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# **Energy Facility Contractors Group Integrated Safety Management and Quality Assurance Working Group**

**Annual Report  
Fiscal Year 2008**





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**Energy Facility Contractor Group (EFCOG)  
Integrated Safety Management (ISM) and Quality Assurance (QA)  
Working Group  
Annual Report to the Directors  
Fiscal Year 2008**

**I. Vision and Purpose**

The Vision of the Integrated Safety Management (ISM) and Quality Assurance (QA) Working Group (WG) is to be recognized by both the Department of Energy (DOE) and EFCOG, as a driving force for complex-wide performance improvement throughout the full spectrum of Integrated Safety Management and Quality Assurance activities.

The purpose of the ISM & QA Working Group remains to promote excellence in the development, implementation and validation of ISM and QA programs and processes by sharing information and lessons learned, and by facilitating the application of ISM information, techniques, and best practices at DOE sites.

**II. Membership**

The ISM and QA Working Group includes the Quality Assurance, Feedback and Improvement and ISM Program Management subgroups, along with their associated task groups.

Membership on the Working Group and Subgroups includes representatives from the majority of DOE sites and approximately 40 EFCOG Member Companies. Participation at the semi-annual Working Group meetings averaged approximately 150 personnel.

To ensure the Working Group continued to include a focus on industry best practices and lessons learned, liaison membership has been established with the Institute of Nuclear Power Operations (INPO), the Defense Nuclear Safety Board (DNFSB), and the National Laboratories Improvement Council (NLIC). The Working Group has also established effective horizontal communications with the other key EFCOG Working Groups.

**III. Status, Objectives, Goals and Achievements**

**Objectives and Goals**

The primary objectives of the Working Group are to:



Promote, coordinate and facilitate the active exchange of successful programs, practices, procedures, lessons learned and other pertinent information of common interest to ISM and QA.

Promote ISM and QA awareness and understanding by sharing management and technical information.

Facilitate integration of existing ISM and quality-related processes and work practices.

Identify streamlined techniques and best practices that enable cost-effective and accelerated implementation of validated ISM and QA processes and programs.

Facilitate coordinated contractor input to DOE on ISM and QA-related issues.

Provide an efficient mechanism for interfacing between DOE and senior contractor executives and subject matter experts responsible for development, implementation and continuous improvement of ISM.

### **Working Group Achievements in 2008**

Semi-Annual ISM & QA Working Group meetings were held at the Oak Ridge National Laboratory Conference Center in Oak Ridge, TN from March 25-27, 2008 and at the DOE NNSA Nevada Site Office facilities in Las Vegas, NV from November 18-20, 2008. Key external customer and subject matter expert participation ensured the meetings were addressing current DOE and industry issues. Attendance at the semi-annual meetings averaged approximately 150 personnel.

There were several key leadership changes during 2008. Norm Barker, *EnergySolutions*, became the Working Group Chair, John McDonald, CH2M Hill Hanford became the first vice chair and Connie DeGrange, LLNS, became the WG secretary.

Periodic conference calls were held to discuss priority ISM issues and share lessons learned.

Key EFCOG corporate objectives were supported to ensure that ISM and QA are properly addressed as critical focus areas.

Maintenance of an EFCOG “Best Practices” website which provides a single reference point for all Contractors and the DOE.

Continuing liaisons with the Institute of Nuclear Power Operations (INPO), the Defense Nuclear Facility Safety Board (DNFSB), and the National Laboratory Improvement Council (NLIC).



Initiated a Safety Culture Task Force to evaluate ISM coverage of Safety Culture criteria.

Initiated a separate QA task force to assist DOE EM on a Quality Assurance Improvement Project.

Provided a lead auditor qualified to NQA-1 for each EM "Assist Visit & Audit.

Provided NQA-1 Training to EFCOG & DOE.

Supported the development of EM QA Plan.

Supported HSS on review of orders 414.1, 226.1, and 450.4-1.

Developed a plan for NNSA QA on Quality Assurance Improvement.

### **Subgroup Status and Achievements FY 2008**

#### **A. Feedback and Improvement Subgroup**

The Feedback and Improvement Subgroup (FI) met at both of the Working Group meetings. Bill Roege, DOE-HQ HSS-30 was appointed the subgroup sponsor and Vice Chair for the subgroup, Patricia (Tricia) Allen was selected. Activities or accomplishments during 2008 included:

- Supported presentation on a wide variety of topics to include:
- The ORPS TG presented ORPS training during the October 2008 meeting.
- The F&I SG and the QA SG are jointly developing guidance on a integrated QA and ISM assessments. A white paper was drafted and routed for review and presented at the meeting in October 2008.
- Worked closely with the new EFCOG WG on Contractor Assurance to evaluate areas of potential overlap with Feedback and Improvement. Decided to close together on developing and utilizing "Leading Indicators" to better manage the overall performance of a project.
- Conduct two annual meetings and continue to share good practices among the participating organizations and with DOE-HQ.
- Support DOE HQ Occurrence Reporting Program Manager through the Occurrence Reporting Task Group activities.
- Shared lessons learned on effective transition activities and ISM verification actions.



- Support the ISM Program Safety Culture Initiatives.

## **B. ORPS Task Group**

The ORPS Task Group met at both of the Working Group meetings and supported presentations on a wide variety of topics to include:

- Performance Analysis Guide
- ORPS Guidance Document
- Update to the ORPS Training Class
- Quality of ORPS Reports
- Definitions and Criteria Clarification
- Potential Changes to DOE 231.
- Assessment-Driven Culture, Not Event Driven Culture
- DOE Discussion of Work Planning & Control for DOE O 226.1 and 10 CFR 851 Metrics
- NTS System and 10 CFR 851 Reporting Thresholds
- Electrical Safety Task Group – Analysis Tool/Criteria
- DOE 231.1-2 Interpretation/Guidance
- Guidance on Near Misses
- Sharing for Performance Excellence
- HPI Basics and Concepts Around Accident Investigations
- Reviewed study results of DOE Recurring Type ORPS Reports from 2003-2007 to address several areas including: are there any positive or negative trends, what causal analysis methods are used within the complex, what is the frequency of Human Performance cause coding & couplets, are any novel corrective actions being implemented across the complex, and to determining if “R” reports minimize the risk of recurrence within the project as well as across the complex.

## **C. ISM Program Management / Human Performance Improvement (HPI)**

The Subgroup focused on two high visible, high impact tasks over the past year:

- the DOE/EFCOG Safety Culture Task
- the HPI Implementation Tools Project



On November 1, 2006, the DOE issued DOE M 450.4-1, Integrated Safety Management System Manual. Among the changes was a new section on supplemental safety culture elements which included HPI attributes. These elements are based on experience and learning over the past ten years since ISM was first introduced. In 2008, HPI and Safety Culture were identified as top 5 ISMS priorities by the DOE.

The EFCOG ISMS Program Management and Integration Subgroup is responsible for safety culture. In a joint effort to take ISMS to the next level of performance, a joint EFCOG/DOE sponsored project was initiated to identify a consensus set of safety culture principles to be used by DOE and its contractors, as well as tools to assess and improve safety culture. A diverse team of senior industry leaders representing major contractors, DOE, DNFSB, and INPO was established. Five Task Team meetings were held in 2008. The Task Team is on schedule and prepared to begin introduction and implementation of this initiative by the end of 2008. An EFCOG Website contains the status of ongoing deliberations and related information for this Task.

The Safety Culture Task Team identified three ISMS Safety Culture Focus Areas and associated attributes. The following process is suggested by the Task Team for each organization to assess their safety culture:

1. Review the Safety Culture Focus Areas and Attributes.
2. Review the ISM Guiding Principles and Supplemental Safety Culture Elements identified in the ISM Manual for additional clarification (DOE M 450.4-1).
3. Assess these Safety Culture Focus Areas and Attributes. An assessment of safety culture would likely involve a combination of methods such as direct observations, review/assessment of key safety culture related processes, performance indicator monitoring and trending, surveys and/or interviews, and facilitated safety culture workshops.

ISMS Safety Culture Focus Areas and Associated Attributes:

- Leadership
  - Clear expectations and accountability
  - Management engagement and time in field
  - Conservative decision making
  - Open communication/raising issues in an environment free from retribution
  - Demonstrated safety leadership



- Staff recruitment, selection, retention, & development
- Employee/Worker Engagement
  - Personal commitment to everyone's safety
  - Teamwork and mutual respect
  - Participation in work planning and improvement
  - Mindful of hazards and controls
- Organizational Learning
  - Performance monitoring through multiple means
  - Use of operational experience
  - Trust
  - Questioning attitude
  - Reporting errors and problems
  - Effective resolution of reported problems

The EFCOG ISMS Program Management and Integration Subgroup is also responsible for HPI. The HPI Implementation Tools Project was developed as a mutually beneficial initiative between the Department of Energy (DOE) and EFCOG to assist DOE contractors in making available a suite of tools recommended for the implementation of HPI and improvement of ISMS. Project implementation is overseen by the Subgroup. It reflects a significant commitment by DOE contractors through the EFCOG to take an active role in providing these tools. Guidance documents represent the best available information to implement HPI based on experienced contractor and DOE inputs. The project aligns with stated EFCOG functions to exchange successful programs, practices, procedures, and lessons learned among DOE contractors; and allow for effective interface with external organizations such as INPO and the DNFSB. The project will also benefit limited DOE HPI resources by providing one source of guidance documents to implement HPI supported by EFCOG members with DOE input and oversight. In 2008 the HPI Task Group's focus was to complete six deliverables for the HPI Project Plan.

The project is on schedule. Completed activities which have been posted on the EFCOG Website include:

- HPI Steering Committee Approach
- HPI Training Development and Implementation
- HPI Self Assessment (Gap Analysis)
- HPI and Causal Analysis
- HPI and Work Planning
- HPI and Safety Culture



No direct cost savings or cost avoidance were identified. Communication of good practices by contractors experienced in selected areas has provided benefits to other contractors in the form of exchange of information. DOE communications has provided current status and future plans on important initiatives which provide value to members as well.

There have been no assigned objectives.

The DOE, DNFSB, and INPO have consistently provided good support to the committee since its inception.

#### **D. Quality Assurance**

The QA Subgroup is comprised of three task groups. These task groups are the QA Policy and Requirements group; the Supply Chain Quality group; and the Quality Engineering group. Collectively the QA Subgroup was able to initiate, develop, and complete a variety of activities itemized below. The Subgroup met two times during the course of the year, once the end of March in Oak Ridge, TN and a second time in November in Las Vegas, NV. In addition to attendance at meetings the Leadership Team conducted monthly teleconferences to discuss issues and status the commitments made to the Department. Some of the items listed below will continue to be worked on during CY 2009, in addition to these items the group will consider chartering two (2) new Task Teams to address implementation of issues associated with management of software and Quality Control/Inspection.

##### QA Policy and Requirements Task Group

This task group has performed the following tasks throughout CY 2008 including:

- Supported HSS with the re-write of the QA Guidance document supporting 413.3
- Supported HSS on the review of O 414.1
- Completed a white paper discussing implementation issues associated with NQA-1, Part II
- Developed a “strawman” used to support the EM Task Team formed to address the implementation of graded approach practices
- Supported DOE Headquarters in the developed of a complex wide lessons learned program
- Gathered requirement matrices comparing various editions of national consensus standards for EFCOG DOE use

##### Supply Chain Quality Task Group

This task group has supported the following tasks throughout CY08 including:



- Identified the lead auditor and audit team members to participate in conducting a joint audit of Air Techniques International (ATI) per DOE HQ's request. ATI is the DOE subcontractor who manages the Filter Test Facility in Maryland. The joint audit is scheduled to be completed by January 2009.
- Completed the development of an EFCOG procedure for conducting joint audits of common Suppliers is currently under development.
- Updated the commodities listing of safety-class, safety-significant commodities that are commonly purchased by Contractors and potential suppliers of the commodities.
- A standard checklist for each of the commodities that can be used for evaluating the suppliers is under development; this will ensure evaluation criteria is adequate for most Contractors to be able to use the audit results.
- The task team (Contractors) is continuing to pilot the use of the Integrated Supplier Information System (ISIS) for sharing supplier evaluation information on a limited basis for common suppliers. To date, 20 Contractors have been given access to the ISIS supplier evaluation information.
- The status of the Integrated Contractor's Purchasing Team (ICPT) Basic Ordering Agreements (BOA) for waste containers and the Packaging Management Council's (PMC's) role in evaluating suppliers that have submitted proposals for the BOA was presented. The PMC's supplier evaluation information of container and waste boxes supplier is being shared among the EFCOG Supply Chain Quality task team members and entered into ISIS.

#### Quality Engineering (QE) Task Group

This task group has Performed the following tasks throughout CY08 including:

- Development and submittal of the "Suspect / Counterfeit Item Guidance Document"
- Development of paper discussing guidance for Hold / Witness Point Usage; and initiated
- Development of a description document on "QA Engineer Roles and Responsibilities"
- Reviewed the Commercial Grade Dedication Process for best practice
- Developed a Construction Quality Assurance best practices for nuclear work
- Drafted an application guide to address the management of non-safety software.



#### **IV. Expected Achievements for 2009**

##### **Working Group Expected Achievements for 2009**

- Conduct two semi-annual working meetings in the spring and fall to coordinate and facilitate Subgroup interaction and involvement.
- Continue to support initiatives in the following areas:
  - EFCOG Best Practices
  - ISM, Human Performance, Occurrence Reporting and QA-related training and communication
  - ISM Program / Safety Culture Initiatives
  - EM QA Improvement Project
  - Support to EM on NQA-1 Audits
  - Support NNSA Defense Programs on QA Improvement Project
  - Enhancing Best Practices Process effectiveness
- Support to the DOE 2009 Integrated Management Summit, especially in the area of Quality Assurance
- Support ISM and QA related tasks and the EFCOG Critical Few in areas such as:
  - Working with DOE and member companies in the implementation of Line Oversight and Contractor Assurance Systems
  - Development of a recommended set of criteria to assess supplier evaluation and qualification processes
  - Supporting EFCOG productivity initiatives
  - Supporting the final development and implementation of the DOE ISM Manual
  - Supporting the DOE Human Performance Initiatives and,



- Hosting Workshops in support of key DOE and Contractor areas of concern.

### **Subgroup Expected Achievements for 2009**

#### **A. Feedback and Improvement**

Bill Roege has agreed to sponsor the Feedback & Improvement group and will provide great assistance in helping identify areas for feedback and improvement that should be a focus area in the coming year.

- The chair, Rex Beach resigned at the end of the year. He provided excellent leadership and will be greatly missed. The vice-chair, Tricia Allen will become the Chair. The team will work to identify a new vice-chair in the coming months.
- Conduct additional training sessions on ORPS
- The F&I SG and the QA SG will continue working jointly on guidance to better integrate QA and ISM assessments. The team will focus on one or two sessions to expand the concept for the consolidation.
- Draft guidance on “how to” develop leading indicators and what actions examples of actions that can be taken to make mid course corrections.
- Conduct two annual meetings and continue to share good practices among the participating organizations and with DOE-HQ.
- Support DOE HQ Occurrence Reporting Program Manager through the Occurrence Reporting Task Group activities.
- Continue support of DOE in the implementation of DOE Order 210.2.
- Support the ISM Program Safety Culture Initiatives

#### **B. ISM Program Management and Integration Subgroup**

Activities and objectives the working group has identified for the next reporting period include:

- HPI Implementation Tools Project completion
- Safety Culture Task Team trial completion by December of 2009

Two meetings are expected at approximately 6 month intervals

#### **C. Quality Assurance**



Many of the tasks from 2008 will continue to be worked on during 2009. In addition to these items the group will consider chartering two (2) new Task Teams to address implementation of issues associated with management of software and Quality Control & Inspection.

#### **V. Estimated Duration (Sunset Clause)**

The role of the ISM and QA Working Group is projected to continue expanding in both scope and membership during 2009 and beyond. The Working Group serves as the institutional group that promotes and sponsors ISM and QA across the DOE complex and among EFCOG Member Companies.

#### **VI. Cost/Benefit Determination**

During this year, the positive impact of the Working Group to the customer was continued through the various participating contractor operations. Sharing of ISM and QA processes and practices, which were made available for implementation at the various DOE locations resulted in cost savings to all 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.”

#### **VII. Issues**

Succession planning for the various leadership roles within the Subgroups will need to be managed such that the relationships with our DOE sponsors / customers, as well as Critical Few items being worked under the ISM & QA WG, do not suffer from any 2009 leadership transitions.

#### **VIII. Lessons Learned / Operating Experience**

Continued coordination of Subgroup meetings at the same location and concurrent with the Working Group meetings is better for member company representatives who participate on more than one task team or subgroup. In the future, more attention will be placed on scheduling workgroup and subgroup meetings that better accommodate fewer member company representatives needing to attend meetings at multiple locations if possible. The only on-going limitation is related to available meeting space at central DOE facilities. Additional locations are currently being evaluated by the Working Group’s leadership.



*Energy Facility Contractors Group Integrated Safety Management  
and Quality Assurance Working Group*

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## **IX. Recommendations**

The ISM & QA Working Group, Subgroups and Task Groups as currently organized should continue during FY 2009.

**All information relative to the operation and on-going activities of the ISM & QA Working Group are accessible through the EFCOG Website at the following address: [www.efcog.org](http://www.efcog.org)**