and Unreviewed Safety Questions.

IV. OBJECTIVES

The 1998 core objectives of the SAWG included:

- Providing the primary contractor forum for safety analysis excellence in the DOE complex.
- National workshops, papers and guidance documents, training classes, participation in DOE Working Groups and meetings;
- Interaction with outside groups such as the ANS and commercial chemical groups;
- Steering and subgroup committee meetings, and day to day communication and issue resolution.

V. STATUS

A summary of key 1998 activities and a few specific subgroup accomplishments are provided below. The SAWG and its Subgroups conduct monthly teleconferences and also two meetings during the year in conjunction with SAWG Workshops.

In 1998 three national workshops related to safety analysis were either hosted by the SAWG, or co-hosted with DOE. The workshops included training sessions, invited and selected papers, DOE speakers and panels, SAWG Steering Committee and subgroup meetings. The 1998 SAWG Authorization Basis Workshop was held in January 1998, in Albuquerque, N.M., and was the pilot for a new for-mat of interactive workshops directed at identifying and resolving issues involving the planning, development, review, approval, and implementation of authorization basis documentation.

The AB Workshop is organized and hosted by the SAWG AB Subgroup. The workshop brought together 85 participants from 28 contractor and DOE companies, organizations, and offices representing DOE-HQ, DNFSB staff, and 11 DOE Sites and Laboratories. The attendees engaged in ten facilitated sessions that 1) presented the issues, 2) discussed various aspects of the issues, 3) gathered experiences and lessons learned from among the participants, and 4) proposed several white papers to capture the discussions. The white papers completed were presented during the annual Safety Analysis Workshop in Park City.

The second Annual AB Workshop is scheduled for January 25-26, 1999 in Albuquerque, NM. to review and evaluate issues associated with AB documents. The purpose of the workshop is to provide a forum for a direct exchange between involved individuals from DOE/HQ, Field Offices, and the DOE contractors community to stimulate extended discussion of issues relative to the development. implementation, and maintenance of AB documents and lesson learned. The workshop will consist of seven informative topical sessions formatted to foster audience participation. In addition, the interactive DOE Panel Discussion is expected to result in answers or solutions to some of those hard questions and problems.

The SAWG held its 8th Annual Workshop with the theme of "Integrating Safety Analysis into Safety Management" in Park City, Utah in June, 1998. The Workshop began with 2 and ½ days' worth of safety analysis training sessions and SAWG subgroup meetings. Training sessions were held on (1) Chemical Dispersion and Consequence Assessment, (2) MELCOR Accident Consequence Code System, (3) Source Term Detonation / Deflagration Modeling, (4) Source Term Roundtable on Storage and Waste Container Fires, (5) Radiological Safety Analysis Computer Program -5, (6) DOE Technical Standards, (7) DOE STD-3009-94, (8) Technical Safety Requirements, (9) Process of Conducting Unreviewed Safety Question Determination, and (1) Probabilistic Risk Assessment. The Workshop facilitated very productive and

informative discussions between DOE and contractor personnel. An excellent group of invited speakers including the Keynote Speaker, Richard Crowe from DOE HQ/DP-3; Robert Van Hook from Lockheed Martin Energy Systems, and Richard Trevillian from DOE HQ/EH was featured during the Workshop. The discussion by the DOE Panel, of DOE HQ and field office representatives, was one of the major highlights as usual. Lessons learned were shared during nine paper/poster sessions. The benefits of the Workshop being reported by the respondents to the Workshop Survey show a return on investment of a factor of ten or more. The Workshop Proceedings have been published on the Workshop Home Page at http://wylie.inel.gov/safetyana/EFCOG98.html.

The 1999 SAWG Workshop will be held in Portland, Oregon, in June, and will be hosted by Fluor Daniel Hanford, Bechtel Hanford and other Hanford contractors. The home page for this workshop, including abstract information and deadlines, can be accessed at http://www.sa99.org.

The SAWG and the DOE held their first Joint Chemical Safety Issues Workshop in Albuquerque, N.M., in November 1998. The workshop was co-sponsored by the newly formed Chemical Safety Subgroup of the EFCOG Safety Analysis Working Group (SAWG) and by the DOE Office of Worker Health and Safety (EH-5.) For two days, participants in the workshop divided into smaller groups as "issues teams" to attend their choices of ten breakout sessions in which they discussed specific chemical safety issues. The groups reconvened in plenary session each morning to present the summaries of the previous day's breakout sessions' discussions, and to open the floor for the raising of related issues of concern. The ten issues initially addressed in individual breakout sessions formed the basis for determining priority follow-on actions. The ten agenda-driven issues discussed in the break out sessions were:

1. Chemical safety as part of ISM.
2. Chemical safety during facility transition.
3. Chemical safety in laboratories.
4. Chemical information management and lessons-learned.
5. Chemical safety in work planning.
6. Common threads and lessons learned in recent chemical occurrences and identified vulnerabilities.
7. Chemical reactivity and incompatibilities.
8. Integrating chemical safety and nuclear safety.
9. A road map of requirements for chemical safety.
10. Chemical life-cycle management and best practices.

On the final day of the workshop, all participants reconvened in a plenary session to discuss and determine their two top priorities and the issues of greatest need. These priority items, along with other items identified in the breakout session, will be the focus of the CSIG and the EFCOG Chemical Safety Subgroup during fiscal year 1999.

Two new initiatives were addressed in 1998. First, an EFCOG SAWG presentation to the ANS Nuclear Installation Safety Division Program Committee at the Winter ANS Meeting has resulted in a commitment for reciprocal participation and communication. The SAWG will chair and coordinate an EFCOG focused paper session at the ANS 1999 Winter Meeting. Second, initial discussion with criticality personnel from DOE EH-HQ, the End Users Group, and 5

different DOE sites has resulted in a commitment from DOE-HQ and the SAWG for more communication and interaction in the areas of ISMS, training, lessons learned, and operations support.

The Accident Analysis Subgroup (AAS) was formed in 1998 and represents a consolidation of the old SAWG Computer Codes, Release Fractions, and Fire Waste Drum subgroups, and is chaired by Kevin O'Kula and Al Wooten of WSMS. 1998 activities and accomplishments include:

- Provided a briefing to DNFSB Staff on the Accident Analysis Guidebook and Related AAS-sponsored activities.
- Initiated Accident Analysis Guidebook Project with identification of technical subject matter experts and development of strawman Table of Contents. This document will complement NUREG/CR-641 0 as a guide for performing safety analysis of DOE facilities.
- Trained over 150 DOE and DOE contractor personnel in accident and consequence analysis at the 1998 SAWG Safety Analysis Workshop. Number of attendees participating in the twenty-eight hours of presentation by training session were:

- MACCS Computer Code	33
- RSAC-5 Computer Code	18
- Chemical Dispersion and Consequence Assessment	50
- Deflagration and Detonation Modeling	20
- Fire Waste Container and Source Term Modeling	33

- Followed up June Training with a Rockville, MD 1 -day workshop on Explosion Source Term Modeling for DOE and DNFSB staff. This is designed as a prototype for Site-by-Site training.
- Provided a briefing to the International Institute of Ammonia Refrigeration (IIAR) in Washington, D.C. on Chemical Dispersion computer models.
- Supported the development of the Directory of Atmospheric Transport and Diffusion Models, Equipment, and Projects (Office of the Federal Coordinator for Meteorological Services). Development was supported by Working Group information on 70 computer codes.

VI. COST/BENEFIT DETERMINATION

The primary benefit to the DOE from the existence of the SAWG is enhanced safety at each of its sites through more efficient and effective application of compliant and applied safety. Much of what the SAWG offers is through the sharing of its experiences, ideas, and lessons learned. Continuous support of DOE is realized through SAWG participation on DOE Working Groups, Standards development, Secretarial Officers Working Group, national training, guidance and lesson learned papers, workshops, and as a technical expert resource and point of contact through the Subgroups and Steering Committee.

a. Day to day savings and cost avoidances from SAWG participation and interaction is estimated conservatively at $100K per participating site
b. Participant surveys at the three 1998 SAWG workshops; Authorization Basis, Safety Analysis Working Group Annual, and the joint EFCOG-DOE Chemical Safety indicated a conservative cost savings of at least a factor of ten over the cost of the workshop.

VII. SUBGROUP STATUS

Below are listed annual reports for the active SAWG Subgroups; Accident Analysis, Authorization Basis, Facility Disposition, Chemical Safety, Human Factors; Technical Safety Requirements, Training, and Unreviewed Safety Questions.

Accident Analysis Subgroup

Purpose/Goals

The Accident Analysis Subgroup (AAS) of EFCOG was formed in 1998 as a consolidation of Computer Codes, Release Fractions, and Waste Drum Fire organizations. The purpose of the AAS is to provide methodology recommendations and guidance to the DOE Complex in the performance of facility accident and consequence analyses and preparation of supporting documentation. The AAS products and deliverables therefore ensure resulting analyses at individual DOE sites are conservative, appropriate for the hazard level of the facility, and cost effective, while meeting DNFSB, DOE and other applicable regulatory standards.

Goals:

- Identify common issues, modeling needs, data requirements, solution approaches for safety analysis throughout the DOE Complex.
- Produce guidebooks to foster consistency in accident analysis.
- Empower task teams to address core and special purpose issues {waste drum fires, aqueous releases, etc.}, and communicate strategies for dispositioning.
- Provide computer model evaluations for major phenomenological areas of source term development, in-facility transport, and atmospheric/aqueous release, dispersion, and consequence evaluation.
- Facilitate training on appropriate methods, computer models, parameter & input data utilization, output interpretation, and integrated analysis concepts.
- Develop new methods and models as needed or requested by DOE, and provide organizational assistance for testing, documentation, and distribution of improved methodologies.
- Foster communication on issues, concerns, and solutions among related EFCOG SAWG subgroups, member organizations, the Department of Energy, and other regulatory bodies, commercial industry groups (e.g. Center for Chemical Process Safety, etc.).

Sites Represented

Current membership in AAS includes the following sites: Brookhaven National Laboratory, Hanford (Fluor Daniel and Waste Management Federal Services), Idaho National Engineering & Environmental Laboratory (Lockheed Martin Idaho Technologies), Lawrence Livermore National Laboratory, Los Alamos National Laboratory, Oak Ridge (Lockheed Martin Energy Systems), Mound (EG&G Mound Applied Technologies), Rocky Flats Environmental Technology Site, Sandia National Laboratories, Savannah River (Westinghouse Safety Management Solutions), and the Waste Isolation Pilot Plant.

DOE and DNFSB Liaisons

Kamiar Jamali, Dae Chung (DOE/DP-45), Sarbes Acharya (DOE/EH-32) and Tam Tran (DOE/Savannah River) are DOE Liaisons. Charles Martin and Joe Roarty are advisors from the Defense Nuclear Facilities Safety Board staff.

Accomplishments

In 1998, the AAS provided in-depth training in source term analysis, chemical and radiological dispersion/consequence analysis to over 150 analysts and stakeholders through a series of workshops. The subgroup also initiated an Accident Analysis Guidebook project involving over twenty individuals. This effort will produce guidance in the selection of methods, data, and other insights to support DOE facility accident analysts, and is expected to result in a first draft by the end of CY 1999.

Planned Activities

- Accident Analysis Guidebook (December 1999)
- DOE Accident Analysis Workshop: Sunday - Monday, 13 - 14 June 1999 (Portland, OR) with sessions on:
  MACCS2

Chemical Source Term Modeling and Consequence Evaluation
Integrated Accident Analysis

3.1 Fire Modeling
3.2 Explosion Modeling
3.3 Spill Analysis Modeling
3.4 Criticality Modeling
3.5 In-Facility Transport Analysis
3.6 Sources of Data and Reference Material

Accident Analysis Subgroup Contacts

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Authorization Basis (AB) Subgroup

Purpose/Goals

- Development of Authorization Basis guidance based on Lessons Learned
- Active interface with EFCOG working groups and subgroups to identify and resolve AB-related issues
- Compiling and disseminating relevant AB information complex-wide

Sites Represented

Hanford, Idaho National Engineering and Environmental Laboratory, Lawrence Livermore National Laboratory, Los Alamos National Laboratory, Pantex, Rocky Flats, Sandia National Laboratories, Savannah River, Oak Ridge, Fernald, and Nevada invited; status pending.

Accomplishments

- Authorization Basis Workshop, held in Albuquerque, NM February 27-28, 1998.
  - 88 Participants representing 12 DOE Sites and Laboratories, 8 DOE Field Offices, DOE-HQ (DP, EH, EM, ER), DNFSB, and 18 Companies.
  - Initiated development of 12 White Papers to identify strategies for successful planning, development, review and approval, and implementation and maintenance of Authorization Basis documentation based on lessons learned and the collective experience of the DOE community.
  - Promoted positive interaction and feedback among contractors, DOE HQ and Field Office representatives, and DNFSB staff personnel.
- Authorization Basis Database, compiling AB Information for nine DOE Sites and Labs.

Planned Activities

- Coordinate completion of AB Workshop White Papers for presentation at the SAWG Workshop in June, 1998;
- Compile AB Workshop Proceedings for electronic publication;
- Update AB Database for 1998;
- Publish AB Workshop Proceedings, White Papers, and AB Database in SAWG Internet Home Page: and
- Plan 1999 AB Workshop(Held in February 1999, Albuquerque, N.M.)

DOE HQ Participant/Mentor

Dick Englehart, EH

Subgroup Contacts

Brad Evans, Fluor Daniel Hanford, Inc.
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Sam Savani, Westinghouse Safety Management Solutions
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Chemical Safety Subgroup

Purpose/Goals

The Chemical Safety Subgroup (CSS) is a working committee whose intent is to facilitate the objectives of the Energy Facilities Contractors Group (EFCOG) Safety Analysis Working Group (SAWG) as related to chemical safety. The purpose of the subgroup is to promote excellence in chemical safety programs throughout the Department of Energy complex through information sharing and application of lessons learned. The objectives of the CSS are to:

- Promote, coordinate, and facilitate the active exchange of successful chemical safety programs, practices, procedures, lessons learned, and other pertinent information of common interest;
- Promote training on chemical safety by sharing management and technical information through workshops, conferences, and seminars;
- Plan for and implement those actions necessary to ensure the overall objectives of EFCOG and DOE come to fruition in the area of chemical safety;
- Operate within the EFCOG charter and the guidelines for the working groups of EFCOG; and
- Provide effective communication forum between CSS members and DOE on chemical safety issues.

Sites Represented

LLNL, LANL, Sandia, LITCO, LMES-Oak Ridge, DynMcDermott-New Orleans, Mason & Hanger - Pantex, Batelle-Columbus, Pantex, Kaiser-Hill-RFETS, Westinghouse Safety Management Solutions-Savannah River, WSRC, DOE-EH, ER, DP, DOE-Oak Ridge, DOE-Richland

Accomplishments

- Co-sponsored with DOE EH the chemical safety workshop held in Albuquerque, New Mexico. The workshop was attended by representatives from the Department of Energy, site contractors, the DNFSB, and commercial chemical safety companies. The objective of the workshop was to discuss chemical safety issues affecting the DOE complex and to develop recommended practices/solutions to these problems for consistent applications.
- Distributed information on commercial chemical safety activities and regulations (PSM, RMP, etc.)
- Draft a plan for adopting concentration based screening criteria for toxic chemicals rather than the current inventory based criteria.

Planned Activities

Address issues and provide chemical community with information, resolutions which are being addressed as a result of the EFCOG-DOE Chemical Safety Workshop

DOE Participants/Mentors

Ken Murphy, EH

Subgroup Contact

Douglas Heal, Westinghouse Safety Management Solutions
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Facility Disposition (FD) Subgroup

Purpose/Goals

- Enhance applied safety and reduce project/activity cost as it relates to development and implementation of analyses of hazards, safety controls, and compliant documentation for facility disposition;
- Facilitate the objectives of the EFCOG SAWG by sharing experience, ideas and lessons learned, and by addressing and resolving issues/concerns specific to facility disposition safety analyses and documentation; and
- Provide guidance in regulatory interpretation, and support DOE in directives development and application for facility disposition related work.

Sites Represented

Argonne National Laboratory; Hanford; Idaho National Engineering and Environmental Laboratory; Mound; Oak Ridge; Rocky Flats; Sandia National Laboratories; Savannah River Site; Fernald; and Weldon Springs.

Accomplishments

The Subgroup met only one time this year, at the SAWG Annual Workshop. Only one of the initial members was present at the meeting, which could not be attended by the chair due to lack of travel funds. 18 people attended the meeting as the previous year's chair reviewed accomplishments and current issues. It was agreed that the Lessons Learned Report issued in 1995 should be updated with current examples, that a management of change procedure should be developed for non-nuclear facilities, and that a replacement for DOE O 5481.1B should be initiated. However, due to lack of EFCOG SAWG site-specific support funding, the chair could not coordinate any activities.

Planned Activities

- Reconvene the Subgroup with resources which will be supported through site management;
- Revise and update the last Lessons Learned Report; and
- Provide input to current plans for a 5481.1B replacement.

DOE HQ Participants/Mentors

Irwin Spickler, EM;

Subgroup Contact

Noel Kerr, Bechtel Hanford Inc.
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Human Factors Subgroup

Purpose/Goals

- Promote, coordinate and facilitate exchange of Human Factors/Ergonomic information.
- Active interface with EFCOG working groups and subgroups to resolve any Human Factors/Ergonomic issues.

Sites Represented

Pacific Northwest Laboratory, Brookhaven National Laboratory, Los Alamos National Laboratory, Sandia National Laboratory, Lawrence Livermore National Laboratory, , Idaho National Engineering and Environmental Laboratory, Savannah River Site, Pantex.

Accomplishments

- Promoted positive interaction and feedback among contractors and with DOE HQ and NRC headquarters representatives.
- Subgroup met once in 1998, during the Human Factors and Ergonomic Societies Annual Scientific Meeting. Funding for travel and other human factors/ergonomic activities was noted as a drawback. It was agreed to work with DOE HQTRS in developing initiatives.

Planned Activities

- Work with DOE headquarters in establishing a Human Factors/Ergonomic Topical Committee
- Begin to work on a human factors/ergonomic tool kit to share with sub group members.
- Present a Panel Discussion at EFCOG SAWG in 2000 about Human Factors/Ergonomics in the DOE Complex

Subgroup Contact

Yvonne P. Alvarez, Mason & Hanger Corp., Pantex Plant
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Technical Safety Requirements (TSR) Subgroup

Purpose/Goals

- Provide a forum in order that individuals, having interests in TSRs, may exchange information regarding the impact of DOE requirements and applicable guidance affecting the TSR development process;
- Share site specific TSR development and implementation strategies that will support safe operation of all DOE facilities; and
- By the sharing of this information, strive to promote consistent compliance and, enhance the cooperation among the facility contractors and with the DOE.

Sites Represented

Hanford; Idaho National Engineering and Environmental Laboratory; Lawrence Livermore National Laboratory; Los Alamos National Laboratory; Mound; Oak Ridge; Pantex; Rocky Flats; and Savannah River Site.

Accomplishments

- Assisted DOE as a technical resource on TSRs that represents the majority of the Complex;
- Provided TSR training and lesson learned at the SAWG Annual Workshop;
- Presented a paper on TSR Implementation Plans at the SAWG Annual Workshop

Planned Activities

- Continue to act as a resource and point of contact for DOE;
- Continue to provide training and lessons learned at the SAWG Annual Workshop.

DOE HQ Participant/Mentor

Richard Englehart, EH

Subgroup Contact

Jim McCormick, Westinghouse Safety Management Solutions
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Training Subgroup

Purpose/Goals

- Foster and promote training as a means of supporting successful development, integration, and application of the safety analysis process in establishing and maintaining the facility authorization basis;
- Save money by aggressively identifying and sharing available training materials and instructors, solutions to common training problems, and lessons learned;
- Provide integration and consistency among safety analysis training developed by SAWG Subgroups; and
- Promote continuous improvement in safety analysis training throughout DOE contractor community.

Sites Represented

Hanford; Idaho National Engineering and Environmental Laboratory; Los Alamos National Laboratory; Mound; Oak Ridge; Pantex; Savannah River Site; Sandia National Laboratories

Accomplishments

- Performed a safety analysis training needs analysis among contractors;
- Sponsored training workshop on DOE standards (e.g. STD-3009, 5502);
- Identified contacts at all major DOE installations who are involved in the preparation and/or delivery of safety analysis training;
- Established contact person for each SAWG subgroup;
- Identified appropriate interaction with TRADE;
- Identified currently available or planned training resources at contractor organizations and develop methodology for sharing;
- Updated the Training SG Membership list, and
- Drafted Training Plan and 'White Paper' for qualifying safety analysis.

Planned Activities

- Complete training plan and 'White Paper' for qualifying safety analysts;
- Update DOE-wide and vendor inventory of safety analyst training courses and seminars;
- Assist the Chair of the SAWG Annual Workshop with training support;
- Maintain the Training Subgroup Web Page, and
- Coordinate with the Subgroup Chairs to identify training needs.

Subgroup Contact

Eugene Hochhalter- Lockheed Martin Idaho Technologies Co.
Phone: (208) 526-1038, e-mail-ehochhal@inel.gov

Unreviewed Safety Questions (USQ) Subgroup

Purpose/Goals

- Provide a forum for personnel in the Department of Energy's M&O contractors' organizations to discuss and share information and experience in the field of USQ Determination preparation, review, and approval;
- Enhance information exchange regarding DOE Orders and other regulatory activities which affect the scope or performance of USQs;
- Provide guidance regarding the USQ process to other EFCOG working groups; and
- Supply training materials and training for qualification of personnel involved in preparing, reviewing, and approving of USQs.

Sites Represented

DOE-HQ, Hanford, Idaho National Engineering and Environmental Laboratory, Los Alamos National Laboratory; Oak Ridge; Pantex; Rocky Flats; Sandia National Laboratories, Savannah River Site and Waste Isolation Pilot Plant

Accomplishments

- The procedures, forms and training being used for the USQ process at all sites were critically compared to assess level of effort and to provide a basis for streamlining.
- Developed a USQ World Wide Web Homepage on the INTERNET to share contractor information throughout the DOE complex on USQ issues and methodology. Implementation is expected in CY99.
- Exported classroom training.
- Examples of USQ Determinations that are representative of different aspects of proposed activities are continually compiled to provide an informational database available through the USQ Homepage for training purposes.
- On-going assistance to contractors and DOE on assessment activities.
- Standarization of training across all sites
- Continual active participation by all sites in review of implementation problems at each site through constant communication.

Planned Activities

- USQ qualification training will be supplied through INTERNET-based training to the entire DOE complex. Planned implementation is in CY99.
- Additional clarification documents (white papers) will be presented on USQ Homepage.
- Assisting DOE in preparation of interpretation documents for the USQ process and development of several white papers to address the most common problems of implementation, both of these to be available through the EFCOG website.

DOE HQ Participant/Mentor

Richard Englehart, DOE-HQ, EH
Rick Kendall, DOE-HQ

Subgroup Contact

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VIII. LESSONS LEARNED

The SAWG continues to grow in its acceptance, credibility, and use in the DOE community. Lessons learned are readily addressed and shared through day to day communication, Steering and Subgroup activities, workshops, training, guidance documents and DOE interaction and support. As the SAWG becomes more integral in the DOE safety analysis community it has become imperative to have a centralized data/information resource for SAWG information and activities. Although workshop proceedings and information were accessible through Web sites, the SAWG (and the EFCOG) did not have a fully functioning and current Web page that could be readily accessed. In 1999, the SAWG has both short term and long term plans to support development of a Web page resource for pertinent issues, discussions and as an archive for SAWG generated papers, guidance, and information. The EFCOG Web page is currently being developed, and it is the vision of the SAWG to play a proactive role in using it as a communication tool, reference, and source for addressing current safety analysis issues.

One difficulty being encountered, even as the SAWG is becoming more involved and more solicited for its expertise, is the constant drain on, and unavailability of, resources. Much of what the SAWG does is completed after hours on personal time. The excellence of the SAWG products is in jeopardy due to the amount of unfunded time required to keep it functioning and beneficial. Some sites and/or contractors are limiting their involvement, as budgets are diminishing and it is difficult to show line managers specific tangible cost savings for a given activity. If enhanced safety is a continuously advertised and supported goal, and if the DOE is committed to the belief the SAWG is an integral part of that goal, then efforts to directly support this function should be evaluated.

IX. RECOMMENDATIONS

- DOE to increase its use of the SAWG as a point of contact and technical resource for DOE complex safety related issues, directive development, lessons learned, and training;
- Provide funding directly to the SAWG so that it can continue to function and evolve as a central safety analysis resource; and
- Provide funding directly to the SAWG to ensure continued excellence in workshop development and implementation.

X. ISSUES

There are many DOE complex-wide safety analysis/documentation issues that have been identified and addressed, in some form, by SAWG Workshops, activities, or subgroups. The following list includes those global issues, which have been, and continue to be, SAWG legacy issues that either; 1) have been difficult to resolve, or, 2) have not had the priority or management/DOE attention necessary. Resolution of these issues offers an enhanced safety posture by strengthening either applied or compliant safety across the DOE complex.

- There are no qualification or certification requirements for safety analysts. No DOE directives require specific training. Availability of, and enrollment in, academic training is not commensurate with needs.

This issue was addressed, in part, by the SAWG Training Subgroup, with active support from DOE. Specific qualification/training recommendations for various levels of safety analysis responsibility were developed by the subgroup. Endorsement and use at specific sites was minimal due to lack of funding and no DOE directives requiring the training. The Subgroup is a resource for available safety analysis courses.

- Experienced, field-proven safety and criticality analysts are decreasing in number due to attrition.

  This issue is the basis, in part, for the previous issue. As experience and education has decreased, there is more need for standardized and monitored qualification requirements. Attention to retaining experienced analysts with facility specific knowledge should be addressed complex wide. Additional formal training courses, including hands-on DOE training should be developed and implemented.
- The review and comment cycle for safety documentation continues to be too resource intensive. Non-standardized safety document form and content, insufficient early communication and interaction between authors and reviewers, lack of consensus review structure and strategy, and insufficient training for reviewers are contributors.

  This is a safety documentation legacy issue that has been addressed in the SAWG 1998 and 1999 AB Workshops. A SAWG paper reviewing experience, "Establishing DOE Authorization Basis Requirements/Expectations – Summary and Observations from the January 1998 Authorization Basis Workshop" was presented at the SAWG 1998 Annual Workshop. A summary of the paper recommendations will be included in the 1999 AB Workshop Session Summary.
- The need for integrated hazard controls across all levels of consequences and types of compliant and applied safety is needed.

  This is another legacy issue addressed by the SAWG in the January 1999 AB Workshop "Worker Safety" Session. Sharing of lessons learned and best practices will be included in the Session Summary, and is expected to provide a basis for a new DOE Standard on integrating hazards analysis.

- Updating as-built drawings to current configurations, due to lack of funding or priority, was identified as a global complex issue.

  The issue was addressed at the 1999 SAWG AB Workshop "AB Document Ownership, Implementation, and Maintenance" Session. Keeping Safety SSC drawings up to date was recommended as a key element of an acceptable Configuration Management Program. Specific experience and lessons learned will be included in the session summary.