

Meeting Minutes

A. Call-to-Order and Agenda

The meeting was called to order by Dan Hrcir at 8:00 AM.

The agenda was sent to the working group members by Dan Hrcir on October 3, 2016.

The working group met for one session at 8:00 – 9:45 AM, the second session from 10:15 – 12:00 PM was not needed.

B. Attendance

Introductions were made by all attendees.

There were nine members and fourteen guests in attendance, total members 12.

Role	First Name	Last Name	Company
Guest	Natasha	Alvarado	IEEE -SA
Guest	Richard	Calatayud	ABB
Guest	Clint	Carne	Schneider Electric
Guest	Dave	Dunne	Schneider Electric
Member	Doug	Edwards	Siemens Industry, Inc.
Member	Keith	Flowers	Siemens Industry, Inc.
Member	Lou	Grahor	Eaton Corporation
Guest	Tom	Hawkins	Siemens Industry, Inc.
Chair	Dan	Hrcir	Eaton
Member	Jose	Jarque	AZZ Switchgear Systems
Guest	Bob	Lau	Pentair
Guest	Albert	Livshitz	CE Power
Guest	John	McClelland	Technibus
Member	Jeffery	Mizener	Siemens Industry, Inc.
Member	Charles	Morse	Siemens Industry, Inc.
Vice-Chair	Darryl	Moser	ABB
Guest	Ted	Olsen	Siemens Industry, Inc.
Member	Owen	Parks	ABB
Guest	Rahul	Pawar	ABB
Guest	Kevin	Sippel	Eaton
Guest	Erin	Spiewak	IEEE -SA
Guest	Paul	Sullivan	Dupont
Guest	Bruce	Venne	Rockwell

C. Rules and guidelines for conducting Working Group meetings

The IEEE Patent Policy and Business Conduct slides were reviewed by the attendees prior to registration to the meeting. No patent declarations were made known. The IEEE patent policy may be reviewed at the following web site:

<http://standards.ieee.org/board/pat/pat-slideset.pdf>

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D. Working Group P&Ps

The Switchgear Committee Working Group P&P's are posted on the Switchgear Committee website at the following website:

<http://www.ewh.ieee.org/soc/pes/switchgear/o&p/Procedures.html>

E. Previous Meeting Minutes

The meeting minutes from the spring meetings held on April 25 & 27, 2016 at Sonesta Resort in Hilton Head, SC stand approved as posted.

<http://www.ewh.ieee.org/soc/pes/switchgear/minutes/2016-1/S16SAa5REV0.pdf>

F. Document Status Report

- C37.21 Draft 3 sent out for ballot on August 31, 2016
- Ballot ended on September 30, 2016 (61 balloters, 88% response rate, 90% approval, 1 abstention, and 61 comments)
- C37.21 Draft 3 Comment Review
- C37.21 Draft 4 created from Draft 3 comments

G. Technical Discussion Highlights

- Discussion on ballot comment submitted about the ground bus material with respect to copper only or if other materials are allowed, the decision was to add a portion of paragraph 7.1.2.2 from C37.20.1, *“At all points of connection between a ground bus and the assembly, any nonconductive coatings, such as paint, shall be removed or penetrated to provide good electrical contact.”*
- Additionally it was decided to add ground bond testing requirements from C37.20.1, *“The bonding impedance shall be not greater than 0.100 Ω between the metal door and the grounding bus (or continuity bus, if applicable) when measured with a dc current of at least 30 A.”*
- Add reference to standard NEMA WC70 / ICEA S-95-658 for wire stranding
- Ballot comment regarding class K stranding being added to the existing class C or D stranding, existing wording is exactly the same as in C37.20.1 but the decision was made to add “or finer” to cover class K stranded wire
- Ballot comment regarding the wire size going outside of the control switchboard as being outside of the control of the manufacturer, the decision is to leave as it is written because the note in C37.21 is informative
- Ballot comment regarding low energy signal wires including communications cables to be separated from other wiring, decision was to reject the comment and leave the wording as it currently is
- Line 665 add wording to indicate that wire sizes larger than #10 AWG may be needed, decision was made to reject the comment because the current wording is not restrictive
- Line 425 add “preferred” to rating structure, reject, preferred is already stated in line 420
- Line 481-483 flame resistance, reject the comment to keep standard aligned with C37.20.1

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- Comment regarding the physical size of covers, reject to keep in alignment with C37.20.1
- Line 774 changed salt spray testing from 200 hours to 600 hours to align with C37.20.1
- Reviewed “Accepted” comments and draft 4 of document
- Draft 4 of the document will be prepared and circulated to the Working Group members giving them approximately two weeks to review and submit comments
- There were no objections by the Working Group to proceeding to a recirculation ballot
- During the SA subcommittee meeting a decision was made by the subcommittee to not change the requirements on clause 7.1.5.1.1 Wiring across a hinge, that was agreed on in this WG. An adhoc was formed to address this clause and if a change is decided, it will be amended to C37.21 later.

H. Adjournment

The meeting was adjourned at 9:37 AM.

I. Upcoming Meetings

Future face-to-face Working Group meetings are not anticipated but if needed will be held in conjunction with the IEEE PES Switchgear Committee meetings planned for:

April 23 – 28, 2017 Hilton Charlotte University Place, Charlotte, NC

Minutes submitted by:
Darryl Moser
C37.21 Working Group Vice-Chair