

**EFCOG Electrical Safety Subgroup
Spring Meeting Minutes
March 17-18, 2008
Submitted by Jackie McAlhane**

Attendees

Lloyd Gordon	Pat Tran, DOE	Bryan Drennan
Joe Kilar	Bobby Gray	Barry Osborne
Todd Bischoff	Sal Sferrazza	Bobby Sparks
Jackie McAlhane	Heath Garrison	Thomas Nehring
Dave Mills	Jim Durnan	Patrick Zona
Mark McNellis	John Pearson	Bill Reed
Jim Jacobson	Martin Iedema	Keith Gershon
Ken Mastrullo, OSHA		

Introduction

Lloyd Gordon chaired and welcomed everyone to the Spring meeting. Each participant introduced himself and the site he represented.

Summer Electrical Safety Workshop Plans

Lloyd briefed the group on plans for the summer DOE Electrical Safety Meeting and Workshop on July 28 to August 1. The workshop will be sponsored by NREL and held at the Denver Marriott West.

Sal stated that 15 people have registered to date to attend the summer meeting. Sal said that NREL has provided funding to cover the meeting facility and meals for about 200 attendees. No registration fee will be required. A tour of the NREL wind site will be provided on Friday.

Lloyd mentioned that the Electrical Safety Task Group should plan to meet during this week in Denver.

Jackie McAlhane reviewed the tentative agenda for the presentations. The team suggested that the speakers provide abstracts of their presentations and post to the meeting website to encourage attendance. ACTION: Jackie agreed to request abstracts from the speakers. Lloyd will post to the website.

Sal solicited input from the group about the possibility of including vendors at the summer meeting. The group felt that vendor involvement should not be discouraged and suggested Sal confirm this with his site. Bobby Gray mentioned

that we need to involve outside sources of electrical experts if we want to continue to lead the industry in electrical safety.

Lloyd requested feedback on the workshop topics for the summer meeting. Sal proposed a workshop on subsurface detection techniques to continue the discussions that were initiated at the SRS Electrical Safety Workshop that was held on this topic. Lloyd suggested a workshop on arc flash calculation methodology and on use of the severity measurement tool. Bryan Drennan suggested we do a panel session on use of the severity tool to provide attendees an opportunity to ask questions about the tool. Bryan also suggested we include a workshop on CFR 851 implementation and asked if we could get Brad Davy to provide us feedback on 851 enforcement activities. Barry Osborne requested a workshop on batteries and battery rooms related to installation and clearance requirements.

Bobby Gray requested that we invite some of the arc flash experts to participate in our discussion on arc flash calculations. Jackie commented that the workshops should result in a product such as a new chapter or section that can be added to the DOE Electrical Safety Handbook. Lloyd agreed and emphasized that the workshops are not intended as a training tool.

Bobby Gray also suggested we include a workshop on NFPA 70B, electrical equipment maintenance, with the objective to develop a recommendation to provide to DOE.

Keith Gershon asked if the severity tool is complete or are we still beta testing it. Lloyd responded that the tool is final and issued on the EFCOG page. Lloyd commented, however, that that tool may be revised and we will provide FAQ's as we gain experience using it to review our electrical events within the complex.

Bobby reported that Hanford will host the workshop in 2009 and Oak Ridge will host it in 2010. The group discussed the best time of year to conduct the workshop and concluded that it should be held in conjunction with the Fall meeting in 2009 rather than a separate meeting in the summer. The group agreed to meet only twice a year in the future with a Spring and Fall meeting. ACTION: Lloyd took an action to revise the EFCOG Task Sheet to reflect this change.

Monthly Teleconference

The format for the monthly teleconference was discussed and no changes were suggested from the group. The group decided to continue the monthly call format as done in the past year. Jackie was requested to communicate to group members to discourage use of cell phones during the teleconference since we have experienced some noise feedback in past calls. ACTION: Jackie to include note about use of cell telephones in teleconference notices.

Severity Measurement Tool

Lloyd briefed the group on the development of the severity tool. He explained that we need to further look at the definition of shock as used in the tool. He explained that the tool is not only used for shocks but for any type of event that includes an electrical hazard. Lloyd emphasized that we should champion the tool at our sites and use it as a guide to help DOE better understand the significance of an electrical event. Lloyd mentioned that the ORPS group at Headquarters likes to see details of the use of the tool in an ORPS report.

Ken Mastrullo, OSHA Region 1 Director, joined the discussion and provided an opportunity for attendees to ask questions related to OSHA interpretations. Ken explained that OSHA does not distinguish between AC and DC relative to the 50 volt threshold for hazardous energy. However Ken did note that he is not aware of a case law or citation involving a 50 volt DC source. Ken also mentioned that we should contact Dave Wallis if we are serious about requesting a change to the OSHA standards. Ken further explained that 70E is used as a feasible abatement for OSHA and that many settlements for citations include an agreement to use NFPA 70E for future work practices.

Training

Lloyd explained that the National Training Center (NTC) has developed an electrical safety training course to train DOE electrical subject matter experts for oversight of contractor electrical safety programs. This course was reviewed at last year's summer meeting in Albuquerque. NTC may want to hold a training course on Friday of the summer meeting in Denver to train some of their folks. He also indicated that NTC is offering this same training in May for DOE.

Bobby reminded the group that funding was offered last year by NTC and DOE-HQ to support development of training modules that could be transported between sites. He suggested to Lloyd that we pursue this to see if the funding can be used to support the phase 2 initiative for the COE.

Summary of ESH Working Group Executive Committee Meeting

Lloyd provided feedback on his presentation to the ESH Working Group Executive Committee on how the Center of Excellence for Electrical Safety website is being used by the complex and public. He explained that we intend to add a FAQ to the website to provide advice and guidance for NFPA 70E. He said that we are experiencing about 2400 hits per month on the website with search terms such as training, battery, breakers, AHJ and electrical safety. He indicated that the top hits are the "Electrical Hazard Awareness Guide" and

“General Electrical Safety” training module. SRS, ANL, PNL, LANL and DOE are the major users of the website from within the complex.

Lloyd said that the executive committee suggested that each ESH subgroup issue two best practices each year to the EFCOG site.

Lloyd explained to the committee that the next phase of the COE is to develop some demonstration laboratories that can be transported easily between sites. Lloyd suggested that we should start collecting electrical PPE, tools, ground hook equipment, anti-contamination clothing and bring to the summer meeting for the COE. He also suggested that we provide any equipment and training on subsurface detection technology that could be used by the COE.

Lloyd said that an additional training module will be developed and posted to provide guidance and instructions for using the severity measurement tool.

ACTION: Develop training module for using severity tool (Lloyd)

Lloyd informed the committee that the DOE Electrical Safety Handbook revision is ready and pending the REVCOM process and this could take several months due to the pending review of all DOE safety orders. There was much discussion on how to proceed with the Handbook revision to get it issued in a timely manner. Bobby Gray suggested that we issue the latest revision as an EFCOG document and Jim Durnan seconded the motion. The group agreed on this path since the document can be managed and revised within the EFCOG process and DOE can adopt it. This is similar to the process that OSHA used when they requested NFPA to create the 70E document for electrical safety practices in the 70's. Bobby Gray agreed to discuss this approach with our DNFSB contact and with Frank Russo in DOE-HQ to get their concurrence. **ACTION:** Lloyd responded that he will revise the task sheet to reflect this change for 2008 objectives.

Mark McNellis requested that we consider deleting all references to national codes and standards in the current Handbook but it was decided to let the formal revision process handle this request in future changes.

PNNL Hazard Assessment Tool

Martin Iedema and Bobby Sparks presented the PNNL Hazard Assessment tool to the group. They indicated that the thresholds used in the PNNL tool were based on the hazard categories found in the severity measurement tool. The hazard assessment tool is currently in evaluation by PNL and has not been released for use. PNNL plans to provide the program to EFCOG members to use at their sites when their evaluation is complete.

Wrap Up on Monday

Lloyd concluded the Monday discussion and requested all to review the expert list and AHJ contacts on the COE and identify other names to include. He also told the group that we should include a form on the COE website that folks can use to request an interpretation. ACTION: Lloyd will develop this form and post to site.

It was noted that the Electrical Severity Ranking Tool document had been placed in the archives section of the EFCOG page and is not easily found now.

ACTION: Jackie said he will contact Ed to remove it from archives and place it back on the home page for our subgroup. It was requested that we also link the Type A & B Investigation Reports to the EFCOG home page.

Tuesday Morning Discussion

Two major topics were discussed Tuesday morning: 1) breakout sessions for the summer workshop and 2) a process for interpretations.

Potential breakout groups that were identified and discussed for the summer workshops included:

1. Arc flash calculation methodology and PPE
 - Comparison of methods and PPE selection
 - Labeling
 - DC, batteries, and capacitors

Some felt our expectations may be too high to accomplish all of this in the workshop.

2. Subsurface detection techniques

ACTION ITEM: Get list of attendees from the SRS meeting if we plan on including this topic (Jackie McAlhaney)

3. Engineering methods

4. Handbook: Pat was concerned with "EFCOG handbook" idea and suggested we finish what we have started and we can discuss further in Denver.

5. 70B/MaintenanceProduct would be a white paper to DOE suggesting that all projects possibly start using the document.

6. Severity tool and trend analysis: Lloyd suggested we use the tool to plot all events in complex over 5-year period

7. 10 CFR 851: Keith Gershon expressed concern over our possible exposure to an 851 citation. Some of the concerns were "What will HQ be looking for, "issuing citations for" and "It's all very subjective right now".

ACTION ITEM: Find out who is the contact at HQ for this issue and invite them to speak at the summer meeting. (Pat Tran volunteered to find this out and let us know- it could possibly be Phil Wilhelm.)

Comments: Breakout leader on this one should pull out NTS reports prior to meeting.

8. Battery banks

9. Subcontractor flow down of requirements: The group felt this topic could be included under 851

Lloyd then asked members to select their top three topics and took a vote with the following results:

Arc flash and PPE-13 votes
CFR 851-10 votes
DOE Electrical Safety Handbook- 9 votes
DC Systems (Batteries and DC R&D) – 7 votes
Severity Tool and Trend Analysis – 6 votes
NFPA 70B – 3 votes
Engineering Methods to Reduce Hazards – 2 votes
Subsurface Detection Techniques – 1 vote

Lloyd and group then assigned tentative breakout group leaders as follows:

Arc flash calculations and PPE (Mark McNellis)
CFR 851 (Bryan Drennan)
DOE Electrical Safety Handbook (Bobby Gray)
DC Systems (Keith Gershon)
Severity Index and Trend Analysis (Lloyd Gordon)

Mark then addressed group seeking guidance for interpretations of codes and standards explaining the exercise taken in February regarding the use of gloves when using a volt meter. Mark explained that he used the complex 70E SME's to develop this 70E interpretation. Jackie had developed an interpretation form and Mark asked how we further formalize this process. After discussion, the group's opinion was that David Mills would be the Point of Contact for interpretations. Users will submit the question electronically. David will then forward question on

to the appropriate SME's. Once an interpretation is made it will then go out to the ESTG membership for comments and finally for a vote.

The subgroup further decided that the form developed by Jackie will be better titled "ELECTRICAL SAFETY POSITION/GUIDANCE PAPER". ACTION: Jackie will revise the form.

In an attempt to further populate the "ask the expert" fields, Lloyd solicited volunteers/SME assistance to include on the COE site. The following names will be added:

NEC: David Mills, Bobby Gray, Keith Gershon, Bryan Drennan

OSHA 1910, 1926: Keith Gershon, Joe Kilar

ACTION: Lloyd add NEC and OSHA contact names to COE site.

The EFCOG meeting adjourned at 1100 so participants could attend the IEEE workshop.