

SWITCHGEAR ASSEMBLIES SUBCOMMITTEE SA S/C
MINUTES OF THE FALL 2020 MEETING
Online Meeting
Thursday, 1:30-3:15 PM Central time, October 14, 2021

The meeting was called to order by SA S/C Chair, T. Hawkins, at 1:30 PM CDT on October 14, 2021:

Attendance

Members: 37 of 43 members present – Quorum was met.

Guests: 52

Total: 89

Attendance list is recorded at the end of the meeting minutes.

1. Introduction of Members and Guests

Members and guests introduced as recorded below.

2. Reviewed IEEE Patent, Copyright slides, and reminder against commercial topics

Verbal call for any issues– none identified

3. Approval of Meeting Agenda

The Fall 2021 agenda (revised version) was presented for review.

Motion to approve by M. Lafond, Second by R. Hartzel

Motion approved by unanimous consent of the SA S/C.

4. Approval of SA S/C Meeting Minutes

[S21SAmiREV0.pdf](#)

Minutes (link above) from the Spring 2021 meeting were posted on-line.

Motion by R. Boyce to approve these meeting minutes; Second by T. Neighbors

Motion approved by unanimous consent of the SA S/C.

5. Working Group, Task Force, Study Group & Ad Hoc Status Reports

- a. **C37.20.1** – IEEE Standard for Metal-Enclosed Low-Voltage (1000 Vac and below, 3200 Vdc and below) Power Circuit Breaker Switchgear
M. Lafond: Meeting minutes are provided.
M. Lafond: Verbal update of WG activities.
PAR expires 12-31-2024. Documents posted in iMeet Central.
Ad Hoc being formed to investigate use of cables for testing.
Possible alignment with C37.20.2 for temp rise.
Ad Hoc between C37.13 and C37.20.1 focused on temperature limits of circuit breakers inside switchgear enclosures held 3 meetings during the summer. Comparison between relevant standards. No recommendations at this time.
Actions for SA S/C Chair: No further action required.
- b. **C37.20.2** – IEEE Standard for Metal-Clad Switchgear:
M. Wactor: Minutes are provided.
M. Wactor: Verbal update of WG activities.
Reviewed some of the 100+ballot comments that were received, the ballot closed shortly before the meeting. Expected to be finished in 2022.
Actions for SA S/C Chair: No further action required.
- c. **C37.20.3** – IEEE Standard for Metal-Enclosed Interrupter Switchgear (1 kV-48.3 kV)
R. Hartzel: Minutes are provided.
R. Hartzel: Verbal update of WG activities.
Reviewed draft 4, which included alignment with C37.20.2.
Would like to send draft to SA S/C membership for comments prior to formal ballot.
Actions for SA S/C Chair: No further action required.
- d. **C37.20.4** – IEEE Standard for Indoor AC Switches (1 kV-52 kV) for Use in Metal-Enclosed Switchgear

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B. Cohn: Minutes are provided.

B. Cohn: Verbal update of WG activities. quorum was not met so meeting was rescheduled to Friday, 10/15.

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

- e. C37.20.6** - IEEE Standard for 4.76 kV to 48.3 kV Rated Ground and Test Devices Used in Enclosures

R. Hartzel: Minutes are provided.

R. Hartzel: Verbal update of WG activities.

PAR approved on 9-23-2021, expiration date of 12-31-2025.

Will create an iMeet Central site for all documents

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

- f. C37.20.7** - IEEE Guide for Testing Switchgear Rated Up to 52 kV for Internal Arcing Faults

D. Hrcir: Minutes are provided.

D. Hrcir: Verbal update of WG activities.

Reviewed comments

Formed three 3 Task Forces

1. Testing of shielded and unshielded cables in equipment
2. Guidance of positioning of indicator stands
3. Enclosed sealed GIS equipment testing

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

- g. C37.20.10 PAR Study Group** - Standard for Definitions for AC (52 kV and Below) and DC (3.2 kV and Below) Switchgear Assemblies

D. Delfino: Minutes are provided.

D. Delfino: Verbal update of SG activities.

D. Delfino: Motion from the SG Chair, D. Delfino, to approve the PAR as displayed for submission to REVCOM. Motion second by J. Snider. An amendment was made to change the completion date to December 2025 and change the limit to 48.3 kV for air insulated equipment. The amended motion was approved by unanimous consent. J. Snider volunteered to be WG Secretary.

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

- h. C37.23** – IEEE Standard for Metal Enclosed Bus

Fall 2021 meeting was cancelled by WG Chair.

The meeting will be rescheduled in mid-November or early December.

- i. C37.24 PAR Study Group** – Guide for Evaluating the Effect of Solar Radiation on Outdoor Metal-Enclosed Switchgear

T. Woodyard: Minutes are provided.

T. Woodyard: Verbal update of SG activities.

T. Woodyard: Will reach out to UL for inclusion of some of their equipment standards into the guide.

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

- j. C37.122.2** - IEEE Draft Guide for the Application of Gas Insulated Substations 1 kV to 52 kV (This is an ADSCOM document of interest to SA S/C members)

E. Byron: Minutes to be provided to ADSCOM.

E. Byron: Verbal update of WG activities.

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

6. Old Business

a. IEC Activities

E. Byron & C. Schneider: Verbal update of IEC activities.

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

- b. **ACS C37** – General Update
K. Flowers: Verbal report of ACS C37 activities.
C37.54 status is under revision and expected to be out for ballot soon.
C37.57 has been administratively withdrawn.
NEMA to work on a standard for utility metering compartments
Actions for SA S/C Chair: No further action required.

7. Membership

- a. **Senior Membership & Award for Young Professionals**
T. Hawkins: G. Sims is recognized as a new senior member.
T. Hawkins: Encouraged all non-senior members to obtain senior membership status.
Senior Membership url:
http://www.ieee.org/membership_services/membership/senior/index.html
- b. **Switchgear Assemblies S/C Membership**
T. Hawkins: Alex Cochran (née Lizardo) was recognized as a new SA S/C member.
- c. **Main Committee Membership**
T. Hawkins: New Main Committee member recommendations will be made by SA S/C to the Main Committee for consideration.

8. New Business

- a. **Start revisions to / seeking Working Group Chairs:**
 - 1. **C37.21** - Standard for Control Switchboards
 - 2. **C37.81** – Guide for Seismic Qualification of Class 1E Metal-Enclosed Power Switchgear Assemblies
 - 3. **C37.82** – IEEE Standard for the Qualification of Switchgear Assemblies for Class 1E Applications in Nuclear Power Generating Stations
- b. **Request for formal liaison with IEC TC17/SC17C**
E. Byron: IEC is requesting an official representative and documentation.
E. Byron agreed to serve as the official liaison for SA S/C. A. Moran to assist SA S/C officers to setup an official liaison position.
- c. **Request from ADSCOM WG C37.100.1 Common Requirements for High Voltage Power Switchgear above 1000V Subcommittee**
T. Hawkins: Request for working groups to review the C37.100.1 documents distributed by email to WG Chairs and provide feedback to F. DeCesaro at Fdecesaro1@gmail.com
- d. **External Project Approval Group**
K. Flowers: Presentation slides were shown during verbal update. Proposing to form an EPAG group under ADSCOM to review and evaluate external projects for possible acceptance. This topic will be presented for vote at the Main Committee meeting.
- e. **Ad Hoc or Task Force to address the standardization of terms, especially drawout**
T. Burse: Terms; drawout, withdrawable element, etc. are similar terms with different meanings and care should be taken to make sure the correct term is being used. SA S/C Chair to bring this topic up at ADSCOM meeting. WG Chairs need to pay special attention to the terms they use.
- f. **SAS/C officer rotation**

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T. Hawkins: Announcement of expiration of 3 year term and time for officer rotation at the end of the year, D. Moser will rotate up to the Chair position and replace T. Hawkins for the Spring 2022 meeting. The SA S/C thanks the Chair for his service.

g. WG / Study Group Chairs – Required information

All 3 of the following need to be sent to the SA Subcommittee Secretary no later than Friday, October 29, 2021. darryl.moser@us.abb.com; CC: tom.hawkins@ieee.org

1. **SA Document Status** – Required action – WG – Document Status & Website Synopsis.
2. **WG Meeting Room Requests** – Update “SA Document Status” report

T. Hawkins: WG, Study Groups and Ad Hocs - Please confirm meeting room requirements with Darryl Moser. Meeting room requests are circulated in SA Document status. Be sure that room requests include expected participant size and number of sessions.

3. **Working Group Minutes**

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

SA S/C to bring up topic of “drawout” term reconciliation

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

Total: 14 documents

Active PAR's: 7 – C37.20.1, C37.20.2, C37.20.3, C37.20.4, C37.20.6, C37.20.7, C37.23

2021 Ballot Activity: 1 - C37.20.2

Upcoming PAR Activity: 2 - C37.20.10, C37.24

Not Active: 5 - C37.20.9, C37.21, C37.81, C37.82, C37.121

j. Upcoming Meetings

Spring 2022: Hilton Bonnet Creek, Orlando, FL (April 10-15)

Fall 2022: Burlington, VT

Spring 2023: Palm Beach, FL

Fall 2023: San Diego, CA

Spring 2024: St. Petersburg, FL

Fall 2024: Phoenix, AZ

Spring 2025: Hilton Head, SC

Fall 2025: Reno, NV

9. Adjourn

Meeting adjourned at 3:02 PM CDT.

Reported by:

Darryl Moser
Switchgear Assemblies Subcommittee Secretary
October 14, 2021

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Attendance record:

First Name	Last Name	Company Name	Role
Albert	Livshitz	CE Power Engineered Services	Member
Alex	Cochran	JST Power Equipment	Member
Andy	Keels	Keelectric Engineering PLLC	Guest
Arkadiusz	Doroz	Eaton	Guest
Ashley	Moran	IEEE Standards Association (IEEE-SA)	Guest
Bob	Behl	ABB	Guest
Bob	Cohn	Powercon Corp.	Member
Bob	Lau	nVent Hoffman	Guest
Brian	ONeil	RMS Energy	Guest
Carl	Schneider	Schneider Electric	Member
Chand	Taylor	Eaton Corporation	Member
Chris	Ambrose	Federal Pacific (Div. of Electro-Mechanical Corp.)	Member
Christopher	French	Eaton Corporation	Guest
Christopher	Thomas	Schneider Electric	Guest
Clint	Carne	Schneider Electric	Member
Colby	Lovins	Federal Pacific (Div. of Electro-Mechanical Corp.)	Guest
Dan	Hrncir	Eaton	Member
Daniel	Davis	JST Power Equipment	Guest
Daniel	Delfino	ABB	Member
Darryl	Moser	ABB	Secretary
Dave	Gohil	AZZ Switchgear Systems	Member
Dave	Riffe	Westinghouse Electric Company	Guest
Dave	Lemmerman	PECO/Exelon	Guest
David	Wampler	JST Power Equipment	Guest
Dean	Sigmon	Eaton Corporation	Member
Dhirendra	Tiwari	ABB	Guest
Donnie	Swing	Powell Industries	Member
Doug	Edwards	Siemens Industry, Inc.	Member
Edgar	Dullni	retired	Guest
Eldridge	Byron	Schneider Electric	Member
Ellis	Curry	JST Power Equipment	Guest
Fang	Huang	AEP	Guest
Federico	Di Michele	CESI S.p.A.	Guest
Fiori	Coziuc		Guest
Francis	Beauchemin	Hydro-Quebec	Guest
Garett	Sims	Eaton Corp.	Member
Grant	Ringham	BC Hydro	Guest
Greg	Wiese	Schneider Electric	Guest

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Henning	Milnikel	Siemens	Guest
Ilya	Glinsky	Southern California Edison	Guest
Jared	Hines	Eaton Corp.	Member
Jeff	Mizener	Siemens Industry, Inc.	Member
Jeffery	Ricker	SCHNEIDER ELECTRIC	Guest
John	Kelly	US Bureau of Reclamation	Guest
John	Myers	JST Power Equipment	Guest
John	Phouminh	PEPCO HOLDINGS, INC.	Guest
Jonathan	Wear	JST Power Equipment	Guest
Jordan	Snider	Pacific Gas & Electric Co.	Guest
Jose	Gamboa		Guest
Keith	Flowers	Siemens Industry, Inc.	Member
Kevin	McGlowen	JST Power Equipment	Guest
Leonel	Santos	Schneider Electric	Guest
Lou	Grahor	Eaton Corporation	Member
Mark	Peterson	Xcel Energy	Guest
Mark	Roberson	AZZ/Calvert	Member
Matt	McGlone	JST Power Equipment	Guest
Matt	Westerdale	US Bureau of Reclamation	Guest
Matthew	Polk	JST Power Equipment	Guest
Michael	Christian	ABB	Guest
Michael	Flack	Southern Company Services, Inc.	Member
Michael	Lafond	ABB	Member
Mike	Skidmore	AEP	Guest
Mike	Wactor	Powell Industries, Inc	Member
Mina	Youssef	Eaton Corporation	Guest
Monique	La Terreur	STACE	Guest
Noel	Smith	FortisAlberta	Guest
Owen	Parks	ABB	Guest
Pathik	Patel	Duke Energy	Guest
Patrick	Di Lillo	Consolidated Edison Co. of NY, Inc.	Guest
Paul	Barnhart	Underwriters Laboratories	Member
Paul	Gingrich	AZZ Switchgear Systems	Member
Paul	Rakus	Eaton	Guest
Rahul	Jain	S&C Electric Company	Member
Rahul	Pawar	JST Power Equipment	Guest
Randall	Creach	AZZ Switchgear Systems	Member
Rebecca	Cruz	JST Power Equipment	Guest
Richard	Rohr	Powell Electrical Systems	Member
Robert	Burns	Eaton	Guest
Ronald	Hartzel	Eaton Corporation	Member
Russell	Boyce	Eaton	Member

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Santosh	Reddy	Powell Industries	Guest
Sergio	Flores	Schneider Electric Inc. USA	Member
Stephen	Cary	Eaton	Member
Steven	May	Southern Company	Guest
Ted	Burse	Powell Industries, Inc	Member
Terry	Neighbours	ABB Inc.	Member
Terry	Woodyard	Siemens Industry Inc.	Member
Tom	Hawkins	Siemens Industry, Inc.	Chair
Vincent	Chiodo	HICO	Guest