



**EFCOG Electrical Safety Subgroup
February 2-3, 2009 Meeting Minutes
Submitted by T. David Mills**

Attendees (See Attached Roster)

February 2 Minutes

Mark McNellis opened the meeting and called for introductions around the room.

Lloyd Gordon then asked who was not going to attend the IEEE IAS Electrical Safety Workshop and a few hands went up. He also asked if anyone knew that there was a per diem rate at the conference hotel and most did not.

Dave Mills stated that a questionnaire would be coming around regarding the EFCOG meeting and the IEEE IAS Electrical Safety Workshop coordination and lodging.

Charter Review

Mark McNellis led the discussion on the revisions to the Charter. The consensus was that it needed to be more generic as the original charter was developed to specifically address the formation of the Subgroup and not the ongoing activities. After much discussion of the details involved, Dave Mills volunteered the Executive Board to craft a new version overnight and present to the group in the morning for acceptance. Geag Christensen volunteered to assist.

The group also discussed the extension of the term of office for the Executive Board to two years instead of the present term of one year. It was proposed that one year is not enough time to adequately address the issues and activities of the subgroup. Paul Chapman made a motion to that effect and Bobby Sparks seconded. The motion passed and the language in the charter was so noted.

EFCOG Electrical Safety Subgroup Position Papers

Jackie McAlhaney presented the format and process for development of EFCOG electrical Safety Subgroup technical positions. Paul Chapman recommended a review committee be established for each request that is received. The group needs to establish the process and finalize the first one. The secretary will be the recipient and keeper of the records.

ACTION: Dave Mills and Jackie McAlhaney to develop a straw man document template.

The first position question related to NFPA 70E and Section 130.7 and the use of gloves for testing and probing. It is over a year old and will need to be reworded and recirculated.

ACTION: Dave Mills and Jackie McAlhaney to develop a revised position.

DOE Electrical Safety Handbook

Lloyd Gordon provided a history of the DOE Electrical Safety Handbook leading up to the current state of affairs which has the revised version in DOE HQ for review prior to submitting to the DOE RevCom process.

That process disseminates the proposed document to the appropriate reviewers for review and comment so a widespread acceptance is developed prior to the issue of the document. Lloyd solicited input from the group.

ACTION: Lloyd to post the new chapters on the COE site.

Discussion of the Severity Ranking Tool

Lloyd Gordon presented the history of the development of the tool stemming from the 2005/2006 Electrical Safety improvement Team effort. Mike Hicks reported that the tool has been accepted by the ORPS personnel, but needs to make its way through the review stage for incorporation into the ORPS process. ORPS has already indicated that sites should use the tool and provide the scores on all electrical ORPS reports for assessment purposes.

DOE Electrical Safety Handbook

Mike Hicks recapped the RevCom process and indicated that each site should have a coordinator that should be contacted by each EFCOG subgroup member to assure that they will be included in the review of the Handbook. Mike went on to say that the EFCOG ESSG will most likely be called upon to support Pat Tran in the review and disposition of the comments received from the RevCom process. The future revision process for the Handbook was discussed, but will need to be part of a separate task group to develop.

Discussion of the 125kVA 70E Exception

The group discussed a clarification for the use of NFPA 70E - 2009, Section 130.3 where it states in Exception No. 1 that, "An arc flash hazard analysis shall not be required where all of the following conditions exist:

- (1) The circuit is rated 240 volts or less.
- (2) The circuit is supplied by one transformer.
- (3) The transformer supplying the circuit is rated less than 125 kVA."

Some in the group believed that this change reduced the safety afforded employees simply by allowing the "no analysis" situation with the qualifiers in the exception. The group, however, determined that there is not an appreciable arc flash hazard at the voltage and energy levels presented by the less than 125 kVA transformer at 240 volts or less. This determination is based on the lack of any indication that an arc is sustainable under the conditions prescribed. The clarification supports the new wording.

Greg Christensen moved to accept this clarification and Bobby Sparks seconded. The vote was unanimous in favor.

ACTION: Dave Mills and Jackie McAlhaney to draft a position for the group.

Review of Best Practices for Arc Flash Hazards

Jackie McAlhaney presented his best practice paper on “Performance of Arc Flash Calculations and Labeling.” The 14 page document contains good information and guidance for performing arc flash analyses and provides suggested labeling techniques as well as qualifications for those performing the analysis. The group was asked to review and comment.

ACTION: Jackie McAlhaney to send out by February 10 to group for review and comment.

ACTION: Group to respond to Jackie McAlhaney by March 1.

ACTION: Jackie McAlhaney to publish in May.

Review of Commitments for CY09

Just prior to the review of commitments, Greg Christensen asked if anyone had experience installing arc resistant switchgear, but no one indicated any experience.

Mark McNellis reviewed the 18 commitments made for 2009 and then opened them up for discussion. Some were dropped and some combined to result in the following:

1. Handbook Approval (Gordon) – in RevCom/ Mike Hicks, Lloyd Gordon and Bobby Gray to pursue with DOE HQ

ACTION: Mike Hicks, Lloyd Gordon and Bobby Gray to pursue with DOE HQ and report back to the group on status.

2. Cross Discipline (McNellis) – The process is in place and this is an ongoing effort with teleconferences and similar opportunities to discuss with other groups.
3. NFPA Membership (Drennan) – Standards and Proposals are topics for a workshop session at the fall meeting.

ACTION: Bryan Drennan / Lloyd Gordon to organize session for the fall meeting.

4. Arc Flash Best Practices (McAlhaney) – See previous topic under same title.
5. Partner with Army Corps of Engineers – Arc Flash Initiatives – Guidance Manual. (Jackie McAlhaney) This could be a joint partnership and produce document for the Army and a chapter in the DOE Electrical Safety Handbook. A draft guide has been developed by the Corps and provided to McAlhaney for comments.

ACTION: Mcalhaney to lead Task Group consisting of Gary Dreifurst, Lloyd Gordon, Pat Zona, Tom Nehring, Swapna Mukherji, Rick Baca and Greg Christensen to work with the Corps on development and adaptation. Should have a status report for the fall meeting.

6. Publish Arc Flash Training Modules (McNellis) – NFPA 70E and Arc Flash Characteristics are two that should be ready to post on the web site. Paul Chapman is in the process of cleaning out the specific site information from his module and will send out to the group. Jackie will be sending out the Best Practices document as well.

ACTION: Mark McNellis to have two modules posted by April 1.

7. 10CFR851 Issues Guidance (Drennan) – Lloyd Gordon to address and formalize the process. Mike Hicks and David Inskeep to assist.
8. Process for Revisions to DOE Electrical Safety Handbook (Gray) – This topic was deferred to the fall meeting and will be included in the Handbook session. Rick Baca suggested a Style guide be developed as well.
9. Position on Use of Automated External Defibrillators (AED's) (Christensen) – Greg Christensen presented his draft of a position on the use of AED's and the benefits of using them.

ACTION: Greg Christensen to send to the group for review and comment. Comments due back March 15.

10. ISA 102 Publication (Gordon) – Lloyd provided history for this ISA Standards Committee within DOE and its development. The standard is addressing High Voltage High Power DC and other similar areas and Lloyd wants to publish a standard this year. He and Perry Anthony are co-chairs of the working group. Lloyd wants to update the membership and submit the first standard soon.
11. Center of Excellence Website Maintenance and Update / Response to Input (Gordon) – Ongoing effort
12. Subsurface Investigation (Inskeep) – defer to presentation tomorrow
13. DOE Complex Electrical Safety Scoring (Hicks) – Severity tool enhancements are done and will be sent to the group

ACTION: Mike Hicks to send updated severity tool to the group by March 15.

14. Direct Current (DC) Subcommittee (Gershon) – Lloyd stated that it is a standing committee and the member list will be sent out soon.

ACTION: Lloyd to send by March 15.

15. Spring Meeting Coordination with IEEE ESW (Jackie) – The next IEEE ESW will be in Memphis, TN Jan 31 – Feb 4, 2010 at the Memphis Downtown Marriott and Convention Center. The group will decide if the EFCOG Spring meeting will again be at the IEEE ESW at the Fall Meeting.

ACTION: Jackie McAlhaney to assure that a vote is held at the fall meeting.

16. Sandia Videos posted to Center of Excellence website (Gordon) – Lloyd will do by March 1.

ACTION: Lloyd to post by March 1.

Subgroup Updates and/or Path Forward / Open Forum

Paul Chapman had question on cranes and overhead lines. He wanted to know what the people in the group did when the crane could get into the overhead lines, but the work did not put it in proximity to them. His procedure requires considering de-energizing the lines as do most sites.

Bobby Sparks related the incident where a painter moved a ground lead that was in use by a welder and received a shock.

Mark adjourned the meeting for the day.

February 3 Minutes

Review of Charter Revisions

Mark lead the group in a review of the changes made to the ESSG Charter by the task group overnight. A new mark-up was developed and Dave Mills is to incorporate changes and send to the group.

ACTION: Dave Mills to send to group by March 1.

ACTION: Group to respond with any comments by March 15.

Subsurface Subgroup Update

Dave Inskeep and Clark Scott presented the progress made by the subsurface investigation subcommittee and the results were very encouraging. A copy of the slides will be posted on the web site for use. The group entered into a discussion of techniques and methods as well as stories and examples of equipment use.

Electrical Safety Index (ESI) Presentation

Lloyd Gordon presented the Goal and Mike Hicks supported with information from past DOE meetings. The numbers are normalized to account for man-hours very similar to the methodology used in safety injury reporting. The tool is meant to be used by a knowledgeable person (SME).

Fall Workshop Planning

Fall workshop breakout topics were reviewed and the list for the fall workshop will be as follows:

- Electrical Safety Training – Paul Chapman, Richard Waters, Martin Idema, Joe Kilar, Jack Johnson
- 10 CFR 851 issues – Bryan Drennan, Mike Hicks, Randy Unger
- 70E Proposals – Bobby Gray, Ken Gray
- ISA Standards – Lloyd Gordon, Gary Dreifuerst, Tommy Martinez
- Unlisted Electrical Equipment Issues – Greg Krumdick, Bobby Sparks, Sam Garcia, John Whipple
- Subsurface Detection – Dave Inskeep, Clark Scott, Rick Baca, Jeff Williams

The Severity Index will likely be a presentation

The decision was made to leave 6 topics for now and let registration determine the final list.

Ken Gray presented on the general meeting for Bobby: The meeting will be held Oct 6-8 at the Pasco Red Lion – per diem rates will be honored. The hotel is also close to the airport. Bobby is working with outside vendors for funding and hopes to have the website live by March 1, 2009. Bobby is also working with the Chamber of Commerce to put some side attractions together. He is also looking to arrange a tour of Hanford, a wine tour, and possibly a jet boat tour of the Columbia River. Ken said that they are looking to use facility electricians, dressed in FR clothing to work the registration and help stations. Bobby will also look into getting us a room to host the EFCOG fall meeting on Friday.

Paul Chapman will be asking management for a renewed commitment to host the workshop in 2010.

Mark adjourned the meeting and encouraged all to participate again next year.