

**IEEE Switchgear Assemblies Subcommittee Meeting Fall 2024**  
**Meeting Minutes**  
**OMNI Hotel, Oklahoma City, OK**  
**Thursday, October 17, 2024 8:00-9:45 AM**

The meeting was called to order by SA S/C Chair, D. Moser, at 8:00 AM on October 17, 2024:

**Attendance**

- Members: 31 of 37 members present – Quorum was met.
- Guests:, 60
- Total: 91

Attendance list 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 2024 agenda Revision 2 was presented for review.

Motion to approve agenda by P. Barnhart, Second by T. Hawkins.

Motion approved by unanimous consent.

**4. Approval of SA S/C Meeting Minutes**

[S24\\_SA\\_SC\\_Minutes\\_R00](#)

Minutes (link above) from the Spring 2024 meeting were posted on-line.

Motion to approve meeting minutes by R. Boyce, Second by G. Sims.

Motion approved by unanimous consent.

**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  
Mike Lafond: Meeting minutes are provided. Verbal update of WG activities.

WG met with quorum. Ballot technical comments reviewed but plan to complete a recirculation ballot. Working toward a successful ballot ahead of document expiration. PAR expires Dec. 31, 2026. Documents posted in iMeet Central.  
Actions for SA S/C Chair: No further action required.

- b. **C37.20.2** - IEEE Standard for Metal-clad Switchgear  
Ron Hartzel:

Had virtual meeting to approve PAR between Spring and Fall meetings for revision toward gaining ANSI accreditation. Motion to proceed to ballot by R. Hartzel, second by M. Lafond. Discussion around limited scope for ballot with clarity that all comments must be addressed. Motion approved by unanimous consent.

Chair advised Ron to form WG and proceed with virtual meetings.

Ron requested email addresses of members and guests to include in ballot pool request.

PAR expires Dec. 31, 2028.

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

- c. **C37.20.4** - IEEE Standard for Indoor AC Switches (1 kV-52 kV) for Use in Metal-Enclosed Switchgear  
Bob Cohn: Minutes are provided. Verbal update of WG activities.

WG met with quorum. WG targeting a ballot as soon as possible this year after final draft updated from MEC comments.

PAR extension expires Dec. 31, 2025

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

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- d. **C37.20.6** - IEEE Standard for 4.76 kV to 48.3 kV Rated Ground and Test Devices Used in Enclosures  
Ron Hartzel: Chair disbanded working group as document has been approved and published.  
Actions for SA S/C Chair: No further action required.
- e. **C37.20.7** - IEEE Recommended Practice for Testing Switchgear with Rated Voltages Up to 52 kV for Internal Arcing Faults  
Dan Hmcir: Document has been approved and is in queue for publishing around Dec. 25, 2024.  
Actions for SA S/C Chair: No further action required.
- f. **C37.20.7.1** - Guide for Application, Installation, and Use of Switchgear Rated Up to 52 kV Tested for Internal Arc Faults  
M. Lafond: Meeting minutes are provided. Verbal update of PAR SG activities.
- WG group met for first time and formed several ad hocs to address areas of application guide from .C37.20.7.  
PAR expires Dec. 31, 2028.  
Actions for SA S/C Chair: No further action required.
- g. **C37.20.9** - IEEE Standard for Metal-Enclosed Switchgear Rated 1 kV to 52 kV Incorporating Gas Insulating Systems  
Terry Woodyard: Minutes are provided. Verbal update of Working Group activities.
- Electronic virtual ballot held over summer to proceed with PAR. WG met with quorum. Reviewed initial draft. WG voted to move forward with incorporation of several items to proceed to ballot.  
PAR expires Dec. 31, 2028.  
Actions for the SA S/C Chair: No further action required.
- h. **C37.20.10** - IEEE Standard for Definitions for AC (52 kV and Below) and DC (3.2 kV and Below) Switchgear Assemblies  
Dan Delfino: Minutes are provided. M. Lafond gave verbal update of WG activities.  
WG met with quorum. Working through recirculation ballot that closes shortly.  
PAR expires Dec. 31, 2025  
Actions for SA S/C Chair: No further action required.
- i. **C37.21** - IEEE Standard for Control Switchboards  
Christo Thomas: Minutes are provided. Verbal update of WG activities
- WG met with quorum. Reviewed and discussed comments and incorporated into another draft. Motion to proceed to ballot by chair, second by C. Carne. Motion approved by unanimous consent.  
PAR expires Dec. 31, 2027  
Actions for SA S/C Chair: No further action required.
- j. **C37.23** - IEEE Standard for Metal Enclosed Bus  
Jared Hines: Minutes are provided. Verbal update of WG activities.
- WG met with quorum. Reviewed comments to draft 4. WG approved moving to a ballot and commencing a comment resolution group after incorporation of final wording from three outstanding comments into draft 6 for ballot. Motion to proceed to ballot by chair, second by R. Boyce. Motion approved by unanimous consent.  
PAR expires Dec. 31, 2026  
Actions for SA S/C Chair: No further action required.

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

Terry Woodyard: Minutes are provided. Verbal update of WG activities.

WG met with quorum. Reviewed all comments from initial ballot. Need virtual meeting(s) to continue through comments.

PAR expires Dec. 31, 2026

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

**l. C37.81** – IEEE Guide for Seismic Qualification of Class 1E Metal-Enclosed Power Switchgear Assemblies

Russell Boyce: Minutes are provided. Verbal update of SG activities.

WG met with quorum. Reviewed last comments from MEC and began to form ballot pool. Note that meetings will be combined for C37.81 & C37.82 going forward.

PAR expires Dec. 31, 2027

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

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

Russell Boyce: Minutes are provided. Verbal update of SG activities.

Reviewed last comments from MEC and began to form ballot pool. Note that meetings will be combined for C37.81 & C37.82 going forward.

PAR expires Dec. 31, 2027

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

**6. Old Business**

**a. IEC Activities**

J. Webb: No update. Will report in main committee.

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

**b. ACS C37 – General Update**

J. Webb: No update. Will report in main committee.

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

**c. T&I Liaison report**

A. Livshitz: Paper completed on (review T&I minutes) and created task force on NFPA 70B as it relates to circuit breakers.

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

**7. Membership**

**a. Senior Membership & Award for Young Professionals**

Darryl Moser recognized recent members attaining senior status and encouraged all non-senior members to obtain senior membership status.

Senior Membership url:

[http://www.ieee.org/membership\\_services/membership/senior/index.html](http://www.ieee.org/membership_services/membership/senior/index.html)

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**b. Switchgear Assemblies S/C Membership**

D. Moser: Chair welcomed new members.

**c. Main Committee Membership**

D. Moser: New Main Committee member recommendations will be made by SA S/C to the Main Committee for consideration.

**8. New Business**

**a. Working Group Ad Hoc for continuous current testing clause**

Group being led by M. Lafond. Mike noted that C37.20.1 is working through clarifications and updates on recent language introduced to harmonize SA S/C standards on continuous current testing clauses. Affected standards include C37.20.1, 20.2, 20.3, & 20.9. Mike noted that membership is open to members of these working groups C37.20.1, 20.2, 20.3, & 20.9.

**b. Start revisions to / seeking WG Chairs: – D. Moser**

1. C37.121 IEEE Guide for Switchgear - Unit Substation – Requirements - *Spring 2025 (Led by P. Bamhart & J. Kaminski)*

**c. WG / Study Group Chairs – Required information**

All 3 of the following need to be sent to the SA Subcommittee Secretary no later than Friday, November 1, 2024.

Email address: [jaredkhines@ieee.org](mailto:jaredkhines@ieee.org)

1. **SA Document Status** – Required action / review of “SA Document Status”

2. **WG Meeting Room Requests** – for Spring 2025

3. **Working Group Minutes** – from virtual meetings from Spring 2024 and through this week’s meetings

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

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

Total: 14 documents

Active PARs: 11 - C37.20.1, C37.20.2, C37.20.4, C37.20.7.1, C37.20.9, C37.20.10, C37.21, C37.23, C37.24, C37.81, C37.82

Ballot Activity: 9 - C37.20.1, C37.20.2, C37.20.4, C37.20.10, C37.21, C37.23, C37.24, C37.81, C37.82

Upcoming PAR Activity: None

Not Active: 4 - C37.20.3, C37.20.6, C37.20.7, C37.121

**f. Upcoming Meetings**

1. Spring 2025: April 6 - 11, Wyndham Grand Orlando Resort Bonnet Creek, Orlando, FL
2. Fall 2025: October 5 - 9, Peppermill Resort, Reno, NV
3. Spring 2026: April 26 - 30, Sheraton Sand Key Resort, Clearwater Beach, FL
4. Fall 2026: October 4 - 8, Catamaran Resort, San Diego, CA
5. Spring 2027: April 4 - 8, Hyatt Regency, Orlando, FL
6. Fall 2027: October 10 - 14, Alohilani Resort, Waikiki Beach, HI
7. Spring 2028: April 23 - 27, Marriott Rivercenter, San Antonio, TX
8. Fall 2028: October 8 - 12, Hyatt Regency, Columbus, OH

**9. Adjourn**

Meeting adjourned at approximately 9:00 AM.

Reported by:

Jared Hines

Switchgear Assemblies Subcommittee Secretary

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**Attendance Record**

| First Name  | Last Name  | Company                     | Role      |
|-------------|------------|-----------------------------|-----------|
| Darryl      | Moser      | ABB                         | Chair     |
| Jared       | Hines      | Eaton                       | Secretary |
| Paul        | Barnhart   | Underwriters Laboratories   | Member    |
| Russell     | Boyce      | Eaton                       | Member    |
| Robert      | Burns      | Eaton                       | Member    |
| Ted         | Burse      | Powell Industries, Inc      | Member    |
| Clint       | Carne      | Schneider Electric          | Member    |
| Robert      | Cohn       | Powercon Corp.              | Member    |
| Fiori       | Coziuc     | S&C                         | Member    |
| Randall     | Creach     | Avail Switchgear Systems    | Member    |
| Jeffrey     | Door       | The H-J Family of Companies | Member    |
| Doug        | Edwards    | Siemens Industry, Inc.      | Member    |
| Sergio      | Flores     | Schneider Electric Inc. USA | Member    |
| Keith       | Flowers    | Siemens Industry, Inc.      | Member    |
| Christopher | French     | Beta Engineering            | Member    |
| Lou         | Grahor     | Eaton                       | Member    |
| Erin        | Hardy      | Eaton                       | Member    |
| Ronald      | Hartzel    | Eaton                       | Member    |
| Tom         | Hawkins    | Siemens Industry, Inc.      | Member    |
| Dan         | Hrcir      | Eaton                       | Member    |
| Michael     | Lafond     | Underwriters Laboratories   | Member    |
| Albert      | Livshitz   | Qualus Services             | Member    |
| Adrian      | Lopez      | Powell                      | Member    |
| Ken         | McKinney   | UL Solutions                | Member    |
| Jeff        | Mizener    | Siemens Industry, Inc.      | Member    |
| Terry       | Neighbours | ABB Inc.                    | Member    |
| Mark        | Roberson   | Avail Bus Systems           | Member    |
| Garett      | Sims       | Eaton                       | Member    |
| Donald      | Swing      | Avail Switchgear Systems    | Member    |

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|------------------|--------------|--|--------|
| Christo          | Thomas       | Schneider Electric                                 | Member |
| Terrance         | Woodyard     | Siemens Industry Inc.                              | Member |
| Koustubh         | Ashtekar     | JST Power Equipment                                | Guest  |
| Andreas          | Bartels      | Powell   | Guest  |
| Francis          | Beauchemin   | Hydro-Quebec                                       | Guest  |
| Siddangoud       | Biradar      | Eaton  | Guest  |
| Randy            | Blake        | Schneider Electric                                 | Guest  |
| Nick             | Bonche       | Switchgear Power Systems                           | Guest  |
| Marcos           | Botelho      | Siemens  | Guest  |
| Chris            | Bridges      | Eaton  | Guest  |
| Arjan            | Bronsveld    | Hitachi Energy                                     | Guest  |
| Adam             | Brooks       | Duke Energy  | Guest  |
| Federico         | Di Michele   | CESI S.p.A.  | Guest  |
| Arkadiusz (Erik) | Doroz        | Eaton  | Guest  |
| Peter            | Glaesman     | PCORE Electric Company, Inc.                       | Guest  |
| Sathish          | Govindarajan | Schneider Electric                                 | Guest  |
| Jodi             | Haasz        | IEEE Standards Association (IEEE-SA)               | Guest  |
| Robert           | Hanna        | JST Power Equipment                                | Guest  |
| Oliver           | Hartmann     | Siemens Industry                                   | Guest  |
| Terry            | Hunt         | Westinghouse Electric Company                      | Guest  |
| Fathmi           | Jahan        | ABB  | Guest  |
| Shah             | Jamal        | Avangrid   | Guest  |
| John             | Kaminski     | Siemens  | Guest  |
| Travis           | Ledford      | ABB  | Guest  |
| J. Dakota        | Leopard      | Eaton  | Guest  |
| Colby            | Lovins       | Federal Pacific (Div. of Electro-Mechanical Corp.) | Guest  |
| Steven           | May          | Southern Company                                   | Guest  |
| Kevin            | McGlown      | JST Power Equipment                                | Guest  |
| David            | Mitchell     | Southern States                                    | Guest  |
| Henning          | Milnikel     | Siemens  | Guest  |

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|----------------|-----------------|--------------------------|-------|
| Anthony        | Natale          | HICO America             | Guest |
| Roberto        | Olivares        | Siemens                  | Guest |
| Miklos         | Orosz           | CBT&S LLC                | Guest |
| Mike           | Page            | Eaton                    | Guest |
| Sumitabha      | Pal             | Schneider Electric       | Guest |
| Owen           | Parks           | ABB                      | Guest |
| Lalit          | Patil           | Eaton                    | Guest |
| Mark           | Pattison        | H-J Family of Companies  | Guest |
| Mark           | Peterson        | Xcel Energy              | Guest |
| Al             | Pruitt          | The Durham Company       | Guest |
| Paul           | Rakus           | Eaton                    | Guest |
| Eduardo        | Ramirez-Bettoni | Powell                   | Guest |
| Samala Santosh | Reddy           | Powell Industries        | Guest |
| Jeffery        | Ricker          | SCHNEIDER ELECTRIC       | Guest |
| Amy            | Rowell          | Schneider Electric       | Guest |
| Art            | Runov           | S & C                    | Guest |
| Kathryn        | Sakarapanee     | Schneider Electric       | Guest |
| Leonel         | Santos          | Schneider Electric       | Guest |
| Victor         | Savulyak        | DNV GL KEMA Laboratory   | Guest |
| Ben            | Sax             | Nashville Electric       | Guest |
| Skyler         | Schwartz        | ATC                      | Guest |
| Jason          | Sell            | Switchgear Power Systems | Guest |
| Paul           | Shiller         | First Power              | Guest |
| Aniket         | Shirode         | ABB                      | Guest |
| Christopher    | Slattery        | FirstEnergy              | Guest |
| Lokesh         | Solanki         | ABB                      | Guest |
| Joe            | Stemmerich      | Trayer Engineering       | Guest |
| Bryan          | Tatum           | UL Solutions             | Guest |
| Jacob          | Walgenbach      | Siemens Industry         | Guest |

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|-------------------|------------------|-------------------|-------------|
| John              | Webb             | ABB               | Guest       |
| Will              | Weishuhn         | ABB               | Guest       |
| Mina              | Youssef          | Eaton Corporation | Guest       |