

EFCOG
Safety Analysis Working Group
1997 Annual Report to the Directors

January 1998

David G. Renfro, 1997 Chair
Lockheed Martin Energy Systems
P. O. Box 2008
Oak Ridge, TN 37831-6333
(423) 574-6519
renfrodg@ornl.gov

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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 training on safety analysis through workshops, subgroups, and seminars.

Membership

The membership of the SAWG, which is defined as the membership of the steering committee, changed significantly again in 1997. Los Alamos National Laboratory rejoined the group after a year's absence. Bechtel Hanford also joined the group to provide representation from that site following a year's absence. In addition, new individuals from Kaiser-Hill and Westinghouse Safety Management Solutions (replacing WSRC) replaced their previous representatives to the SAWG.

The 1997 end-of-year roster for the SAWG Steering Committee is as follows:

Chair

David G. Renfro
Lockheed Martin Energy Systems
P. O. Box 2008
Oak Ridge, TN 37831-6333
(423) 574-6519; renfrodg@ornl.gov

Vice Chair

Jerry Hansen
Westinghouse Safety Management Solutions
1993 S. Centennial Ave.
Aiken, SC 29803
(803) 502-9715; jerry.hansen@wxsms.com

Members

J. Scott Hildum
Lawrence Livermore National Laboratory

Yvonne Alvarez
Mason & Hanger, Silas Mason Co. Pantex

John Johnson
Lockheed Martin Idaho Technologies Company

Al Bendure
Sandia National Laboratories

Jerry Bueck
Los Alamos National Laboratory

Noel Kerr
Bechtel Hanford

Bob Cronin
Kaiser-Hill Rocky Flats

Objectives

The 1997 objectives of the SAWG included:

- Review subgroup status, determine their viability, and consolidate or eliminate them as necessary;
- Establish deliverables for each subgroup; and
- Provide information exchange through Steering Committee meeting and teleconferences, subgroup meetings and teleconferences, and workshops and training courses.

Status

Steering Committee

Two steering committee meetings were held: February and June, 1997. A significant portion of the Steering Committee's work concerns planning for the annual Safety Analysis Workshop held each June. For example, the primary agenda item for the June Steering Committee meeting is to review the workshop results and obtain the host organization for the next workshop. At the February meeting, papers and training courses are selected and plans finalized for the workshop.

Teleconferences were held every month with the Steering Committee and Subgroup Chairs. The teleconferences have improved communication and focus of the SAWG and enabled the elimination of one Steering Committee meeting.

Accomplishments

1997 Safety Analysis Workshop

The Seventh Annual Safety Analysis Workshop was held June 9-13, 1997 at the Oakland Marriott City Center in Oakland, California. It was hosted by Lawrence Livermore National Laboratory. The workshop theme was "Safety Analysis in Transition". The workshop used technical papers, training courses, lessons learned in applying the Technical Safety Requirements and Unreviewed Safety Question processes at DOE facilities throughout the Complex, subgroup meetings, exhibits, and a DOE panel to facilitate communication and information transfer among the over 180 attendees at the workshop. Full papers presented at the workshop were published and provided to workshop participants.

Seventy-eight technical papers were presented. Technical sessions included Nuclear Facility Safety Analysis, Managing Risk and Worker Safety, Hazard Categorization and Analysis, Technical Safety Requirements, Work Smart Standards, Risk Assessment and Criticality Issues, Consequence Analysis, Natural Phenomena and External Events, Maintaining Safety/Authorization Basis, and Integrated ES&H Management.

Training sessions included Introduction to Process Safety Management and Risk Management Plans, Hazard Identification Techniques, Overview of DOE-STD-3009-94, Orientation and Background on Work Smart Standards, Process of Conducting Unreviewed Safety Question (USQ) Qualifying Exam, Technical Safety Requirements, Qualitative Methods for Assessing Risk, Human Factors for the Non-Human-Factors Professional, Lessons Learned: Technical Safety Requirements, and Lessons Learned: Unreviewed Safety Question. One hundred sixty-three Contractor and DOE personnel participated in the training courses and forums.

Nine SAWG subgroups held meetings during the workshop.

A survey was provided to the attendees which solicited their ratings of overall satisfaction with the workshop, quality of information provided, value of information presented at the workshop to their job, and quality of accommodations/logistics. Sixty-eight surveys were returned (approximately one-third). Ninety-seven percent of the respondents said they would attend a future workshop. Ninety-eight percent rated their overall satisfaction with the workshop as “excellent” or “good”. Eighty-eight percent rated the quality of the papers presented at the workshop as “excellent” or “good”.

The 1997 Workshop was the second at which paying exhibitors were allowed. Five exhibitors set up displays of products and services. Response to the exhibits by workshop attendees was very good, and it is recommended that future workshops accommodate and encourage exhibits.

New Members

Bechtel Hanford
Los Alamos National Laboratory

Consolidated Subgroup

Accident Analysis (merger of Computer Codes, Release Fractions, and Waste Drum Fire Issues Subgroups)

Probationary Subgroups:

- Training
- Human Factors

Guides:

- Integration of Hazards Analysis guidance issued:
- A resolution adopted which indicates “For concentration-based criteria, the ERPG values and alternative guideline limit hierarchy developed by the DOE Subcommittee on Consequence Assessment and Protective Actions (SCAPA) be recommended”
- A tabulation of ERPGs and alternative criteria values for 400 chemicals compiled
- A chart which indicates the “health effects associated with primary criteria” issued
- A statement providing “guidance on the level of precision to be reported” distributed
- A document describing differences between radiological and nonradiological methods and guidelines developed
- A methodology for assessing the hazards of exposure to mixtures of chemicals likely to be encountered in accident and emergency situations recommended
- A tabulation of alternative guideline values placed on a DOE-HQ web site in conjunction with DOE-EH
- Reports of the DOE-DP-sponsored Accident Phenomenology and Consequence (APAC) Methodology Evaluation program distributed
- Subgroup Guidelines issued

Training (in addition to that provided at the 1997 Workshop):

- One-day workshop provided for chemical processing industry group on the use of chemical dispersion computer models for complying with the EPA Risk Management Program rule (40CFR68)

Participation:

- DOE Working and Standards Development teams
- Safety Authorization Basis database established compiling information for 158 nuclear facilities at nine sites and laboratories.

1998 Workshop Planning

The 1998 Eighth Annual Safety Analysis Workshop will be held June 15-19 at the Olympia Park Hotel and Conference Center in Park City, Utah. The workshop is hosted by Idaho National Engineering and Environmental Laboratory. The theme of the workshop is "Integrating Safety Analysis into Safety Management". The workshop will include training courses, subgroup meetings, exhibitors, and a DOE panel.

Benefit/Cost Determinations

The primary benefit of the SAWG is sharing of information, methods, and processes among members. Such sharing provides significant reduction in the cost of implementing new requirements at member-operated facilities as well as providing a more consistent approach across the complex.

1997 Workshop

This year, workshop participants were not asked to estimate the dollar value of the workshop in avoiding/reducing costs in their company and in their job. However, based on data collected at previous SAWG workshops, the benefit/cost ratio is estimated to be approximately 5 to 1.

Subgroups

Cost avoidance and reduction through sharing is the primary benefit from subgroup activity. In addition, substantial costs are avoided through subgroup interaction with DOE teams as they develop standards and guides because the completed documents become true consensus standards and guides that can be readily implemented across the Complex. Examples include work by the ER/D&D Subgroup and the Process Safety Management Subgroup. Subgroup benefits are difficult to quantify because the products of subgroup work are methods, guides, and lessons learned.

Subgroup meetings were severely reduced in 1997 because of reduced travel budgets at member companies. Most subgroups met only at the June 1997 workshop and conducted the majority of their business via teleconference and email.

Based on data previously reported, a benefit cost ratio of greater than 10 is calculated.

Lessons Learned

Several problems were experienced by the SAWG Steering Committee in 1997:

- Continued reductions in funding and actual and perceived loss of member company management support for SAWG work at both the steering committee and subgroup level; and
- Slow implementation of a viable website for the EFCOG and its working groups.

Recommendations

- Correct the problems identified under “lessons learned”.
- Continue to sponsor periodic teleconferences of Working Group Chairs.
- Continue to include Working Group Chairs in Annual Directors’ meeting.
- Continue an effective outreach program to DOE, member company management, and DOE Contractors regarding the value of EFCOG and its subgroups.
- Continue planning workshops, with DOE participation, to facilitate customer needs and direction.

Subgroups

The SAWG Subgroups presently active include:

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

Authorization Bases
Brad Evans, Chair
Fluor-Daniel Hanford Company
(509) 372-2744

Environmental Restoration and Decontamination and Decommissioning
Noel Kerr, Chair
Bechtel Hanford
(509) 372-9179

Non-Radiological Hazardous Materials
Robert Just, Chair
Lockheed Martin Energy Systems
(423) 574-6497

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

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

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

Subgroups chartered, but essentially inactive during 1997:

Human Factors Safety Analysis
Yvonne Alvarez
Mason & Hanger-Silas Mason Company
(806) 477-5813

Training
Gene Hockhalter
Lockheed Martin Idaho Technologies
(208) 526-1038

Annual reports for the active Subgroups are attached: Accident Analysis; Authorization Bases; ER/D&D; Non-Radiological Hazardous Materials; Process Safety Management; Technical Safety Requirements; and Unreviewed Safety Questions.

ACCIDENT ANALYSIS SUBGROUP EFCOG SAFETY ANALYSIS WORKING GROUP (SAWG)

The Accident Analysis (AA) Subgroup of EFCOG is a newly combined subgroup within SAWG, consisting of participants from the former Computer Codes, Release Fractions, and Waste Drum Fire organizations. Steering Committee approval was obtained in August 1997.

Purpose/Goals

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 supporting Authorization Basis (AB) documentation. The over-arching purpose of the specific recommendations and guidance is to perform AB analyses that are conservative yet realistic, appropriate for the hazard level posed, and cost effective, while meeting DNFSB, DOE and other applicable regulatory standards. AAS has the following objectives:

- 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.
- Foster communication on issues, concerns, and solutions among related EFCOG SAWG subcommittees, member organizations, the Department of Energy, and other regulatory bodies, commercial industry groups (e.g. Center for Chemical Process Safety, etc.).

DOE Liaisons

Dae Chung and Kamiar Jamali (DOE/DP-45); Tam Tran (DOE/SROO)

Sites Represented

Current membership in AAS includes the following sites: Hanford (Rust 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), Sandia National Laboratories, Savannah River (Westinghouse Safety Management Solutions).

Accomplishments in FY 1997

DOE Complex: Over the past year, the AAS in collaboration with the DOE/DP-sponsored Accident Phenomenology and Consequence (APAC) Methodology Evaluation program, has produced a set of guidance documents for the selection of computer models (codes) for safety analysis. These deliverables include code evaluations, recommendations for improving current software, and “best practices” to follow in the performance of safety analysis. These reports are grouped by subject area:

Source Term Analysis

1. Fire
2. Explosions and Energetic Events
3. Spills Analysis

In-Facility Transport Analysis

4. In-Facility Transport

Atmospheric Dispersion/Consequence Analysis

5. Radiological Dispersion/Consequence
6. Chemical Dispersion and Consequence Assessment.

Copies of these reports were discussed by subject area at the June 1997 Safety Analysis Workshop and distributed during the Computer Codes Subcommittee meeting.

Commercial Sector: The APAC Core Planning Team provided a one-day Workshop to an chemical processing industry group on the use of chemical dispersion computer models for complying with the EPA Risk Management Program rule (40 CFR 68).

Current Activities & Planned Deliverables in FY 1998

The Accident Analysis Subcommittee is currently completing or planning the following:

- Survey of Membership to Elicit Hot Issues for AAS to apply resources
- APAC Executive Summary for Evaluation of Computer Codes (December 1997)
- Accident Analysis Guidebook (end of CY 1998)
- DOE Accident Analysis Workshop: Most likely in Denver, CO or Albuquerque, NM (~March 1998)

Rationale for Continuation

Accident and consequence analysts throughout the Complex have benefited through a prioritized, systematic evaluation of computer models and analysis approaches for using release fractions and treating waste drum fire releases. However, the subcommittee is the most cost- and resource-effective way to ensure that these activities are integrated into a comprehensive, accident analysis framework. New and emerging issues are now being identified (use of proprietary software, aqueous pathway releases, etc.) that are within AAS’s scope, and can be pursued more efficiently through AAS than with any other Complex technical organization.

Accident Analysis Subcommittee Contacts
Co-Chairs:

Kevin O’Kula
Westinghouse Safety Management Solutions
1993 S. Centennial Avenue
Aiken, SC 29803
Phone/FAX: 803.502.9620/803.502.3082
Email: kevin.o’kula@xsms.com

Al Wooten
Westinghouse Safety Management Solutions
1993 S. Centennial Avenue
Aiken, SC 29803
Phone/FAX: 803.502.9829/803.502.3081
Email: al.wooten@xsms.com

**AUTHORIZATION BASIS SUBGROUP
OF THE SAFETY ANALYSIS WORKING GROUP**

PURPOSE

- 1) Development of Authorization Basis (AB) guidance based on lessons learned,
- 2) Active interface with EFCOG working groups and subgroups to identify and resolve AB-related issues,
- 3) Compiling and disseminating relevant AB information complex-wide

REPRESENTATION

Currently 15 members representing 11 contractors and laboratories.

Liaison —Dick Englehart (EH-38)

ACCOMPLISHMENTS/DELIVERABLES IN FY 97

1) AUTHORIZATION BASIS DATABASE, COMPILING AB INFORMATION FOR NINE DOE SITES AND LABORATORIES:

- | | |
|----------------------|---------------------------------------|
| ▪ nuclear facility | ▪ AB documentation |
| ▪ description | ▪ ongoing and future AB-related plans |
| ▪ CSO (EM, DP, etc.) | ▪ Site or facility Point-of-Contact |
| ▪ hazard category | |
| ▪ life cycle status | |

Note: This document has already been requested and used by separate organizations within DOE HQ

2) INITIAL PLANNING FOR AUTHORIZATION BASIS WORKSHOP

Ongoing teleconference meetings

Involvement/support of other SAWG Subgroups, DOE HQ, and DOE Field Offices

CURRENT ACTIVITIES

1) **FINALIZE PLAN/AGENDA FOR AUTHORIZATION BASIS WORKSHOP**

Identify and overcome barriers to successful SAR/TSR:

- planning
- development
- review and approval
- implementation

Planned for January 27-28, 1998 in Albuquerque

Involvement of contractor and DOE HQ and DOE Field personnel

Series of White Papers developed jointly by contractors and DOE personnel

Presentations at SAWG Workshop

2) **PREPARING CHARTER REVISION AND PROPOSED DELIVERABLES FOR INDEPENDENT SAFETY REVIEW (ISR) SCOPE**

Based on incompleting work of the former ISR Subgroup

PLANS/GOALS FOR FUTURE ACTIVITIES

- 1) **CONDUCT THE AUTHORIZATION BASIS WORKSHOP IN ALBUQUERQUE**
 - Develop topical White Papers based on lessons learned
 - Present White Papers at SAWG Workshop
 - Identify consensus positions for future Standards development (at DOE's option)
- 2) **ASSESS BENEFIT OF FOLLOW-UP AB WORKSHOP(S)**
- 3) **UPGRADE AB DATABASE**
 - Include additional Sites
 - Internet format
 - Incorporate recommended improvements
- 4) **WHITE PAPER ON INDEPENDENT SAFETY REVIEW**
 - Lessons Learned
 - Essential Elements of ISR
 - Streamlining of the ISR Process

VALUE STATEMENT

The ongoing and planned activities, based on lessons learned and with the involvement of key contractor and DOE personnel, are judged to provide a basis for effective and efficient planning, development, review/approval, and implementation of AB documentation, as well as a status of currently implemented AB documentation for the DOE complex.

POINTS OF CONTACT

Brad Evans, Subgroup Chair
Fluor-Daniel Hanford
P.O. Box 1000, MSIN B1-19
Richland, WA 99352
(509) 372-2744 phone
(509) 372-8017 fax
c_b_brad_evans@rl.gov

Sam Savani, Subgroup Asst. Chair
Westinghouse Safety Management Solutions
1993 South Centennial Dr.
Aiken, SC 29803
(803) 502-9638 phone
(804) 502-9999 fax

Environmental Restoration and Decontamination & Decommissioning (ER/D&D) Subgroup

Scope/Goals (has been realized through development and use of several guidance documents, input and participation in several DOE working groups, and site specific issue resolution - estimated cost avoidances are several orders of magnitude over the cost of the subgroup)

- 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 environmental restoration and decontamination & decommissioning (ER/D&D).
- Facilitate the objectives of the EFCOG SAWG by sharing experience, ideas and lessons learned, and by addressing and resolving issues/concerns specific to ER and D&D safety analyses and documentation.
- Provide guidance in regulatory interpretation, and support DOE in directives development and application for ER/D&D related work.

Sites Represented (1 member per site)

Sandia National Laboratory; EG&G Mound Applied Technologies; Lockheed Martin Energy Sys. Inc., Oak Ridge; Westinghouse Savannah River Company; Bechtel Hanford, Inc.; Lockheed Martin Idaho Technical Company; Fernald Environmental Management Project; Argonne National Laboratory; Kaiser-Hill Rock Flats Environmental Technology Site; Weldon Springs.

Accomplishments

- General Safety Basis Development Guidance issued (Referenced in DOE-EM-STD-5502-94,
- Lessons Learned, ER/D&D Safety Documentation issued,
- Safety Documentation Form and Content Guide issued,
- Hazard Categorization Methodology issued,
- Design Factors for ER and D&D issued,
- Integration of Hazards Analysis guidance issued, (1997)
- Participation on DOE Working and Standards Development teams. (1997)

Planned Activities

- Provide core team, advisory , and review support of the DOE/Hanford Initiative for CERCLA D&D activities, (complete)
- Provide core team and review support for development of a DOE Standard on integration of safety and health in Facility Disposition, (complete)
- Guidance document on natural phenomena analysis for Facility Disposition, (hold)
- Site specific issue resolution and guidance in semi-annual Subgroup meetings,
- Development of guidance for HASP as nuclear authorization basis (in-progress).

DOE HQ Participants/Mentors

Irwin Spickler, EM; Tony Eng, EH

Contact

Jerry Hansen, WSRC, 803-952-6624, FAX 952-8305, jerry.hansen@srs.gov

Name of subgroup: EFCOG Nonradiological Hazardous Materials (NHM) Safety Analysis Subgroup

Brief purpose

- ! Develop guidance on nonradiological hazardous materials for hazard classification (DOE Order 5481.1B), hazard categorization (DOE Order 5480.23), and safety analysis (DOE Order 5480.23, DOE-STD-3009-94, DOE-STD-3011-94).
- ! Enhance consistency by sharing information on issues and approaches associated with evaluating exposures to nonradiological hazardous materials
- ! Provide methods for compliance with associated DOE requirements and establish good practices.

Approximate number of members and companies represented

31

Name of liaison with DOE (at HQ or field)

Although not formerly considered to be liaison Vishwa Kapila, Ken Murphy, and Richard Stark are sent copies of subgroup products

Accomplishments/deliverables in FY 97

1. A resolution which indicates "For concentration-based criteria, the ERPG values and alternative guideline limit hierarchy developed by the DOE subcommittee on Consequence Assessment and Protective Actions (SCAPA) be recommended"
2. A tabulation of ERPGs and alternative criteria values for 400 chemicals
3. A chart which indicates the "Health effects associated with primary criteria"
4. A statement providing "guidance on the level of precision to be reported"
5. A document describing differences between radiological and nonradiological methods and guidelines
6. A recommended methodology for assessing the hazards of exposure to mixtures of chemicals likely to be encountered in accident and emergency situations.
7. In conjunction with DOE-EH have placed a tabulation of alternative guideline values on a DOE-HQ web site.

Current activities

1. A report documenting an improved methodology for assessing the hazards of exposure to mixtures of chemicals likely to be encountered in accident and emergency situations was approved by the subgroup in October (*Comprehensive Default Methodology for the Analysis of Exposures to Mixtures of Chemicals Accidentally Released to the Atmosphere*)
8. If funds are available will work with the Process Safety Management Subgroup to provide guidance on the threshold inventory of a chemically toxic material that requires consideration in the SAR program. Many sites are using the Reportable Quantities (RQs) from 40 CFR 302 as the screening criteria for Nonradiological hazards. At some locations, the use of the RQ criteria may not be sufficient to prevent exceeding ERPG-2 at the site boundary.

Plans/goals for future activities

Continue to develop guidance for the evaluation of non-radiological hazards, provide comments as requested on related draft DOE orders, standards, etc., continue to share data and approaches for evaluation of non-radiological hazards.

Brief statement of why you should be allowed to continue/ value of meetings and deliverables.

In the absence of DOE-HQ guidance the treatment of non-radiological hazards is evolving throughout the DOE complex. The subgroup provides a forum for sharing information, approaches, etc. that enhances efficiency and consistency throughout the complex. Most of the subgroup activities are accomplished either at the annual meeting, via email, phone calls, or the U. S. mail, therefore the incremental costs are very low in comparison to the cost savings associated with sharing information. Also, the subgroup recommendation for approved approaches often significantly reduces the scope of issues raised during the review process.

Safety Analysis Working Group (SAWG)

Process Safety Management Sub-Group (PSMSG)

FY97 Annual Report

Douglas W. Heal, Westinghouse Safety Management Solutions

I. PURPOSE

The Process Safety Management Sub-Group (PSMSG) 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 Process Safety Management. The purpose of the sub-group is to promote excellence in the subcontractor's safety programs through information sharing and application of lessons learned.

II. MEMBERSHIP

The following organizations and people participate in sub-group activities:

The Department of Energy - Ken Murphy
Hanford - Craig Ritchins
Idaho National Engineering Laboratory – Debbie Johnson, Sharon Johnson
Lawrence Livermore Laboratory - Jim Price, Richard Guarienti
Los Alamos National Laboratory - Herb Kunkel, Robin DeVore
The Nevada Test Site - Mohsen Sharirli
Oak Ridge - John Hoffmeister, Mike Arendale
Pantex - Henry King, John Taylor
Rocky Flats - Don Swanson
Sandia National Laboratory – Rick Silver, Al Bendure
Savannah River Site - Douglas Heal
Strategic Petroleum Reserve - Mark Katz
Battelle Columbus - Pamela Sutherland
JBF & Associates - Charles Mitchell

III. OBJECTIVES

The 1998 objectives of the PSMSG are:

- 1.) Promote, coordinate, and facilitate the active exchange of successful Process Safety Management programs, practices, procedures, lessons learned, and other pertinent information of common interest.
 - a.) Members of the subgroup have continued their involvement with commercial chemical safety organizations, such as the Center for Chemical Process Safety (CCPS) and the Chemical Manufacturers Association (CMA). Members of the subgroup now serve on

the CCPS Technical Steering Committee, the Reactive Chemical Subcommittee and the Small and Medium-Sized Enterprise (SME) Subcommittee. In addition, members of the subgroup have participated in several CMA workshops.

- b. Members of the subgroup are currently developing a concentration based screening criteria for hazardous chemicals. This criteria will replace the existing quantity based criteria and provide plant operators with a more realistic understanding of the risk associated with operations.
 - c.) Members of the subgroup are currently developing guidance on the Integration of Worker Safety into PSM activities. This guidance is scheduled for release in 1998.
- 2.) Promote training on Process Safety Management by sharing management and technical information through workshops and seminars.
- b.) Members of the subgroup presented a 1/2 day course on Process Safety Management and Risk Management Programs as applied to DOE operations at the 1997 SAWG meeting. Plans are to repeat these courses at the 1998 SAWG meeting in Salt Lake City, Utah.
 - c.) Members of the subgroup are working with community colleges to offer the PSM and RMP courses developed in conjunction with CCPS SME in their respective areas. The first course was completed at Aiken Technical College in June of 1997. Expected duration of the project may range from six months to two years, depending upon the demand for the courses from local chemical companies.

IV. Status

Meetings

The PSM Subgroup held the following meetings in 1997:

- 1.) April, Knoxville, Tennessee.
- 2.) June, Oakland, California.

The PSM Subgroup has scheduled the following meetings for 1998:

- 1.) January, Albuquerque, New Mexico.
- 2.) June, Salt Lake City, Utah.
- 3.) October, TBD.

Workshops

- 1.) Members of the PSM Subgroup participated in the Joint DOE-CMA Workshop in Washington, D.C. in July.

Training Courses

The following training courses were offered in 1997:

- 1.) June, Oakland, California: Provided a 1/2 day course on Process Safety Management and Risk Management Programs as applied to DOE operations.
- 4.) Aiken, South Carolina. Provided Process Hazards Analysis training to approximately 200 employees from SRS, Pantex, Oak Ridge, and DOE-SR.

Documents/Guides

The subgroup did not issue any documents/guidance in 1997.

The subgroup is planning on issuing the following documents/guidance in 1998:

- 1.) *Use of a Concentration Based Criteria for Screening Hazardous Chemicals*. Members of the subgroup are currently developing a concentration based screening criteria for hazardous chemicals. This criteria will replace the existing quantity based criteria and provide plant operators with a more realistic understanding of the risk associated with operations.
- 2.) *Simplified Compliance with the EPA Risk Management Rule*. This document provides guidance on the use of RMPlanner described previously in the objectives section. The guidance document was deemed necessary to assist the wide variety of end users develop their Risk Management Plans in a cost effective and timely manner.

V. Cost/Benefit Determination

Cost:

Meetings: All meetings in 1997 were scheduled to coincide with existing travel commitments. The meeting in Knoxville coincided with an American Nuclear Society (ANS) meeting and the meeting in Oakland coincided with the annual SAWG workshop.

Projects: All projects completed were in conjunction with activities associated with operating divisions. Therefore, there were no additional costs associated with the subgroups projects.

Benefit:

- 1) PSM Savings Through Sharing Activities, including the exchange of methods, reports, plans, training materials, etc.
 - a.) Process Hazards Analysis and Risk Management Plan training during the annual SAWG workshop in Oakland. Members of the subgroup completed this training saving approximately \$25,000 in training costs.
 - b.) Process Hazards Analysis Training at the Savannah River Site. Members of the subgroup completed this training saving approximately \$30,000.

- 2.) Increased networking between people involved with PSM activities in the DOE complex.
- a.) Availability of RMPlanner throughout government sector. Use of RMPlanner has significantly reduced the cost of compliance with 40 CFR 68. Although specific savings are difficult to quantify because of the large diversity of facilities in the DOE complex, the following approximation should give a ballpark answer:

$$200 \text{ affected facilities in the DOE complex} * \$10,000 \text{ in savings} = \$2,000,000$$

Safety Analysis Working Group (SAWG)
Technical Safety Requirements Sub-Group (TSRSG)

1997 Annual Report

James A. McCormick, WSRC

I. PURPOSE

Establish the TSRSG, as a subgroup of the Safety Analysis Working Group (SAWG), for the exchange of information regarding the impact of DOE requirements and the applicable guidance affecting TSRs. Furthermore, share site specific TSR development and implementation strategies that will support safe operation of all DOE facilities. This sharing of information will promote consistent compliance by utilizing the knowledge and experience already within the DOE complex, enhancing cooperation with the DOE and among the facility contractors

II. MEMBERSHIP

The following organizations and people participate in subgroup activities:

Chair - Jim McCormick (WSRC)
Mentor - Michael Hitchler (WSRC)
EG&G Mound Applied Technologies - Jongsuk Kim, Fred Mintz
Lockheed Idaho Technologies - John Johnson, Paula Ostby
Lawrence Livermore Laboratory - Howard Woo
Los Alamos National Laboratory - Jerry Bueck
Oak Ridge - Bobby Williams
Rocky Flats - Robert Cronin
Westinghouse Savannah River Site - Cheryl Smith
Westinghouse Hanford - Jennifer Stewart

The DOE point of contact - Dick Englehart

III. OBJECTIVES

1. The subgroup will build on those activities affecting TSRs, such as the application of lessons learned, already underway at individual DOE sites.
2. The group can serve as a technical resource to DOE throughout the development and review of DOE guidance documentation. This activity would directly reduce the cost of the development and implementation of these documents.
3. The group can also assist M&O contractors as a technical resource on their specific TSR issues.

IV. STATUS

Active

Charter

The charter for the subgroup was approved in FY95.

Meetings

There have been no formal meetings since at the SAWG Annual Meeting in June 1997 primarily due to travel budget restraints

V. COST/BENEFIT DETERMINATION

Present Projects

1. Working on a DRAFT position paper, "TSRs and Implementation Plans." This paper will explain the purpose and importance of TSR Implementation Plans for a DOE facility and will include discussion of cost, scheduling and lessons learned.
2. As requested, technically supported the development of any DOE and contractor initiatives concerning TSRs, directly, or by written comment.

Cost:

Minimal Due to new contracts and complex budgetary reductions.

Projects: Primary because of concerns for new contracts, downsizing and budget constraints across the complex, all major projects have been put on back burner. We continue to contact one another on individual questions by phone or solicit feedback from the entire group by E Mail.

Benefit: By declaring the group "inactive" and not "no longer required" will still maintain the nucleus of people because there is still TSR work to be done.

Potential

Projects: Below is listed the potential concerns that the group identified when the sub-group was originally proposed. Of this list the majority of them are still concerns across the complex.

- 1) Establishing time intervals for surveillance requirements and completion times for Action Statements.
- 2) What do we BASE the TSRs on (e.g., BIO's, SARs, Etc.).
- 3) Treatment of chemicals/hazardous materials.

- 4) Controlling Inventory
- 5) What is expected out of derivation of TSRs.
- 6) Worker safety
- 7) Safety Class Systems and Significant Safety Systems in TSRs
- 8) Writers Guide
- 9) Criticality Issues
- 10) Selection Criteria
- 11) Define Nuclear Facility
- 12) Double jeopardy in connection with enforcement

Name of subgroup: Unreviewed Safety Questions

Brief purpose: Provides a forum for personnel in the Department of Energy's M&O contractors' organizations to discuss areas of mutual concern, and share information, experience and training in the field of Unreviewed Safety Question Determination (USQD) preparation, review, and approval.

Approximate number of members and companies represented: 12 members representing Hanford (Fluor-Daniel), Idaho (INEEL), LLNL, LANL, Oak Ridge (LMES), Pantex, Sandia, SRS (Westinghouse), Rocky Flats (Safe Sites), and a DOE-HQ sponsor.

Name of liaison with DOE (at HQ or field): Dick Englehart (EH-31)

Accomplishments/deliverables in FY 97: 3 white papers drafted for clarification of USQ issues on Worker Safety, Annual Reporting, and Consequence Evaluation Summation in USQDs

Current activities: Website development with white papers for clarification, training activities

Plans/goals for future activities: Provide input for DOE-HQ interpretation/clarification of issues, DOE representative has agreed to review and comment on our guidance papers prior to electronic publishing

Brief statement of why you should be allowed to continue/ value of meetings and deliverables: This subgroup has maintained an active presence. The USQ process has become a major impact on all DOE facilities and the uniformity of understanding and application of the process is one of the subgroup's primary goals. An emerging issue is the role of the USQ process on integrated safety management, particularly in view of DOE's stated concerns involving infrastructure changes and how they might impact ABs of nuclear facilities.