

**SWITCHGEAR ASSEMBLIES SUBCOMMITTEE
MINUTES OF THE SPRING 2017 MEETING**

**Hilton Charlotte University Place, Charlotte, NC USA
April 26, 2017**

The meeting was called to order by SA S/C Chair, M. Lafond, at 1:30 PM on April 26, 2017 with the introduction of the following members and guests:

Attendance

Members: 21 present, 16 absent – Quorum was met.

Guests: 30

Total: 51

Attendance is recorded at the end of the meeting minutes. Membership and attendance is recorded in the AMS system.

1. Introduction of Members and Guests

Members and guests introduced as recorded above.

2. Approval of Meeting Agenda

Spring 2017 agenda presented.

Agenda accepted without changes by the SA S/C. Motion by Paul Barnhart. Motion approved by the SA S/C.

3. Approval of SA Meeting Minutes

Link: <http://ewh.ieee.org/soc/pes/switchgear/minutes/2016-2/F16SAmiREV0.pdf>

Minutes (link above) from the Fall 2016 meeting in Pittsburgh, PA were posted on-line.

Motion by Allan Morse to accept the meeting minutes; 2nd: Doug Edwards

Motion approved by the SA S/C.

SA S/C Secretary Email address: tom.hawkins@ieee.org

4. Working Group Status Reports

a. C37.20.2 Ad Hoc – Inspection Windows

P. Barnhart: No meeting minutes provided.

Ad Hoc members: Paul Barnhart, Jim Bowen, Carl Schneider, Don Elliot, Sergio Flores, Mike Wactor, Marcelo Valdez, and Tim Rohrer.

P. Barnhart: Ad-hoc will need more time to report back to SA S/C. Ad Hoc will target to convene within 2 months to complete effort.

Actions for SA S/C Chair: No further action required.

b. C37.20.2 Ad Hoc – Logic Level/Communication Wire

P. Barnhart: No meeting minutes provided.

Ad Hoc members: P. Barnhart, T. Burse, J. Jarque, S. Cohn, R. Boyce, E. Byron, T. Hawkins

P. Barnhart: presented a summary of ad-hoc findings and recommendations on control wire, wiring across a hinge, wire type, and wire size. Presentation document will be submitted to SA S/C Minutes website.

SA S/C general discussion and desire to include a common requirement for this subject across C37.20.1, C37.20.2, C37.20.3, and C37.21 documents. C37.21 requirements are the closest to the ad hoc recommendations but not identical. C37.20.1 does include a requirement to require the door to open a full 90 degrees.

SA S/C question: Does the ad hoc recommend a requirement for repeated door movement?

P. Barnhart: No consensus to determine how many wires or which size to perform such a test.

SA S/C question: Would these recommendations apply to the bonding strap across the door hinge?

P. Barnhart: No. The bonding strap is not a control wire.

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SA S/C general discussion on how to incorporate the proposed requirements and other future ad hoc recommendations into the same documents. How many amendments are allowed per document?

E. Spiewak: Standard documents are limited to three amendments and some of these documents are less than a year old. Recommend that the SA S/C accumulate the proposed changes and then begin amendment activity.

T. Burse: A WG requires a PAR. A study group must complete activity within six months. An ad hoc has an unlimited amount of time to complete its scope of effort.

Motion by P. Barnhart to continue work in the ad-hoc for the purpose of proposing common requirements (expected to be included in amendments at a later date) for C37.20.1, C37.20.2, C37.20.3, and C37.21 such that the "Wire Type", "Wire Size", and "Wiring Across the Hinge" sections have requirements that are consistent across all the standards, with the understanding that C37.20.1 will retain any special requirements for DC control wiring that may not exist in the other standards.

Furthermore, to provide these requirements to the working group for C37.20.9, such that these requirements will also be harmonized. 2nd:D. Edwards.

Motion approved by the SA S/C.

Actions for SA S/C Chair: No further action required.

c. C37.20.2 Ad Hoc – Voltage Dividers

D. Elliot: No meeting minutes provided.

Ad hoc members: D. Elliot

D. Elliot: presented a summary of ad-hoc findings and recommendations on voltage dividers and potential IEC documents available to reference on this subject. Presentation document will be submitted to SA S/C Minutes website.

E Byron: "Voltage Detection and Indicating Systems", IEC 61243-5, and "Voltage Presence Indicating Systems", IEC 62271-206, are being combined into a new standard 62271-213 "Voltage Detection and Indicating Systems". IEC 62271-214 is the new standard being developed called "Internal Arc Classification for Pole Mounted Equipment".

SA S/C general comment that TC 37 is the sponsor of these documents. There is no publishing timeline.

A. Morse and E. Byron volunteer as members of the ad hoc.

N. McQuin: A possibility of high voltage going into the control circuit does exist.

P. Barnhart: UL has specific requirements to address this concern.

D. Elliot: Ad hoc will continue work on this subject and collect a recommendation back to the SA S/C for inclusion in a future amendment effort.

Actions for SA S/C Chair: Investigate capturing such recommendations into the SA S/C Document Status file to retain recommendations from ad hoc groups.

d. C37.20.7 – Guide for Testing Medium-Voltage Metal-Enclosed Switchgear for Internal Arcing Faults

M. Wactor: Minutes are provided.

M. Wactor: WG met Tuesday, April 25, with 69 attendees and 20 of 30 working group members present. Quorum was met.

M. Wactor: Ballot was successful. WG reviewed comments. Target for a new draft and circulate to WG followed by a recirculation in late May. Submit to RevCom by July 28th deadline.

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Actions for SA S/C Chair: Report activity at Main Committee..

- e. C37.20.9** – Metal Enclosed Switchgear Rated 1 kV to 52 kV Incorporating Gas Insulation Systems

E. Byron: Minutes are provided.

E. Byron: WG met Wednesday, April 26, with 61 attendees. 31 of 60 working group members present. Quorum was met.

E. Byron: Ballot achieved 72% approval. Approximately 200 negative comments. Targeting a new draft by end of May but that may be a challenge. WG intends to re-ballot before next meeting. PAR has been extended thru 2018.

N. McQuin: The ad hoc on snubber circuits was removed from the agenda. Are there any updates?

M. Lafond: No updates from the ad hoc at this time.

Actions for SA S/C Chair: M Lafond will follow-up with A. Livshitz on ad hoc efforts.

- f. C37.20.10** – Standard for Definitions for AC (52kV and below) and DC (3,2kV and below) Switchgear Assemblies

K. Flowers: No meetings held. No minutes are provided. Document was published in September 2016.

M. Lafond: SA S/C expresses sincere thanks to K. Flowers and the WG for their hard work. Motion by K Flowers to disband the WG; 2nd: T Burse.

Motion approved by the SA S/C.

Actions for SA S/C Chair: Report document is published and WG is disbanded.

- g. C37.21** – Control Switchboards

D. Hrcir: No meetings held. No minutes are provided. Document was approved by the board on March 23, 2017.

D. Hrcir: Passed editor. Document should be published by May 16.

Motion by D Hrcir to disband the WG after publishing; 2nd: A Morse.

Motion approved by the SA S/C.

M. Lafond: SA S/C expresses sincere thanks to D. Hrcir and the WG for their hard work.

Actions for SA S/C: Report activity at Main Committee

- h. C37.24** – Guide for Evaluating the Effect of Solar Radiation on Outdoor Metal-Enclosed Switchgear

J. McClelland: No meetings held. No minutes are provided. Document was approved by the board on March 27, 2017.

J. McClelland: Have not heard from editors yet.

Motion by J. McClelland to disband the WG after publishing; 2nd: D. Hrcir.

Motion approved by the SA S/C.

M. Lafond: SA S/C expresses sincere thanks to J. McClelland and the WG for their hard work.

Actions for SA S/C: Report activity at Main Committee

- i. C37.81** – Seismic Qualification of Class 1E Metal-Enclosed Power Switchgear Assemblies

M. Lafond: D. Riffe was unable to attend. No meetings held. No minutes provided. Document was approved by the board on March 23, 2017.

M. Lafond: SA S/C expresses sincere thanks to D. Riffe and the WG for their hard work.

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Note that a combined WG is focused on both C37.81 and C37.82 documents.

Actions for SA S/C: Report activity at Main Committee

- j. C37.82** – Qualifications of Switchgear Assemblies for Class 1E Applications in Nuclear Power Generating Stations
M. Lafond: D. Riffe was unable to attend. No meetings held. No minutes provided. Document has one negative comment and a new draft will be re-circulated to the WG.

Note that a combined WG is focused on both C37.81 and C37.82 documents.

Actions for SA S/C Chair: No further action at this time.

5. Old Business

a. IEC Activities

T. Burse: No meeting minutes provided.

T. Burse: IEC 62271-200 may begin work in September. T. Burse will continue in this role. Will keep the SA S/C informed on future actions.

b. ACS C37 – General Update

T. Olsen: No meeting minutes provided.

T. Olsen: Activity should be reported by J. Webb. ASC C37 operating procedures have been approved. C37.50 and C37.51 are out for ballot within the ASC C37 committee now. C37.54 and C37.55 are in preparation and are expected to be in ballot soon. C37.57 and C37.58 will be worked on in coming months and it is hoped that they will be ready for ballot later in the year. C37.85 is almost ready for ballot. Should have all completed by Spring 2018 meeting.

c. Visible Break – Rode Discussion Group Report

D. Edwards: No meeting minutes provided.

D. Edwards: Visible Break meeting concurrently with this meeting. So, no update.

6. Membership

a. Senior Membership & Award for Young Professionals

M. Lafond: The following SA S/C members have achieved senior membership and are recognized.

- John McClelland is close

M. Lafond: Encouraged all to obtain senior membership.

Senior Membership url: http://www.ieee.org/membership_services/membership/senior/index.html

b. Switchgear Assemblies S/C Membership

M. Lafond: No recommendations from WG chairs. M. Lafond requested WG chairs to submit names.

c. Main Committee Membership

M. Lafond: No new Main Committee members from SA S/C.

7. New Business

- a. PC57.19.06** - ballot pool is forming. Ballot pool closes May 21.

- b. SA Document Status** – Required action – review of proposed “SA Document Status” report.
M. Lafond: Document status has been reviewed with each WG Chair and Document Status Report is updated.

T Olsen: Recommend that WG's be staggered for C37.20.3 and C37.20.4, both of which are published in 2013.

- c. WG Meeting Room Requests** – Update “SA Document Status” report

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M. Lafond: Please contact me for any changes for meeting room requirements. Meeting room requests are circulated in SA Document status.

K. Flowers: Be sure that room requests include expected participant size.

d. ADSCOM – Items for SA S/C Chair to discuss at ADSCOM meeting

- No items to report at this time

D. Sigmon: C37.59 WG recommends that electrically operated grounded test devices be considered for future inclusion in C37.20.6. Customers have a desire for this type of product. D. Sigmon will coordinate recommendations with SA S/C Chair to pass along to next WG Chair.

e. Main Committee Meeting Items – Review items to be presented

Total: 14

Future PAR Activity: 0

Future TF Activity: 0

Future Ballot Activity: 0

Active PAR's: 3 (C37.20.7, C37.20.9, C37.82)

Disbanded WG's: 4 (C37.20.10, C37.21, C37.24, C37.81)

Not Active: 11 (C37.20.1, C37.20.2, C37.20.3, C37.20.4, C37.20.6, C37.20.10, C37.21, C37.23, C37.24, C37.81, C37.121)

f. Working Group Minutes – To SA S/C Secretary no later than April 28, 2017.

Email address: tom.hawkins@ieee.org and mike.lafond@ieee.org

g. WG - Booklet & Website Synopsis – To SA S/C Secretary no later than April 28, 2017.

Email address: tom.hawkins@ieee.org and mike.lafond@ieee.org

h. Upcoming Meetings

Fall 2017 (8 Oct – 13 Oct), Marriott Portland Sable Oaks, Portland, ME USA

Spring 2018 (22 Apr – 27 Apr), Disney's Contemporary Resort, Lake Buena Vista, FL USA

8. Adjourn

Meeting adjourned at 2:40pm.

Reported by:

Tom Hawkins

Switchgear Assemblies Sub-Committee Secretary

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Attendance record and as recorded in the AMS system:

Role	First Name	Last Name	Company
Chair	Michael	Lafond	General Electric
Secretary	Tom	Hawkins	Siemens Industry, Inc.
Member	Paul	Barnhart	Underwriters Laboratories
Member	Ted	Burse	Powell Industries, Inc
Member	Eldridge	Byron	Schneider Electric
Member	Doug	Edwards	Siemens Industry, Inc.
Member	Michael	Flack	Southern Company Generation
Member	Keith	Flowers	Siemens Industry, Inc.
Member	Paul	Gingrich	AZZ / Central Electric
Member	Sahadev	Gohil	AZZ Switchgear Systems
Member	Dan	Hrcir	Eaton
Member	John	McClelland	Technibus
Member	Charles	Morse	Siemens Industry, Inc.
Member	Darryl	Moser	ABB
Member	T	Olsen	Siemens Industry, Inc.
Member	Carl	Schneider	Schneider Electric
Member	Mike	Seabrook	GE
Member	Dean	Sigmon	Eaton Corporation
Member	Paul	Sullivan	DuPont
Member	Chand	Tailor	Eaton Corporation
Member	Michael	Wactor	Powell Industries, Inc
Guest	Brad	Armstrong	Meramec Instrument Transformer Co.
Guest	James	Bowen	Aramco Services
Guest	Russell	Boyce	Eaton
Guest	Clint	Carne	Schneider Electric
Guest	Stephen	Cary	GE Energy Management
Guest	Robert	Cohn	Powercon Corp.
Guest	Jeffrey	Door	H-J Family of Companies
Guest	Donald	Elliott	ABB
Guest	Sergio	Flores	Schneider Electric Inc. USA
Guest	Paul	Fox	Schneider Electric
Guest	Ilya	Glinsky	Southern California Edison
Guest	Lou	Grahor	Eaton Corporation
Guest	Jared	Hines	Eaton Corp.
Guest	John	Houston	Houston Company LLC
Guest	Travis	Johnson	Xcel Energy
Guest	John	Kaminski	Siemens
Guest	Chad	Kennedy	Schneider Electric
Guest	Boris	Kogan	Schneider Electric
Guest	Nigel	McQuin	McQuin Electrical Power Consulting, Inc.
Guest	Steven	Meiners	GE
Guest	Jeffery	Mizener	Siemens Industry

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Guest	Terry	Neighbours	ABB Inc.
Guest	Brian	ONeil	CE Power Engineered Services
Guest	Nicholas	Orlando	IEEE-SA
Guest	Iulian	Profir	Rockwell Automation
Guest	Samala Santosh	Reddy	Powell Industries
Guest	Richard	Rohr	Powell Electrical Systems
Guest	Erin	Spiewak	IEEE
Guest	Bruce	Venne	Rockwell Automation
Guest	Torsten	Wirz	ABB AG