

Minutes of C37.09 & C37.04 Corrigenda Working Group

Spring 2021 meeting

Microsoft Teams Online Meeting on April 20, 2021

Attendance 64 people were in attendance
36 of 41 WG members participated; thus, Quorum was met (88%)
28 guests participated

Note: WG membership based on updated AMS system after the meeting
=====

- 1) The meeting was called to order by Chair of C37.09, Jan Weisker at 10:15 CDT
- 2) Introduction of members and guests – *Completed via participants list, attendance list attached*
- 3) No requests for modification of circulated agenda. Motion to approve agenda made by Jeff Ward, 2nd by Terry Woodyard, Approved by unanimous consent.
- 4) Review of Patent Slides – *No issues were voiced by the meeting attendees*
- 5) Discussion of Copyright Rules – *No issues were voiced by the meeting attendees*
- 6) Minutes of previous meetings posted on Switchgear Committee Website, one typo was noted, and minutes were updated, Motion to approve made by Victor Hermosillo, 2nd by Terry Woodyard, approved by unanimous consent.
- 7) Document Status for Cor1 C37.09 was given as follows:
 - a) Ballot Group formed by November 2020
 - b) Draft 1.3 out for Ballot (30 days) by November 17
 - c) Comment resolution by e-mail through Jan/Feb 2021
 - d) Draft 1.6 out for Recirculation by February 26
90 % Response, 100 % Approval
 - e) Submitted to RevCom by March 16 for Meeting of April 28
 - f) Target: Finalize by End of 2021 Draft 1 of corrigenda to IEEE C37.04-2018 was reviewed without comment.
- 8) The floor was given to Chair of C37.04, John Webb
- 9) Approval of Minutes of previous comment resolution meeting of PC37.04, Motion to approve made by Neil Hutchins, 2nd by Mike Crawford, approved by unanimous consent.
- 10) Document Status for Cor1 C37.04 was given as follows:
 - a) Ballot Group formed November 2020
 - b) Initial Ballot Issued 8 Feb. Closed 10 March
 - c) 77 % Response / 97 % Approval --- Passed
 - d) 9 Comments.
 - e) 1 April, 2021 Comment Resolution Meeting
 - f) Quorum Met – All comments resolved, Draft circulated to WG
 - g) During WG Review, objection raised to one resolution
 - h) 5.7.2.3.1 – “Use of Terminal Fault”
 - i) There is no definition for “Terminal Fault” – To be added?
 - j) Once resolved 10 Day Recirculation Ballot.
 - k) Target: Next RevCom Submittal Deadline 6 May.

Minutes of **C37.09 & C37.04 Corrigenda Working Group**

Spring 2021 meeting

Microsoft Teams Online Meeting on April 20, 2021

11) Definition for “terminal fault” was extensively discussed and finally agreed upon:

terminal fault: a short-circuit condition at the circuit breaker terminals with negligible impedance between the interrupting device and the fault location. The fault current being limited only by source impedance on the un-faulted side of the circuit breaker.

NOTE: The short-circuit can involve one, two or three phases and be to ground or between phases.

Motion to accept wording by Andy Keels, 2nd by Pat Dilillo, Approved by unanimous consent

12) Meeting adjourned at 12:00 CDT. Motion to adjourn entertained by John Webb, Motion made by Pat Dilillo, 2nd by Andy Keels

13) Next meeting to be held at Fall Switchgear Committee meeting or sooner by electronic means at discretion of chair to resolve ballot comments if needed.

Reported by:

Jan Weisker, Chair PC37.09 and Secretary PC37.04

E: jan.weisker@siemens.com

Attachments:

- (1) Combined WG membership and attendance
- (2) Presentation held during meeting

Role	Full Name	City	State	10/7/2019	10/9/2019	5/4/2020	10/6/2020	4/1/2021	4/20/2021
Chair	Jan Weisker	Berlin	Other	X	X	X		X	X
Secretary	John C. Webb	Pawleys Island	SC	X	X	X	X	X	X
Member	Harm Bannink	Zelhem	Other	X			X	X	X
Member	Ted Burse	Houston	TX	X		X		X	
Member	Eldridge Byron	Smyrna	TN	X				X	X
Member	Steven Chen	MOON TOWNSHIP	PA	X	X	X		X	X
Member	Andy Chovanec	Charleroi	PA			X	X		X
Member	Michael Christian	Sanford	FL	X				X	X
Member	Luke Collette	Pittsburgh	PA	X		X	X	X	X
Member	Mike Crawford	Cranberry Twp	PA	X	X		X		X
Member	Jason Cunningham	Suwanee	GA	X			X	X	X
Member	Pat Di Lillo	New York	NY	X	X		X	X	X
Member	Sergio Flores	SMYRNA	TN	X			X	X	X
Member	John Hall	Chattanooga	TN	X		X	X	X	X
Member	Jeremy Hensberger	Warrendale	PA	X	X	X	X		X
Member	Victor Hermosillo	Charleroi	PA	X	X	X	X	X	X
Member	Neil Hutchins Hutchins	Forest Park	GA	X	X		X	X	X
Member	Todd Irwin	Smithville	MO	X	X	X	X	X	X
Member	Chris Jarnigan	Birmingham	AL	X	X		X		X
Member	david Johnson	TEMECULA	CA		X	X	X		X
Member	Andy Keels	Mesa	AZ	X	X	X	X	X	X
Member	Hua Liu	Pomona	CA	X	X		X	X	X
Member	Steve May	Forest Park	GA	X	X		X	X	
Member	Neil McCord	Athens	GA	X			X		
Member	Andrew Peterson Peterson	Sanford	FL	X	X	X	X	X	X
Member	Tony Ricciuti	Moon Township	PA	X	X		X	X	X
Member	Dan Schiffbauer	Oliver	PA			X			X
Member	Carl Schuetz	Waukesha	WI			X	X		X
Member	Sushil Shinde	Mt Pleasant	PA	X		X		X	X
Member	Mike Skidmore	Pickerington	OH	X	X		X	X	X
Member	Jim Stage	Richmond	VA	X				X	X
Member	Donnie Swing	Houston	TX	X				X	X
Member	Vernon Touns	Richland	MS	X	X		X		
Member	Jim van de Ligt	Calgary	AB	X		X	X		X
Member	Jeff Ward	Marlborough	MA			X		X	X
Member	Will Weishuhn Weishuhn	Monument	CO	X			X	X	
Member	Matt Westerdale	Denver	CO	X			X	X	X
Member	Terry Woodyard	Wendell	NC	X	X		X		X
Member	Rich York	Pittsburgh	PA	X			X		X
Member	Marcus Young	Knoxville	TN	X	X	X	X	X	X
Member	Xi Zhu	Atlanta	GA		X	X	X	X	X
Guest	Mauricio Aristizabal	Pittsburgh	PA						X
Guest	Roy Ayers	Nashville	TN			X			X

Guest	Stan Billings Billings	Murrysville	PA					X
Guest	Michael Boulus	NEWARK	NJ					X
Guest	Arben Bufi	Gray Court	SC				X	
Guest	Stephen Cary	Mebane	NC	X	X			X
Guest	Dave Caverly	Scarborough	ON				X	X
Guest	Vince Chiodo	Pittsburgh	PA	X				
Guest	Bianca Marie Cosby	San Diego	CA	X				
Guest	Daniel Crist	Richland	MS	X	X			
Guest	Federico Di Michele	Milano	Other	X			X	X X
Guest	Doug Edwards	Wendell	NC					X
Guest	Ken Edwards	Ellensburg	WA			X		
Guest	Emily Eftink	Kansas City	MO	X	X			
Guest	Bruce Fennell	Nashville	TN	X			X	
Guest	Jose Gamboa Gamboa	High Ridge	MO					X
Guest	Jen Hunter	Warrendale	PA				X	X X
Guest	Hemanth Jala	Chicago	IL	X				
Guest	John Kelly	Denver	CO				X	
Guest	Victor Kim Kim	Greensburg	PA			X		
Guest	Brandon Kim	Pittsburgh	PA	X	X			
Guest	Carl Kurinko	North Huntingdon	PA			X	X	X
Guest	Scott Lanning	Libertyville	IL	X				X
Guest	Brad Leccia	Moon Township	PA				X	X
Guest	LEE JOOHYUN LEE	CHANGWON	Other	X	X			
Guest	Dave Lemmerman	Berwyn	PA				X	
Guest	Jane Ling Ling	Chareleroi	PA			X		
Guest	LEO Lopez	Lawrenceville	GA					X
Guest	Vincent Marshall	Forest Park	GA	X	X			X
Guest	Pete Marzec	Chicago	IL	X				
Guest	Henning Milnikel	Frankfurt	Other					X
Guest	Dave Mitchell	Henrico	VA	X				
Guest	Ashley Moran Moran	Piscataway	NJ					X
Guest	Anthony Natale	Pittsburgh	PA	X			X	
Guest	Mirko Palazzo	Zurich	Other	X				
Guest	Tom Pellerito	Detroit	MI	X				
Guest	Alan Peterson	Huntsville	AL	X				
Guest	Mark Peterson	Denver	CO					X
Guest	Lisa Phan	San Ramon	CA	X				X
Guest	John Phouminh	WASHINGTON	DC				X	X X
Guest	Craig Polchinski	Warrendale	PA	X			X	X X
Guest	Brian Roberts	Hampton	GA	X			X	
Guest	Jon Rogers	richland	MS	X				
Guest	Leonel Santos	Smyrna	TN					X
Guest	Victor Savulyak	Chalfont	PA			X		
Guest	Alexander Sergeyenko	Surrey	BC					X
Guest	Devki Sharma	Halifax	NS			X	X	X
Guest	John Shen	Chicago	IL	X				
Guest	Chris Slattery	Fairlawn	OH					X

Guest	Kirk Smith	Ithaca	NY		X	X
Guest	Henk te Paske	Arnhem	Other	X		X
Guest	Casey Weeks	Richland	MS	X	X	X
Guest	Torsten Wirz	Ratingen	Other	X	X	X
Guest	DS Yoon	Greensburg	PA		X	
Guest	Mina Youssef Youssef	Omaha	NE		X	X
Guest	Will Zhang	Suwanee	GA			X
Guest	Xin Zhou Zhou	Pittsburgh	PA			X
Guest	Denis Dufournet	Villard de Lans	Other			
Guest	Bill Long	Pittsburgh	PA			X
Guest	Jeff Nelson	Chattanooga	TN			
41 Total Members					Members Attending: 36	

Total Attending: 64

**C37.09 Standard Test Procedure for AC High-Voltage Circuit Breakers
with Rated Maximum Voltage above 1000V
- Corrigendum 1**

Chair: Jan Weisker
Secretary: John Webb

**C37.04 Standard for Ratings and Requirements for AC High-Voltage Circuit
Breakers with Rated
Maximum Voltage Above 1000 V
- Corrigendum 1**

Chair: John Webb
Secretary: Jan Weisker

IEEE Switchgear Meeting, 20 April 2021 - Online meeting

Agenda

- ❑ Greetings of the Chair/Secretary
- ❑ IEEE SA Copyright Policy
- ❑ Call for Knowledge of Essential Patents
- ❑ Introductions & Membership
- ❑ PC37.09 Cor1 Report of Ballots & Project Status
- ❑ PC37.04 Cor1 Report of Ballots & Project Status
- ❑ Close the Meeting

IEEE SA COPYRIGHT POLICY

NOVEMBER 2019



INSTRUCTIONS FOR CHAIRS OF STANDARDS DEVELOPMENT ACTIVITIES

At the beginning of each standards development meeting the chair or a designee is to:

- Show the following slides (or provide them beforehand)
- Advise the standards development group participants that:
 - IEEE SA's copyright policy is described in Clause 7 of the IEEE SA Standards Board Bylaws and Clause 6.1 of the IEEE SA Standards Board Operations Manual;
 - Any material submitted during standards development, whether verbal, recorded, or in written form, is a Contribution and shall comply with the IEEE SA Copyright Policy;
- Instruct the Secretary to record in the minutes of the relevant meeting:
 - That the foregoing information was provided and that the copyright slides were shown (or provided beforehand).

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/sect6-7.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/ieee-standards/standards/web/documents/other/permissionltrs.zip>

- IEEE SA Copyright FAQs

- <http://standards.ieee.org/faqs/copyrights.html/>

- IEEE SA Best Practices for IEEE Standards Development

- http://standards.ieee.org/develop/policies/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>

Participants have a duty to inform the IEEE

- Participants shall inform the IEEE (or cause the IEEE to be informed) of the identity of each holder of any potential Essential Patent Claims of which they are personally aware if the claims are owned or controlled by the participant or the entity the participant is from, employed by, or otherwise represents
- Participants should inform the IEEE (or cause the IEEE to be informed) of the identity of any other holders of potential Essential Patent Claims

**Early identification of holders of potential
Essential Patent Claims is encouraged**

Ways to inform IEEE

- **Cause an LOA to be submitted to the IEEE-SA (patcom@ieee.org); or**
- **Provide the chair of this group with the identity of the holder(s) of any and all such claims as soon as possible; or**
- **Speak up now and respond to this Call for Potentially Essential Patents**

If anyone in this meeting is personally aware of the holder of any patent claims that are potentially essential to implementation of the proposed standard(s) under consideration by this group and that are not already the subject of an Accepted Letter of Assurance, please respond at this time by providing relevant information to the WG Chair

Other guidelines for IEEE WG meetings

- All IEEE-SA standards meetings shall be conducted in compliance with all applicable laws, including antitrust and competition laws.
 - Don't discuss the interpretation, validity, or essentiality of patents/patent claims.
 - Don't discuss specific license rates, terms, or conditions.
 - Relative costs of different technical approaches that include relative costs of patent licensing terms may be discussed in standards development meetings.
 - Technical considerations remain the primary focus
 - Don't discuss or engage in the fixing of product prices, allocation of customers, or division of sales markets.
 - Don't discuss the status or substance of ongoing or threatened litigation.
 - Don't be silent if inappropriate topics are discussed ... do formally object.

For more details, see *IEEE-SA Standards Board Operations Manual*, clause 5.3.10 and *Antitrust and Competition Policy: What You Need to Know* at <http://standards.ieee.org/develop/policies/antitrust.pdf>

Patent-related information

The patent policy and the procedures used to execute that policy are documented in the:

- ***IEEE-SA Standards Board Bylaws***
(<http://standards.ieee.org/develop/policies/bylaws/sect6-7.html#6>)
- ***IEEE-SA Standards Board Operations Manual***
(<http://standards.ieee.org/develop/policies/opman/sect6.html#6.3>)

Material about the patent policy is available at
<http://standards.ieee.org/about/sasb/patcom/materials.html>

**If you have questions, contact the IEEE-SA
Standards Board Patent Committee
Administrator at patcom@ieee.org**

Membership & Quorum

Chair: Jan Weisker

Secretary: John Webb

Members

Herman Bannink
Ted Burse
Eldridge Byron
Stephen Cary
Steven Chen
Andrew Chovanec
Michael Christian
Lucas Collette
Michael Crawford
Jason Cunningham

Patrick Di Lillo
Sergio Flores
John Hall
Jeremy Hensberger
Victor Hermosillo
Neil Hutchins
Todd Irwin
Christopher Jarnigan
David Johnson
Thomas Keels

Hua Ying Liu
Steven May
Neil McCord
Andrew Peterson
Anthony Ricciuti
Daniel Schiffbauer
Carl Schuetz
Sushil Shinde
Michael Skidmore
Robert Smith

James Stage
Donald Swing
Vernon Toups
Jim van de Ligt
Jeffrey Ward
William Weishuhn
Matt Westerdale
Terry Woodyard
Richard York
Marcus Young
Xi Zhu

43 members Quorum = 22

C37.09 - Corrigendum 1

- | Approval of Minutes of last meeting

Project Status PC37.09 Cor1

- 1) Ballot Group formed by November 2020
- 2) Draft 1.3 out for Ballot (30 days) by November 17
- 3) Comment resolution by e-mail through Jan/Feb 2021
- 4) Draft 1.6 out for Recirculation by February 26
90 % Response, 100 % Approval
- 5) Submitted to RevCom by March 16 for Meeting of April 28
- 6) Target: Finalize by End of 2021

Thank you!

To be Continued by John Webb for
PC37.04 – Cor1

C37.04 - Corrigendum 1

- | Approval of Minutes of virtual meeting (1 Apr, 2015)

Project Status PC37.04 Cor1

- 1) Ballot Group formed November 2020
- 2) Initial Ballot Issued 8 Feb. Closed 10 March
 - 1) 77 % Response / 97 % Approval --- Passed
 - 2) 9 Comments.
 - 3) 1 April, 2021 Comment Resolution Meeting
- 3) Quorum Met – All comments resolved, Draft circulated to WG
 - 1) During WG Review, objection raised to one resolution
 - 2) 5.7.2.3.1 – “Use of *Terminal Fault*”
- 4) There is no definition for “Terminal Fault” – To be added?
- 5) Once resolved 10 Day Recirculation Ballot.
- 6) Target: Next RevCom Submittal Deadline 6 May.

Definition for Terminal Fault Current

terminal fault: A short-circuit condition at or near the circuit breaker terminals that assumes insignificant impedance between the interrupting device and the fault location, limited only by source side impedance.

NOTE: The short-circuit can involve one, two or three phases and be to ground or between phases.

Note: The short-circuit can involve one, two, or three phases and be to ground or between phases. a "Terminal Fault" need not be limited to the fully rated value. T10, T30, T60 are terminal faults with reduced power on the supply side so that the short-circuit current is reduced to 10%, 30%, and 60% of rated short-circuit breaking current. They cover the more general cases where all the lines and sources are not connected on the supply side.

terminal fault: A short-circuit condition at the circuit breaker terminals with negligible impedance between the interrupting device and the fault location. The fault current being limited only by system source impedance on the un-faulted side of the circuit breaker.

NOTE: The short-circuit can involve one, two or three phases and be to ground or between phases.

terminal fault

short-circuit directly at the load side terminals of a circuit-breaker producing the three-phase short-circuit current only limited by a source side impedance.

Definition for Terminal Fault Current

terminal fault: A short-circuit condition at the circuit breaker terminals with negligible impedance between the interrupting device and the fault location. The fault current being limited only by system source impedance on the un-faulted side of the circuit breaker.

NOTE: The short-circuit can involve one, two or three phases and be to ground or between phases.

terminal fault current: The current resulting from a terminal fault.

Terminal fault transient recovery voltage. . . That transient recovery voltage short-circuit condition at the circuit breaker terminals with negligible impedance between the interrupting device and the fault location. The fault current being limited only by source impedance on the un-faulted side of the circuit breaker.

NOTE: The short-circuit can involve one, two or three phases and be to ground or between phases.

terminal fault: A short-circuit condition determined by the source side impedance, that is with negligible impedance between the interrupting device and the fault location.

NOTE: The short-circuit can involve one, two or three phases and be to ground or between phases.

Definition for Terminal Fault Current

Final Text per approved motion

terminal fault: A short-circuit condition at the circuit breaker terminals with negligible impedance between the interrupting device and the fault location. The fault current being limited only by source impedance on the un-faulted side of the circuit breaker.

NOTE: The short-circuit can involve one, two or three phases and be to ground or between phases.

Thank you!