

**High Voltage Circuit Breaker Subcommittee
Meeting Minutes**

Wednesday, April 9, 2025 – 3:45 pm

Meeting Minutes Recorded by: Chris Jarnigan

1. Call to Order

The meeting was called to order at 3:45 pm by the Subcommittee Chair, Dan Schiffbauer.

2. Establishment of Quorum

26 voting members were needed to establish a quorum. 39 of 55 voting members were present. Quorum was met. 107 total attendees were present.

3. Roll call and Disclosure of Affiliation

Attendees present stated their name and affiliation. Quorum was established. A list of attendees (name, affiliation, and voting status) is attached.

4. IEEE SA Patent Policy: Call for Patents

The call for patents was issued; **none raised.**

5. IEEE SA Copyright Policy/IEEE Participant Behavior

The IEEE SA Copyright Policy slides and the Participant Behavior slides were distributed to participants prior to the meeting. Participants were asked if anyone had not seen the slides and no one responded.

6. Approval of the Agenda

Motion to approve the meeting agenda.

Mover: Jeff Ward

Second: Jan Weisker

The agenda was unanimously approved as presented without objection.

7. Approval of Fall 2024 meeting minutes

Motion to approve the minutes from Fall 2024 HVCB Subcommittee meeting.

Mover: Mike Skidmore

Second: Dave Mitchell

The Fall 2024 meeting minutes were unanimously approved without objection.

8. Chairman's report

Chair introduced the HVCB iMeet Central workspace to the subcommittee. Templates that meet IEEE requirements are in the Templates folder if the working groups would like to use them.

Chair requested the working group chairs email the working group minutes in the next two weeks to Chris Jarnigan. Also, please add Jennifer Santuli to email lists.

9. New Business

a. PC37.01 Standard for HVDC Circuit Breakers above 3200 VDC

Chair: Steven Chen

Secretary: Carl Schuetz

The working group met on Monday 4/7 in two sessions. 28 attendees with 12 voting members of 48 were in attendance, so quorum was not met. A PAR extension request was approved by the working group in an October virtual meeting. The initial ballot goal is in 2nd quarter of 2026. This working group has many international members which makes establishing quorum difficult. Dan encouraged the working group to initiate ballot 1st quarter 2026. The PAR extension request will be brought to the HVCB subcommittee for approval to submit to NesCom after the ballot is initiated.

b. PC37.04 Standard for Ratings and Requirements for AC High Voltage Circuit Breakers with Rated Maximum Voltage above 1000 V

Chair: John Webb

The working group met on 4/7 with 113 attendees in the first session and 93 attendees in the second session. The meeting consisted of establishing a work list for items to be modified or included in the new document. A proposal was made to introduce controlled (point of wave) switching in C37.04. There is an alternate plan to update the text in C37.010 and add text to C37.12.

There was discussion on how other standards groups handle controlled switching.

It was decided since this is a new issue being brought to the subcommittee to address it in a future meeting which would allow the members to think about where best to address the issue.

Urmil Parikh was asked to submit a one-page summary of what the content would be so the subcommittee can review in the future. He will target submitting the summary in June.

The 04a ballot was finished and has been submitted to RevCom for the May agenda.

- c. PC37.06.1 Recommended Practice for Preferred Ratings for High-Voltage (>1000 volts) AC Circuit Breakers Designated Definite Purpose for Fast Transient Recovery Voltage Rise Times
Chair: Dan Schiffbauer
Secretary: Dan Benedict
The working group met on Tuesday 4/8. Quorum was met.
Their plan is to go for MEC and form a ballot pool in May.
- d. PC37.09 IEEE Standard Test Procedure for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis
Chair: Jan Weisker
Secretary: Chris Jarnigan
The working group met on Tuesday 4/8. This was the first meeting of the working group. There was a total of 105 people in attendance. 81 requested voting membership.
The working group voted to immediately go to ballot using the 2018 version to save ANSI accreditation.
As the chair representing the vote of the C37.09 working group, Jan made a motion to move to ballot. There were no disapprovals. The motion passed by unanimous consent.
- e. PC37.09a IEEE Standard Test Procedure for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis
Chair: Jan Weisker
Secretary: Chris Jarnigan
The working group met on Tuesday 4/8. There were 71 in total attendance. 33 of 59 members voting members were present. An update on the progress of the document was given. The draft has been submitted to RevCom.
- f. PC37.010
Chair: Andy Keels
Next meeting June 6 virtual meeting; October 2025 meeting.

The working group approved a PAR extension request during their meeting.

Andy made a motion for the HVCB subcommittee to approve a PAR extension request to NesCom for two years. It passed by unanimous consent.
- g. PC37.015
Chair: Mike Crawford
Met this morning with quorum
They will hold a virtual meeting in July.
- h. PC37.016
Chair: Neil McCord
The working group voted to extend their PAR by two years.

Neil requested permission from the HVCB subcommittee to request a PAR extension. The motion was passed by unanimous consent.

They plan to have virtual meetings to speed up progress on the document. If the working group approves going to ballot, they will ask the HVCB subcommittee to hold an electronic ballot to approve the working group going to ballot. They plan to go to ballot before the Fall meeting.

i. PC37.017

Chair: Devki Sharma

The document was balloted in February with 85 members in the pool. 88% return rate; 98% approve with one disapprove.

The revised draft is out for 2nd recirculation and closes next week. Expect to submit to RevCom.

Devki shared with the subcommittee that using the word "Subclause" in documents does not meet the Style manual.

j. PC37.10

Chair: Todd Irwin

The working group didn't meet. 1st recirculation ballot will go out in April. They plan to submit to RevCom before the Fall meeting.

k. PC37.10.1

Chair: Dave Mitchell

13 of 15 members; Dave made a motion for the HVCB to give permission for the working group to go to ballot. The motion passed by unanimous consent.

l. PC37.12

Chair: Todd Irwin

A working group was formed in the initial meeting on Wednesday 4/9 with 22 members. Volunteers were gathered to work on tasks identified by the working group.

There will be a new secretary for this working group that is yet to be named.

m. PC37.12.1

Chair: Sam Zaharko

14 of 21 voting members were present at the meeting which met quorum. Sam Zaharko reported that the progress for this document is on pace.

10. Future Working Group Meetings

The future meetings were shared with the subcommittee.

F25 – Reno, NV

S26 – Clearwater Beach, FL

F26 – San Diego, CA

S27 – Orlando, FL

11. Adjourn

Motion to adjourn the meeting

Mover: John Webb; Second: Dave Mitchell. Motion passed to adjourn without objection.

Meeting attendance:

Family Name	Given Name	Affiliation	Membership	S25
Alexander	Roy	RWA Engineering	VM	
Aristizabal	Mauricio	Hitachi Energy	VM	X
Ashtekar	Koustubh	Siemens	VM	
Bartels	Andreas	Powell Industries	VM	X
Becker	George	Power Engineers	VM	EA
Bufl	Arben	Meiden America Switchgear, Inc.	VM	X
Caverly	David	Trench Ltd.	VM	
Chen	Steven	Eaton	VM	X
Chovanec	Andrew	Power Grid Components	VM	X
Christian	Michael	ABB	VM	X
Collette	Lucas	Duquesne Light	VM	X
Crawford	Michael	MEPPI	VM	X
Cunningham	Jason	Southern States	VM	X
Di Lillo	Patrick	Consolidated Edison	VM	
Di Michele	Federico	KEMA	VM	X
Door	Jeffrey	The H-J Family of Companies	VM	X
Falkingham	Leslie	Vacuum Interrupters Limited	VM	X
Flores	Sergio	Schneider Electric	VM	X
Hensberger	Jeremy	MEPPI	VM	EA
Hermosillo	Victor	GE Grid Solutions	VM	X
Hu	Jingxuan (Joanne)	RBJ Engineering	VM	EA
Hunter	Jennifer	MEPPI	VM	X
Irwin	Todd	GE Grid Solutions	VM	X
Jarnigan	Christopher	Southern Company	VM	X
Johnson	David	HVCB	VM	
Keels	Thomas (Andy)	Clearway Energy	VM	X
Leccia	Brad	Eaton	VM	X
Livshitz	Albert	Qualus Services	VM	X
Lopez	Adrian	Powell Industries	VM	
Marshall	Vincent	Southern Company	VM	X
May	Steven	Southern Company	VM	
McCord	Neil	KEC Precision	VM	X
Mitchell	Dave	Southern States	VM	X

Palazzo	Mirko	Hitachi Energy	VM	X
Polchinski	Craig	MEPPI	VM	X
Ricciuti	Anthony	Eaton	VM	X
Santos	Leonel	Schneider Electric	VM	X
Schiffbauer	Daniel	Toshiba International Corporation	VM	X
Schuetz	Carl	ATC	VM	EA
Scott	Jeff	Ameren	VM	
Sharma	Devki	Self	VM	X
Skidmore	Michael	AEP	VM	X
Smith	Robert (Kirk)	Retired	VM	
Steigerwalt	Don	Duke Energy	VM	
Toups	Vernon	Siemens Energy	VM	
Trichon	Francois	Schneider Electric	VM	X
Ward	Jeffrey	Self	VM	X
Webb	John	ABB	VM	X
Weeks	Casey	Siemens Energy	VM	X
Weisker	Jan	Siemens Energy	VM	X
Westerdale	Matt	US Bureau of Reclamation	VM	EA
Wolfe	Dan	Pennsylvania Switchgear	VM	X
Woodyard	Terrance	Siemens Industry	VM	X
York	Richard	MEPPI	VM	X
Young	Marcus	MEPPI	VM	X
Akhunov	Anatoly	HICO America	NM	X
Avila	Jesus	ABB	NM	X
Balasubramanian	Ganesh	Eaton	NM	X
Balvet	Vincent	Vizimax	NM	X
Benedict	Dan	Pennsylvania Power and Light (PPL)	NM	X
Bolar	Sanket	Oncor	NM	X
Bornuat	Albane	GE Vernova	NM	X
Bouche	Nick	Switchgear Power Systems	NM	X
Brogdon	Jeffrey	Georgia Transmission	NM	X
Bronsveld	Arjan	Hitachi Energy	NM	X
Byreddy	Sudarshan	Burns & McDonnell	NM	X
Castillo	Pedro	ABB	NM	X
Chhabra	Mohit	S&C Electric	NM	X
Collette	Dave	MEPPI	NM	X
Cuppett	Matthew	Hitachi Energy	NM	X
Dunn	Chris	Dominion Energy	NM	X
Eastman	Maxwell	Black & Veatch	NM	X
Fox	Paul	Schneider Electric	NM	X
French	Chris	Beta Engineering	NM	X
Grenier-Poulin	Renaud	MindCore Technologies	NM	X

Hanna	Robert	JST Power	NM	X
Harley	John	First Power Group, LLC	NM	X
Hartmann	Oliver	Siemens Industry	NM	X
Hasnaoui	Nadia	GE	NM	X
Heinrich	Christian	Siemens AG	NM	X
Henriet	Eduardo	Siemens Energy	NM	X
Hughes	Derek	Georgia Transmission	NM	X
Ivanov	Alex	JST Power	NM	X
Jacob	Kai	Siemens	NM	X
Jaggernaut	Sudesh	Florida Power and Light	NM	X
Ju	Seyoung	HICO America	NM	X
Kravetz	Seth	Qualus Services	NM	X
Kurinko	Carl	Hitachi Energy	NM	X
Lakshminarayana	Ramaprasad	Doble Engineering	NM	X
Lopez	Leo	WIKI Instrument, LP	NM	X
Lovins	Colby	Federal Pacific	NM	X
Lyu	Soung Hwan	Federal Pacific	NM	X
Ma	Chunming	Burns & McDonnell	NM	X
Mgunda	Mcpharlen	HICO America	NM	X
Milnikel	Henning	Siemens	NM	X
Miranda	Sergio	ABB	NM	X
Natale	Anthony	HICO America	NM	X
Nieto	Carlos	S&C Electric	NM	X
Ordein Torres	Fernando	Dominion Energy	NM	X
Orosz	Miklos	CBT&S, Myers Power Products	NM	X
Pal	Sumitabha	Schneider Electric	NM	X
Parikh	Urmil	Hitachi Energy Sweden	NM	X
Patil	Lalit	Eaton	NM	X
Pecile	Conrad	Myers Power Products	NM	X
Peterson	Mark	Xcel Energy	NM	X
Pounders	Isaac	Meiden America Switchgear, Inc.	NM	X
Rebovich	Justin	GE Grid Solutions	NM	X
Reddy	Samala Santosh	Powell Industries	NM	X
Rexroad	Aaron	Meiden America Switchgear, Inc.	NM	X
Roberts	Brian	Southern States	NM	X
Santulli	Jennifer	IEEE SA	NM	X
Sell	Jason	Switchgear Power Systems	NM	X
Shirode	Aniket	ABB	NM	X
Sizemore	Josh	WIKI Instrument, LP	NM	X
Solanki	Lokesh	ABB	NM	X
Tama	Valeria	JST Power	NM	X
Tarleton	John	Southern States	NM	X

Tillery	Tim	Howard Industries	NM	X
Usner	Joseph	AEP	NM	X
Vittoz	Marc	GE Vernova	NM	X
Walgenbach	Jacob	Siemens	NM	X
Youssef	Mina	Eaton	NM	X
Zaharko	Sam	MEPPI	NM	X

NOTE – EA (Excused Absence) does not count against continued membership and does not count toward meeting quorum.

IEEE HVCB Subcommittee Meeting
Agenda
Wednesday April 9, 2025 from 3:45 to 5:30
Bonnet Creek Resort in Orlando, FL – Journey Room

1. Call to Order:
2. Introductions and Declaration of Affiliation (Working Group Establishment)
Affiliation FAQs: <http://standards.ieee.org/faqs/affiliation.html>

3. Establishment of Quorum:

Alexander, Roy	Di Michele, Federico	Lopez, Adrian	Smith, Robert (Kirk)
Aristizabal, Mauricio	Door, Jeffrey	Marshall, Vincent	Steigerwalt, Don
Ashtekar, Koustubh	Falkingham, Leslie	May, Steven	Toups, Vernon
Bartels, Andreas	Flores, Sergio	McCord, Neil	Trichon, Francois
(Becker, George)	(Hensberger, Jeremy)	Mitchell, Dave	Ward, Jeffrey
Bufl, Arben	Hermosillo, Victor	Palazzo, Mirko	Webb, John
Caverly, David	(Hu, Jingxuan (Joanne))	Polchinski, Craig	Weeks, Casey
Chen, Steven	Hunter, Jennifer	Ricciuti, Anthony	Weisker, Jan
Chovanec, Andrew	Irwin, Todd	Santos, Leonel	(Westerdale, Matt)
Christian, Michael	Jarnigan, Christopher	Schiffbauer, Daniel	Wolfe, Dan
Collette, Lucas	Johnson, David	(Schuetz, Carl)	Woodyard, Terrance
Crawford, Michael	Keels, Thomas (Andy)	Scott, Jeff	York, Richard
Cunningham, Jason	Leccia, Brad	Sharma, Devki	Young, Marcus
Di Lillo, Patrick	Livshitz, Albert	Skidmore, Michael	

Quorum = 26 today

4. Approval of Agenda:
5. Approval of F24 (10/17/2024) Meeting Minutes:



F24_HVCB_Minutes_R
EV00.pdf

6. IEEE SA Patent Policy: Call for Patents
<https://development.standards.ieee.org/myproject/Public/mytools/mob/slideset.pdf>

7. IEEE SA Copyright Policy:

See Annex A

8. IEEE SA Participant Behavior: See Annex B

9. Presentation(s) / Technical Presentation(s), Contribution(s) or Discussion(s)

a. Chairman's Report:

i. New HVCB imeetcentral site is up and running – meeting templates, P&P's, items for subcommittee approval, HVCB docs.

ii. Please upload working group meeting minutes to the HVCB imeetcentral site no later than Friday, April 18. Use the templates. Switchgear committee has a preferred filename format for WG minutes, e.g., F24_HVCB_WG_PC37.06.1_REV00. iii. Working group chairs – please add Jennifer Santulli (IEEE PM) to your roster.

b. PC37.01 Standard for HVDC Circuit Breakers above 3200 VDC

Chair: S. Chen

Secretary: C. Schuetz

Report status of PAR extension.

c. PC37.04 Standard for Ratings and Requirements for AC High Voltage Circuit Breakers with Rated Maximum Voltage above 1000 V

Chair: J. Webb

Secretary: M. Young

Report status of amendment ballot and revision PAR.

d. PC37.06.1 Recommended Practice for Preferred Ratings for High-Voltage (>1000 volts) AC Circuit Breakers Designated Definite Purpose for Fast Transient Recovery Voltage Rise Times

Chair: D. Schiffbauer

Secretary: D. Benedict

Report status of (ANSI) revision.

e. PC37.09 IEEE Standard Test Procedure for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis

Chair: J. Weisker

Secretary: C. Jarnigan

Report status of amendment ballot and (ANSI) revision.

f. PC37.010 Application Guide for AC High-Voltage Circuit Breakers > 1000 Vac Rated on a Symmetrical Current Basis

Chair: A. Keels

Secretary: L. Collette

Report status of revision – PAR expires 12/31/2025.

g. PC37.015 Guide for the Application of Shunt Reactor Switching
Chair: M. Crawford

Secretary: L. Collette

Report status of (ANSI) revision.

h. PC37.016 Standard for AC High-Voltage Circuit Switchers Rated 15.5 kV through 245 kV
Chair: N. McCord

Secretary: L. Collette

Report status of (ANSI) revision – PAR expires 12/31/2025.

i. PC37.017 Standard for Bushings for High-Voltage (Over 1000 Vac) Circuit Breakers and Gas-Insulated Switchgear

Chair: D. Sharma

Secretary: C. Schuetz

Report status of (ANSI) revision.

j. PC37.10 Guide for Investigation, Analysis, and Reporting of Power Circuit Breaker Failures
Chair: T. Irwin

Secretary: J. Ward

Report status of (ANSI) revision – PAR expires 12/31/2025.

k. PC37.10.1 Guide for the Selection of Monitoring for Circuit Breakers

Chair: D. Mitchell

Secretary: F. Ordein

Report status of (ANSI) revision.

l. PC37.12 Guide for Specifications of High-Voltage Circuit Breakers (over 1000 V) Chair: T. Irwin
Secretary: TBD

Report status of (ANSI) revision.

m. PC37.12.1 Recommended Practice for Instruction Manual Content of AC High-Voltage
Circuit Breakers Above 1000 V

Chair: S. Zaharko

Secretary: A. Keels

Report status of (ANSI) revision.

n. Overview of HVCB standards ageing

[Go to Ageing Chart](#)

10. Future Meetings

F25 - Reno, NV

S26 - Clearwater Beach, FL

F26 – San Diego, CA

S27 – Orlando, FL

F27 – Waikiki Beach, HI

11. Adjourn

Annex A

IEEE SA COPYRIGHT POLICY

By participating in this activity, you agree to comply with the IEEE Code of Ethics, all applicable laws, and all IEEE policies and procedures including, but not limited to, the IEEE SA Copyright Policy.

- Previously Published material (copyright assertion indicated) shall not be presented/submitted to the Working Group nor incorporated into a Working Group draft unless permission is granted.
- Prior to presentation or submission, you shall notify the Working Group Chair of previously Published material and should assist the Chair in obtaining copyright permission acceptable to IEEE SA.
- For material that is not previously Published, IEEE is automatically granted a license to use any material that is presented or submitted.

IEEE SA COPYRIGHT POLICY

- The IEEE SA Copyright Policy is described in the IEEE SA Standards Board Bylaws and IEEE SA Standards Board Operations Manual
 - IEEE SA Copyright Policy, see
 - Clause 7 of the IEEE SA Standards Board Bylaws
<https://standards.ieee.org/about/policies/bylaws/sect7.html#7>
 - Clause 6.1 of the IEEE SA Standards Board Operations Manual
<https://standards.ieee.org/about/policies/opman/sect6.html>
- IEEE SA Copyright Permission
 - <https://standards.ieee.org/content/dam/ieeestandards/standards/web/documents/other/permissionltrs.zip>
- IEEE SA Copyright FAQs
 - <https://standards.ieee.org/faqs/copyrights/>
- IEEE SA Best Practices for IEEE Standards Development
http://standards.ieee.org/content/dam/ieee-standards/standards/web/documents/other/best_practices_for_ieee_standards_development_051215.pdf
- Distribution of Draft Standards (see 6.1.3 of the SASB Operations Manual)
 - <https://standards.ieee.org/about/policies/opman/sect6.html>

Annex B

Participant behavior in IEEE-SA activities is guided by the IEEE Codes of Ethics & Conduct

- All participants in IEEE-SA activities are expected to adhere to the core principles underlying the:
 - [IEEE Code of Ethics](#)
 - [IEEE Code of Conduct](#)
- The core principles of the IEEE Codes of Ethics & Conduct are to:
 - Uphold the highest standards of integrity, responsible behavior, and ethical and professional conduct
 - Treat people fairly and with respect, to not engage in harassment, discrimination, or retaliation, and to protect people's privacy.
 - Avoid injuring others, their property, reputation, or employment by false or malicious action
- The most recent versions of these Codes are available at <http://www.ieee.org/about/corporate/governance>

Approved by SASB in June 2019

Slide 2

Participants in the IEEE-SA “individual process” shall act independently of others, including employers

- The [IEEE-SA Standards Board Bylaws](#) require that “participants in the IEEE standards development individual process shall act based on their qualifications and experience”
- This means participants:
 - **Shall act & vote** based on their personal & independent opinions derived from their expertise, knowledge, and qualifications
 - **Shall not act or vote** based on any obligation to or any direction from any other person or organization, including an employer or client, regardless of any external commitments, agreements, contracts, or orders
 - **Shall not direct** the actions or votes of other participants or retaliate against other participants for fulfilling their responsibility to act & vote based on their personal & independently developed opinions
- By participating in standards activities using the “individual process”, you are deemed to accept these requirements; if you are unable to satisfy these requirements then you shall immediately cease any participation

Approved by SASB in June 2019

Slide 3

IEEE-SA standards activities shall allow the fair & equitable consideration of all viewpoints

- The [IEEE-SA Standards Board Bylaws](#) (clause 5.2.1.3) specifies that *“the standards development process shall not be dominated by any single interest category, individual, or organization”*
 - This means no participant may exercise *“authority, leadership, or influence by reason of superior leverage, strength, or representation to the exclusion of fair and equitable consideration of other viewpoints”* or *“to hinder the progress of the standards development activity”*
- This rule applies equally to those participating in a standards development project and to that project's leadership group
- Any person who reasonably suspects that dominance is occurring in a standards development project is encouraged to bring the issue to the attention of the Standards Committee or the project's IEEE-SA Program Manager