

ENVIRONMENTAL SAFETY AND HEALTH WORKING GROUP

CHAIR: ANTHONY UMEK, SAVANNAH RIVER NUCLEAR SOLUTIONS

VICE-CHAIR: PAT PADEZANIN, SAVANNAH RIVER NUCLEAR SOLUTIONS

INTRODUCTION

Vision – The vision of the Environmental Safety and Health (ESH) Working Group (ESHWG) is to support cost effective, efficient operations of Department of Energy (DOE) facilities while maintaining - as the highest priority - safe, environmentally sound, and secure operations through the ongoing exchange of information and corresponding improvement initiatives.

Purpose - The purpose of the ESHWG is to promote excellence in all aspects of environmental protection and safety and health for the member organizations. The ESHWG identifies, evaluates, and selects "best in class" ESH practices, procedures, and tools for deployment and application throughout the DOE complex.

Objectives – The ESHWG is committed to five primary objectives:

- Promote, coordinate, and facilitate the active exchange of successful programs, practices, procedures, tools, lessons learned, and other pertinent information of common interest that can be adapted to enhance ESH performance of all contractors in the DOE complex.
- Working with the EFCOG Board of Directors, identify and address issues of common interest, including initiatives to foster continuous ESH improvement.
- Through focused subgroups, promote cooperation and interchange information, as appropriate, within EFCOG and with other entities involved in similar activities (e.g., Occupational Safety & Health Administration, Institute of Nuclear Power Operations, National Enforcement Investigation/Investigations Center, etc.), while minimizing duplication of efforts.
- Focus on active personal exchanges of management and technical information among contractors.
- Interact with DOE in ways that produce value-added benefits for both DOE and the contractor community. This includes DOE sponsorship and participation in ESHWG activities, as well as participating in technical exchanges with DOE as appropriate.

Scope - The ESHWG scope is defined as follows:

- Activities will focus on work efforts, programs, and processes that are pertinent to promoting excellence involving Environment, Safety, and Health throughout the DOE complex. Other focus areas will be determined by the Board of Directors, in consultation with the DOE when required.
- The ESHWG will facilitate the exchange of information through such vehicles as meetings, workshops, conferences, working groups, and written materials, and will document the results of various member-sponsored efforts in reports and position papers, including the EFCOG website.
- While the ESHWG will not lobby, advocate independent positions, or try to change DOE policy, the Working Group will facilitate dialogue between DOE and member organizations for the purpose of understanding issues and initiatives of mutual interest.

MEMBERSHIP AND ORGANIZATION

MEMBERSHIP

The ESHWG has approximately 175 active members, with representation from 30 of the EFCOG member companies.

ORGANIZATION

Leadership in the ESHWG is comprised of:

Chair: Tony Umek, Savannah River Nuclear Solutions
Vice-Chair: Pat Padezanin, Savannah River Nuclear Solutions
Secretary: James Morgan, Savannah River Nuclear Solutions

The ESHWG has seven Subgroups: Industrial Hygiene/Industrial Safety; Environmental; Occupational Medicine; Chemical Safety & Lifecycle Management; Electrical Safety; Laser Safety and Radiation Protection. The Chairs for these Subgroups are:

- Industrial Hygiene/Industrial Safety Subgroup Chair: Richard DeBusk, Lawrence Berkeley National Laboratory
- Environmental Subgroup Chair: David Folse Strategic Petroleum Reserve
- Occupational Medicine Subgroup Chair: Jamie Stalker, Argonne National Laboratory
- Chemical Safety & Lifecycle Management Subgroup Chair: Steve Harris, Lawrence Livermore National Laboratory

- Electrical Safety Subgroup Chair: Mark McNellis, Sandia National Laboratory
- Radiation Protection Subgroup Chair: Mark Ledoux, Energy Solution
- Laser Safety Subgroup Chair Joanna Casson, Los Alamos National Laboratory

The ESHWG also has four task groups, with Chairs or Leads as follows:

- American Recovery and Reinvestment Act (ARRA) Task Group Chair: Kevin Kostelnik, Savannah River Nuclear Solutions
- Leading Indicators/Metrics Strategy Task Group Chair: Steve Prevette, Savannah River Nuclear Solutions
- Neutron Quality Factor RP Task Group Chair Ken Crase, Savannah River Nuclear Solutions
- Plutonium 241 Task Team: The team has issued it's report, and has been disbanded.

EFCOG Sponsoring Director: Joe Yanek, Fluor Government Group

DOE and NNSA Sponsors: Dr. Pat Worthington, Office of Health, Safety, and Security (HSS); Frank Russo, National Nuclear Security Administration (NNSA)

ACHIEVEMENTS

The ESHWG achieved the following during FY 2010:

- Successful Meetings:
 - The CSLM Sub-Group, in conjunction with the DOE Chemical Safety Topical Committee (CSTC), co-sponsored the successful Annual Joint EFCOG/DOE Chemical Safety and Lifecycle Management Workshop, March 16-18, 2010. This year's theme was "Teaming with Others for a Safer *Workplace*". The Workshop attracted approximately 250 participants, either in person or by telecast from fourteen sites throughout the DOE complex, and included 30 speakers representing various federal and private sectors.
 - The ESHWG held its fall meeting in Las Vegas, Nevada in October 2010, and its spring meeting in March 2009 in Washington, D.C., in conjunction with the successful 12th Annual Joint EFCOG/DOE Chemical Management Workshop held on March 15-18, 2010.

- Papers from the CSLM Publications Team:

“Variations in Reproductive Toxicant Identification” by D. Quigley, F. Simmons, H. Whyte, J. Robertson, and D. Freshwater. J. Chemical Health Safety. Volume 17, Issue 1, January-February 2010, Pages 29-53.

“Over-Pressurized Drums: Their Causes and Mitigation” by D. Quigley, F. Simmons, M. Kuntamukkula, J. Robertson, S. Bigger, D. Freshwater, and D. Matz-Siegel. Journal of Chemical Health & Safety 17(5) 2010, pp. 24-28. This manuscript discusses causes of drum-overpressurizations, how to safely mitigate drums that are over-pressurized and how to prevent over-pressurizations from occurring.

"Methods for the Safe Storage; Handling; and Disposal of Pyrophoric Solids and Liquids in the Laboratory" by M. Allnajjar (PNL), D. Quigley (Y-12), M. Kuntamukkula (SRS), F. Simmons (SRS), J. Robertson (LLNL), S. Bigger (DOE-NNSA), D. Freshwater (DOE-NNSA), and D. Matz-Siegel (LANL) was accepted for publication in the Journal of Chemical Health and Safety, a peer-reviewed publication of the American Chemical Society. It is anticipated that the manuscript will be published in the Nov./Dec. 2010 issue of the journal.

- The CSLM Sub-Group continues to grow in active membership, bringing more DOE and contractor personnel together to better manage chemical safety and lifecycle activities at DOE sites.
- A Radiation Protection Task Team is nearly complete in providing a technically-sound, consistent, complex-wide approach of neutron quality factors. This was the result of the amended 10 CFR 835.
- A second Radiation Protection Task Team is working with DOE-HQ in implementing "independent verification" radiological survey requirements for the proposed DOE Order 458.1, which will replace DOE Order 5400.5.
- Developed two Best Practices which are posted on the EFCOG website
- Environmental Subgroup members were called out to support various DOE efforts in responding to Executive Order 13514's requirement for a departmental Strategic Sustainability Performance Plan on a short time.
- The Electrical Safety Subgroup developed three subteams to address recent electrical trends and emerging issues throughout the complex (Hazardous energy control, Subcontractor oversight, and Lightning Protection systems).

- Electrical Safety Subgroup members Chaired three of nine NFPA 70E “Standard for Electrical Safety in the Workplace” Technical Committee task groups for the 2012 code cycle and submitted more than 100 proposals.
- Members of the ESSG worked with, and attended the annual ORPS meeting in the fall to train personnel on the use and application of the Electrical Severity Measurement Tool.
- The Electrical Safety Subgroup partnered with the Institute of Electrical and Electronic Engineers (IEEE) to hold its spring meeting in conjunction with the annual IEEE Electrical Safety Workshop. This spring meeting was attended by 38 electrical Safety SMEs (contractor and federal).
- Working on submittal of best practices for subsurface penetration and/or automated LOTO permitting With the Chair of the DOE Industrial Hygiene Coordinating Committee, the Industrial Hygiene and Safety Subgroup developed technical guidance on the performance of industrial hygiene exposure assessments. The technical guidance consists of a summary which will be contained in the DOE-STD-6005-01, “Industrial Hygiene Practices”, and more detailed guidance contained in the DOE Guide 440.1-3, “Occupational Exposure Assessment”. The final decision on whether to publish one or both of these exposure assessment guidance documents is pending with the current DOE Review of Directives.
- The ESH Working Group Chair participated on the DOE Headquarters Directives Reform Team for Safety & Health (chaired by DOE-HQ HSS, Dr. Pat Worthington).
- A Task Team which is working to develop a suite of performance improvement tools customized for use at DOE sites. The first such tool, a “Guide for the Development and Use of Control Charts” has been completed and is now being published. Several subgroups will be partnering on the development of future guides. The goal is to publish 2-3 additional guides in FY-11 and 2-3 more in FY-12.
- The EFCOG Occupational Medical Subgroup served as an excellent format for communication and discussion among the Site occupational medical programs during the onset and progression of the H1N1 pandemic. Teleconferences were held regularly to update status and to allow sites to share individual strategies for addressing disease progression, vaccination, sanitation, antivirals, return to work and absence medical management. This interchange allowed the sites to work smoothly through this medically urgent situation. Sites arranged for vaccination

- EFCOG Occupational Medical Subgroup members have actively participated in and contributed to other DOE/EFCOG groups including those addressing Beryllium, Nanosafety, and Human Reliability Programs. Occupational Medicine psychologists have collaborated with other SOMD's and other HRP federal and contractor officials in addressing concerns raised by the IG HRP report. Formal responses from working groups pending. The Psychology subgroup has benchmarked their HRP structured interviews across the complex.
- Laser-ESHWG sponsored a LSO Workshop series to be the Annual Meeting venue for the Laser Safety Working Group. A survey of laser safety status of DOE labs was conducted (Laser Safety Policies, Laser Service Subcontractor Policies, Laser Alignment eyewear, Laser Training Policies and Practices, Supervision Policies and Practices).
- Laser Safety Working Group coordinated with Lawrence Berkeley National laboratory to hold its second Annual meeting in conjunction with the LSO Workshop*-2010. The workshop was attended by nearly 150 attendees from DOE sites, academic institutions, and high tech firms. The workshop was made up of presentations by nationally and internationally renowned laser and laser safety experts from the private sector and government agencies.

*LSO Workshop is a grass roots effort by the DOE LSOs in response to the DOE Special Operations report 2005. All previous LSO Workshops except the one held in 2009 at the University of Pennsylvania have been hosted at DOE National Laboratories.

- Two successful Occupational Medicine Subgroup meetings were held in Las Vegas, Nevada and at Y12, in the fall 2009 and spring 2010 respectively. Continuing education credits were awarded for those participating. Outcomes included:
 - Better understanding of individual site occupational medical needs as a result of rotating meetings to different sites.
 - Collaboration with DOE Former Worker Programs with emphasis on information sharing going forward. The intent is to apply this information for use in the occupational medical clinics for active workers as applicable.
 - Continued collaboration and review of best practices for site Wellness programs.

- Continued discussion of and support for site development and use of DOE compatible electronic medical records systems with interoperability with other data systems. Participation of complex psychologists in the Spring EFCOG ESH Occupational Medicine. with focus on HRP and other fitness for duty issues.
- Review of current medical and scientific literature concerning medical effects of engineered nanomaterial exposures.
- Successful web broadcast of spring 2010 meeting by REAC/TS

PLANNING FOR THE YEAR AHEAD

The ESHWG has the following activities planned for FY 2011:

- The fall 2011 ESHWG meeting will be held at the in early October 2010 at Brookhaven National Lab. This meeting will serve as a forum to host a substantial discussion related to worker health and safety regarding new and ongoing activities. All subgroups plan to attend.
- The spring 2011 ESHWG meeting will be in Washington D.C. to facilitate increased participation by DOE personnel. Again, it will be held in conjunction with the CLSM DOE complex meeting.
- The Electrical Safety Subgroup is again working with the Institute of Electrical and Electronic Engineers (IEEE) to hold its spring meeting in conjunction with the annual IEEE Electrical Safety Workshop in Toronto.
- The Occupational Medicine Subgroup will continue to rotate meetings to different sites to allow for occupational medicine clinic visits and to foster greater understanding of similarities and differences between various DOE Sites.
- Laser Safety Subgroup 2011 annual meeting to take place in conjunction with the LSO Workshop at a location to be announced.
- In expectation of the issue of the ANSI Z136.8 Laser Safety in the Research, Development and Testing Environment Standard, the group plans to work towards the adoption of this standard by DOE.
- Completion and issuance of three best practices for the EFCOG website.
- Continue to grow membership and sponsor existing Task Groups.

Support integrated safety management related tasks and the EFCOG Integrated Safety Management (ISM) and Quality Assurance (QA) Working Group in areas such as:

- Working with DOE and member companies in the implementation of Line Oversight and Contractor Assurance Systems
- Hosting workshops in support of key DOE and contractor areas of focus including the Annual DOE ISM Champion Workshop
- Establishing a liaison position at the ESHWG Chair level to integrate with the ISM&QA Working Group
- Support environmental initiatives, including integrating Executive Order 13514, “Federal Leadership in Environmental, Energy, and Economic Performance” across the complex.
- Under the leadership of the Occupational Medicine Subgroup, sponsor the topics of wellness and performance indicators of safety to integrate with other EFCOG Working Groups and DOE.
- Collaborate efforts with the EFCOG Human Capital Working Group.
- Continue to support safety improvement initiatives in electrical safety, industrial hygiene and safety exposure monitoring , and radiological controls
- Support the September 2011 Integrated Safety Management Champions conference to be held at the Hanford Site.
- A liaison position has been established between the ESH and ISM&QA working groups to help ensure that the two groups leverage each other in addressing common issues.

LESSONS LEARNED

Based on successful experience over the past three years to facilitate DOE and NNSA participation, at least one ESHWG meeting will be held in the Washington, D.C. area. Subgroups will be encouraged to meet at the semi-annual ESHWG meetings, but some Subgroups will benefit from joint meetings with industry groups. For FY 2011, the Electrical Safety Subgroup may conduct a meeting in conjunction with the IEEE Electrical Safety meeting, and the Chemical Safety and Lifecycle Management Subgroup will continue to sponsor the annual Chemical Management Workshop. No one right solution is proposed, but continued emphasis will be applied to ensure meetings and activities provide the best value to the members.

The ESH Working Group monitors various trends throughout the DOE complex. Based on an increasing trend of electrical safety events, the Electrical Safety Subgroup is doubling their focus on electrical safety.

EFFECTIVENESS EVALUATION

During this year, the positive impact of the ESHWG to the customer was continued through the various participating contractor operations. Sharing of ESH processes and practices, which were made available for implementation at the various DOE locations resulted in cost savings to all EFCOG member companies. Activities are focused around two central meetings where all members of the subgroups can assemble at one place at one time. Use of DOE facilities has minimized meeting costs. Focused workshops will also continue to be held at locations and in facilities convenient to the business and in a cost effective manner to the customer in accordance with EFCOG operational requirements.

Individual subgroup activities and sharing of operating experiences and best practices, which filter back to each member company continues to be seen as a “cost savings.”

Integration with other working groups provides the opportunity to leverage resources and has benefited the ESHWG in 2009.

The ESHWG has established a position reporting to the Executive Team with responsibility to integrate with the ISM&QA Working Group.

RECOMMENDATIONS

The ESHWG and its Subgroups as currently organized should continue during FY 2011 with continued support of the existing Task Groups.