

**SWITCHGEAR ASSEMBLIES SUBCOMMITTEE SA S/C
MINUTES OF THE SPRING 2018 MEETING**

**Disney Contemporary Hotel Orlando, FL USA
April 25, 2018**

The meeting was called to order by SA S/C Chair, M. Lafond, at 1:30 PM on April 25, 2018 with the introduction of members and guests:

Attendance

Members: 33 present, 7 absent – Quorum was met.

Guests: 27

Total: 60

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. Verbal call for essential patents – none identified

3. Approval of Meeting Agenda

Spring 2018 agenda presented with revisions.

Agenda accepted without changes by the SA S/C. Motion by M. Wactor. 2nd by A. Morse. Motion approved by the SA S/C.

4. Approval of SA Meeting Minutes

Link: <http://ewh.ieee.org/soc/pes/switchgear/minutes/2017-2/F17SAmiREV3.pdf>

Minutes (link above) from the Fall 2017 meeting in Portland, ME were posted on-line. Revisions shown will be posted soon.

Motion by P. Barnhart to accept the revised meeting minutes; 2nd: D. Moser

Motion approved by the SA S/C.

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

5. Working Group & Ad Hoc Status Reports

a. C37.20.2 Ad Hoc – Inspection Windows

P. Barnhart: Report document is provided.

P. Barnhart: Presentation on subject shared with SA S/C. Ad Hoc recommends that windows/ports should be excluded from internal compartment barriers.

Ad Hoc members: P. Barnhart, J. Bowen, C. Schneider, D. Elliott, S. Flores, M. Wactor, M. Valdez, T. Rohrer and T. Woodyard.

Actions for SA S/C Chair: Recommendations captured in SA S/C Document Status File for Future Action.

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

P. Barnhart: Minutes are provided.

P. Barnhart: Presentation on subject shared with SA S/C. Open discussion on wire size requirements and minimum wire size for low energy/communication wire.

Ad Hoc members: P. Barnhart, T. Burse, J. Jarque, S. Cohn, R. Boyce, E. Byron, T. Hawkins, J. Hines, D. Edwards, J. Mizener, R. Rohr, P Sullivan

Next steps: Ad Hoc to revisit wire size to clarify and finalize recommendation by next meeting.

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

c. C37.20.7 – IEEE Guide for Testing Switchgear Rated up to 52 kV for Internal Arcing Faults

M. Wactor: Minutes are provided.

M. Wactor: WG met Tuesday, April 24. Guide was initially published with an error in clause numbering. This has been corrected.

Motion by P. Barnhart: Motion to disband WG. 2nd by A. Morse. Motion approved by SA S/C.

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M. Lafond: Chair recognizes the hard work by the WG and its Chair for this valiant effort.

M. Lafond: IEEE SA received a request for comments, from industry experts, on Arc Fault test plans from the U.S. Nuclear Regulatory Commission (NRC) Office of Nuclear Regulatory Research (RES).

M Lafond to lead on-line meeting in May to collect feedback from interested individuals. Call for interested individuals from SA S/C. Participants include: M. Lafond, M. Wactor, A. Morse, T. Woodyard, P. Barnhart, C. Taylor

M. Lafond to lead on-line meeting and collect input in May and then submit to NRC requestor.

Actions for SA S/C Chair: No further action required. Input collected will not represent an official SA S/C position.

- d. C37.20.9 – Draft Standard for Metal Enclosed Switchgear Rated 1 kV to 52 kV Incorporating Gas Insulation Systems**

E. Byron: Minutes are provided.

E. Byron: WG met Wednesday, April 25. Quorum was met. Open issue on the topic to resolve clause references to C37.100.1. WG will incorporate changes into draft 9 and re-circulate draft for a 15 day comment period by the WG followed by a ballot by end of June.

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

- e. C37.82 – IEEE Standard for the Qualifications of Switchgear Assemblies for Class 1E Applications in Nuclear Power Generating Stations**

M. Lafond: Document is published. Chair wishes to thank Dave Riffe and WG for their efforts.

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

- f. C37.121 – Ad hoc: Guide for Switchgear - Unit Substations – Requirements**

D. Moser: Minutes are not provided.

D. Moser: Ad hoc met Tuesday, April 24. Ad hoc consensus is to include load tap changers in transformer section of document.

T. Neighbours: Motion to form WG and submit PAR. 2nd by T Olsen.
Motion approved by SA S/C.

Actions for SA S/C Chair: Report PAR Activity and WG formation to Main Committee.

- g. C37.20.3 – Ad hoc: Standard for Metal-Enclosed Interrupter Switchgear (1 kV-38 kV)**

A. Morse: Minutes are not provided.

A. Morse: Ad hoc met Tuesday, April 24. Ad hoc consensus was to update scope to refine the use of air as the primary insulating medium excluding individual components within the assembly.

A. Morse: Motion to form WG and submit PAR. 2nd by M Wactor.
Motion approved by SA S/C.

Actions for SA S/C Chair: Report PAR Activity and WG Formation to Main Committee.

- h. C37.20.4 – Ad Hoc: Standard for Indoor AC Switches (1 kV-38 kV) for Use in Metal-Enclosed Switchgear**

J. McClelland: Minutes are not provided.

J. McClelland: Ad hoc met on-line on February 26th and Tuesday, April 24. Draft scope changes include the expansion of rating up to 52kV and refinement of language to remove indoor construction as it relates to the switch. Ad Hoc needs a few more weeks to finalize scope and title changes for PAR.

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

i. Generator Circuit Breaker Switchgear – Task Force Update

M. Wactor: Minutes are not provided.

M. Wactor: Task Force met Tuesday, April 24. Definitions refined and shared with WG 62271-37-013. Definitions presented. SA S/C Chair received confirmation of definition acceptance by WG 62271-37-013 Chair. Definitions slide presented with following:

enclosure

A component of a generator circuit-breaker system, not intended for use in equipment defined by any other standard, providing a specified degree of protection of equipment against external influences and a specified degree of protection against approach to or contact with live parts and against contact with moving parts

Note 1 to entry: For generator circuit-breakers applied in switchgear assemblies, the enclosure requirements are defined by the applicable standard.

Note 2 to entry: A three-phase enclosed generator circuit-breaker system has all three phases in a common enclosure.

Note 3 to entry: A single-phase enclosed generator circuit-breaker system has each phase in a single independent enclosure.

Note 4 to entry: For degrees of protection specified by protection provided by enclosures (IP coding) see IEC 60529 and for degrees of protection specified by external mechanical impact (IK coding) see IEC 62262.

[SOURCE: IEC 60050-441:1984, 441-13-01, modified – addition of new notes to entry and replacement of "assembly" by "generator circuit-breaker" in the definition]

generator circuit-breaker system

an assembly, utilizing a generator circuit-breaker as one of the components

Note 1 to entry: For example an assembly that is not part of a switchgear assembly construction covered by IEC 62271-200, IEEE C37.20.2 , or IEEE C37.20.3

Note 2 to entry: generator circuit-breaker systems are covered in this standard to ensure harmonization of requirements of the various components which form part of the system

M. Lafond: Task Force work complete and is disbanded.

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

6. Old Business

a. IEC Activities

C. Schneider: Verbal report. IEC has changed numbering system. Will attend meeting next month.

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

b. ACS C37 – General Update

M. Lafond: J. Webb not present. Chair requests if a SA S/C member can present updates on this subject. K. Flowers volunteers to give future updates to SA S/C.

C37.50 & C37.51 are about to be published. Others in this series will be balloted in the next 24 months.

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

c. Visible Break – Rode Discussion Group Report

M. Lafond: Minutes are not provided.

Rode definition of Visible Break shared with SA S/C.

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

- d. SA Document Status** – Required action – review of proposed “SA Document Status” report.
M. Lafond: Will be reviewed and updated.
- e. WG Meeting Room Requests** – Update “SA Document Status” report
M. Lafond: Please confirm meeting room requirements with Tom Hawkins. Meeting room requests are circulated in SA Document status. Be sure that room requests include expected participant size. For all Ad Hocs; get your room requests in.
- f. ADSCOM** – Items for SA S/C Chair to discuss at ADSCOM meeting
M. Lafond: Report SA S/C agrees with the definition of visible break as presented at this meeting. See item 6.c for wording of visible break definition.
- g. 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: 1 (C37.20.9)
Not Active: 13 (C37.20.1, C37.20.2, C37.20.3, C37.20.4, C37.20.6, C37.20.7C37.20.10, C37.21, C37.23, C37.24, C37.81, C37.82, C37.121)
- h. Working Group Minutes** – To SA S/C Secretary no later than April 27, 2018.
Email address: tom.hawkins@ieee.org and mike.lafond@ieee.org
- i. WG - Booklet & Website Synopsis** – To SA S/C Secretary no later than April 27, 2018.
Email address: tom.hawkins@ieee.org and mike.lafond@ieee.org
- j. Upcoming Meetings**
Fall 2018 (14 Oct – 18 Oct), Kansas City Marriott Downtown, MO
Spring 2019 (28 Apr – 01 May), Hilton, Burlington, VT
Fall 2019 (06 Oct – 10 Oct), Catamaran Resort, San Diego, CA
Spring 2020 (04 May – 08 May), Peppermill Resort, Reno, NV
Fall 2020 (04 Oct – 08 Oct), Sheraton Sundance Square, Fort Worth, TX

9. Adjourn

Meeting adjourned at 2:42 pm.

Reported by:

Tom Hawkins
Switchgear Assemblies Sub-Committee Secretary
April 25, 2018

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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	Keith	Flowers	Siemens Industry, Inc.
Member	Miklos	Orosz	Myers Controlled Power
Member	Doug	Edwards	Siemens Industry, Inc.
Member	Albert	Livshitz	CE Power Solutions
Member	Ted	Burse	Powell Industries, Inc
Member	Charles	Morse	Siemens Industry, Inc.
Member	Dean	Sigmon	Eaton Corporation
Member	Michael	Flack	Southern Company Services, Inc.
Member	Paul	Barnhart	Underwriters Laboratories
Member	Jeff	Mizener	Siemens Industry, Inc.
Member	Michael	Wactor	Powell Industries, Inc
Member	Dan	Hrncir	Eaton
Member	Paul	Sullivan	DuPont
Member	Sahadev	Gohil	AZZ Switchgear Systems
Member	Carl	Schneider	Schneider Electric
Member	Eldridge	Byron	Schneider Electric
Member	Chand	Tailor	Eaton Corporation
Member	David	Dunne	Schneider Electric
Member	Steven	Meiners	GE
Member	Darryl	Moser	ABB
Member	Robert	Cohn	Powercon Corp.
Member	Lou	Grahor	Eaton Corporation
Member	Paul	Gingrich	AZZ Switchgear Systems
Member	Russell	Boyce	Eaton
Member	Stephen	Cary	GE Energy Management
Member	John	McClelland	Technibus
Member	Sergio	Flores	Schneider Electric Inc. USA
Member	Richard	Rohr	Powell Electrical Systems
Member	Terry	Woodyard	Siemens Industry Inc.

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Role	First Name	Last Name	Company
Guest	Chad	Kennedy	Schneider Electric
Guest	Ronald	Hartzel	Eaton Corporation
Guest	Clint	Carne	Schneider Electric
Guest	Rahul	Pawar	ABB
Guest	Erin	Spiewak	IEEE
Guest	Vincent	Chiodo	HICO
Guest	Mark	Roberson	AZZ/Calvert
Guest	Samala Santosh	Reddy	Powell Industries
Guest	Daniel	Sims	Eaton Corp.
Guest	David	Beseda	S&C Electric Co.
Guest	Jared	Hines	Eaton Corp.
Guest	Daniel	Delfino	General Electric
Guest	James	Lagree	Eaton
Guest	Victor	Savulyak	DNV GL KEMA Laboratory
Guest	Thomas	Blair	Tampa Electric Company
Guest	Ian	Rokser	Eaton Corp
Guest	Michael	Whitney	S&C Electric Company
Guest	Terry	Neighbours	ABB Inc.
Guest	Bruce	Venne	Rockwell Automation
Guest	Michael	Titus	Schneider Electric
Guest	Rahul	Jain	S&C Electric Company
Guest	Kevin	Sippel	Eaton Electric
Guest	Jeffrey	Door	The H-J Family of Companies
Guest	Brad	Armstrong	Meramec Instrument Transformer Co.
Guest	Brian	ONeil	CE Power Engineered Services
Guest	Mark	Pattison	H-J Family of Companies
Guest	Leonel	Santos	Schneider Electric
Past Chair	T	Olsen	Retired, formerly with Siemens Industry, Inc.
Past Chair	David	Lemmerman	PECO/Exelon