

**Working Group**  
**PC37.10 Guide for Investigation, Analysis, and Reporting of CB Failures**  
**Wednesday, October 11, 2023 01:30PM – 03:15PM**  
**San Diego, CA**

Chair: Todd Irwin  
Secretary: Jeff Ward

Agenda Item	
1	Call Meeting to Order
<b>Called to order at 13:31 by the Chair.</b>	
2	Introduction of Members & Guests, circulation of roster
<b>All attendees introduced themselves by name and affiliation.</b>	
3	Review IEEE Patent, Behavior and Copyright Policy slides
<p><a href="https://development.standards.ieee.org/myproject/Public/mytools/mob/slideset.pdf">https://development.standards.ieee.org/myproject/Public/mytools/mob/slideset.pdf</a></p> <p><a href="https://standards.ieee.org/content/dam/ieee-standards/standards/web/documents/other/copyright-policy-WG-meetings.potx">https://standards.ieee.org/content/dam/ieee-standards/standards/web/documents/other/copyright-policy-WG-meetings.potx</a></p> <p>Patent policy and Copyright policy were reviewed. A call was made for essential patents. None were reported.</p>	
4	Attendance and Quorum Check
<b>Quorum was reached with 14 voting members out of 20 present. 28 guests were also present.</b>	
5	Agenda Review and Approval
<p><b>Andy Keels reminded the chair that he had previously volunteered to act as Vice Chair of the working group if needed. The chair declined the offer with thanks, given the late stage of the group's work.</b></p> <p><b>The chair reviewed the agenda for the meeting and asked for any comments or additions. Andy Keels moved to approve the agenda as presented, seconded by Chris Jarnigan. With no objections or abstentions, approved by unanimous consent.</b></p>	
6	Approval of minutes of previous meeting
<p><b>The minutes of the 2023 Spring Meeting of the working group (Clearwater FL) were presented. Andy Keels asked if the tentative meeting mentioned in the minutes had been held, and the chair noted that there had been no other meetings since the Clearwater meeting.</b></p> <p><b>Chris Jarnigan moved to approve the minutes as presented, seconded by Albert Livshitz. With no objections or abstentions, the minutes were approved by unanimous consent.</b></p>	
7	PAR status
<b>The Chair noted that the revised PAR has been approved and published.</b>	
8	Review of draft 4
<p><b>The current draft (3.1 with incorporated comments and additions) of the C37.10 document was reviewed.</b></p> <p><b>The bibliography was reviewed and comments regarding the entries were noted in the working draft. A comment was made about references to C37.013 and it now being a dual-badged standard (as 62271-37-013). The correct citation will be verified and the reference updated.</b></p> <p><b>The new section C.5 (Alternative Gas Breakers) was reviewed and editorial comments regarding the section were noted in the working draft.</b></p> <p><b>It was noted that the document title did not match what was in the approved PAR. This will be corrected in the working draft.</b></p>	
9	Ballot Approval

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Agenda Item	
	<p>A motion to go to ballot with draft revision 4.0 (the working draft with changes discussed in this meeting) was made by Keith Flowers and seconded by Albert Livshitz. Dave Mitchell asked whether the draft should be available for review for a couple of weeks before the decision is made, but consensus was reached that the document had been stable for quite a while and that a delay was unnecessary. There being no further discussion and with no objections or abstentions, the motion was approved by unanimous consent.</p>
10	<p>Comment Resolution Group</p> <p>The list of comment resolution group volunteers from the previous meeting was reviewed. Andy Keels asked to be added to the comment resolution group.</p> <p>The comment resolution group is:</p> <ul style="list-style-type: none"><li>• Todd Irwin</li><li>• Jeff Ward</li><li>• Dave Mitchell</li><li>• Jennifer Hunter</li><li>• Chris Jarnigan</li><li>• Mike Skidmore</li><li>• Steve May</li><li>• Andy Keels</li></ul>
11	<p>Other Discussion/New Business</p> <p>No other discussion or new business were brought before the group.</p>
12	<p>Adjourn</p> <p>Having completed the agenda, the meeting was adjourned at 14:30.</p>



# **IEEE PC37.10 Working Group Fall 2023 – San Diego, FL**

Wednesday, October 11, 2023  
01:30PM– 03:15PM

# Agenda



# Introduction of Members & Guests, circulation of roster, attendance & quorum

## 20 Members

- Todd Irwin - Chair
- Jeffrey Ward - Secretary
- Stan Billings
- Michael Crawford
- Patrick DiLillo
- Keith Flowers
- Monty Goulkhah
- John Harley
- Victor Hermosillo
- Jennifer Hunter
- Christopher Jarnigan
- Andy Keels
- Albert Livshitz
- Steven May
- Dave Mitchell
- Miklos Orosz
- Andrew Peterson
- Jeff Scott
- Michael Skidmore
- John Webb

# Review IEEE Patent and Copyright Policy slides



<https://development.standards.ieee.org/myproject/Public/mytools/mob/slideset.pdf>

<https://standards.ieee.org/content/dam/ieee-standards/standards/web/documents/other/copyright-policy-WG-meetings.potx>

# Agenda Review and Approval

- Call Meeting to Order
- Introduction of Members & Guests, circulation of roster
- Review IEEE Patent and Copyright Policy slides
- Attendance and Quorum Check
- Agenda Review and Approval
- Approval of minutes of previous meetings
- PAR Status
- Review of draft
- Other Discussion/New Business
- Adjourn

# Approval of minutes of previous meeting

<https://www.ewh.ieee.org/soc/pes/switchgear/minutes/2023-1/S23HVCBa7REV00.pdf>



# PAR Status

- Root PAR Approved on: 02 Dec 2020
- PAR Expiration Date: 31 Dec 2024
  
- Revised PAR – Guide to RP
- PAR Approval Date: 15 Feb 2023

## C37.10 Proposed PAR Revision

Title: Recommended Practice Guide for Investigation, Analysis and Reporting of ~~Power Circuit Breaker~~ Failures of AC High-Voltage Circuit Breakers and Circuit Switchers with Rated Maximum Voltage Above 1000 V

Scope: This Recommended Practice guide provides practices and processes to perform, analyze, and report failure investigations of ~~power~~ AC high voltage circuit breakers and circuit switchers.

# Review of draft 4.0

## Actions from previous minutes

- Bibliography review
  - IEEE Standards
  - IEC standards and reports
- Section on alternative gas breakers in Appendix C

# Submit to MEC and form Ballot Group

## C37.10 IEEE Guide for Investigation, Analysis, and Reporting of Power Circuit Breaker Failures

Chair: Todd Irwin

Secretary: Jeff Ward

- Met with quorum
- PAR approved – expires 2024
- Draft near completion
- Comment resolution group formed and will meet in June
- Motion for approval to ballot pending working group approval – Todd Irwin, second – Dave Mitchell, no discussion, motion passed by consensus.

S23HVCBmiREV02

spring 2023

4

# Comment Resolution Group

- Todd Irwin
- Jeff Ward
- Dave Mitchell
- Jennifer Hunter
- Chris Jarnigan
- Mike Skidmore
- Steve May

# Other Discussion/New Business



# Adjourn



<b>PC37.10</b>	<b>Fall 2023</b>	<b>Attendance</b>		<b>11-Oct-23</b>
<b>Role</b>	<b>First Name</b>	<b>Last Name</b>	<b>Company</b>	
Chair	Todd	Irwin	GE Grid Solutions	X
Secretary	Jeffrey	Ward	Doble Engineering Company	X
Member	John	Billings	retired	
Member	Michael	Crawford	Mitsubishi Electric	X
Member	Patrick	Di Lillo	Consolidated Edison Co. of NY, Inc.	X
Member	Keith	Flowers	Siemens Industry, Inc.	X
Member	Monty	Goulkhah	Kinectrics Inc	
Member	John	Harley	FirstPower Group LLC	
Member	Victor	Hermosillo	GE Grid Solutions	X
Member	Jennifer	Hunter	MEPPI	X
Member	Neil	Hutchins	Georgia Power	
Member	Christopher	Jarnigan	Southern Company Services	X
Member	Thomas	Keels	kEElectric Engineering	X
Member	Albert	Livshitz	Qualus Services	X
Member	Steven	May	Southern Company	X
Member	Dave	Mitchell	Mitch and Associates	X
Member	Miklos	Orosz	CBT&S Consulting	X
Member	Andrew	Peterson	ABB	
Member	Jeff	Scott	Ameren	X
Member	Michael	Skidmore	AEP	
Member	John	Webb	ABB	

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<b>Role</b>	<b>First Name</b>	<b>Last Name</b>	<b>Company</b>	
Guest	Michelle	Antantis	Duquesne Light	X
Guest	Mauricio	Aristizabal	Hitachi Energy	X
Guest	Koustubh	Ashtekar	JST Power	
Guest	Andy	Beckel	Xcel Energy	
Guest	George	Becker	Power Engineers	X
Guest	Dan	Benedict	PPL	X
Guest	Jonathan	Benge	OG&E	X
Guest	Sanket	Bolar	Oncor Electric Delivery	X
Guest	Jeff	Brogdon	Georgia Transmission	
Guest	Arben	Bufi	MAS Inc	X
Guest	Stephen	Cary		
Guest	Michael	Christian	ABB	
Guest	Jason	Cunningham	Southern States	X
Guest	John	Deng	BC Hydro	
Guest	Doug	Edwards	Siemens	
Guest	Sean	Guidry	Omicron electronics	X
Guest	Robert	Hanna	JST Power	X
Guest	Nadia	Hashaai	HASNAOUI	
Guest	Terry	Hunter	Westinghouse Electric Company	
Guest	Darin	Jensen	MAS Inc	X
Guest	Umer	Khan	ABB Inc	X
Guest	Dwight	Kraust	Black & Vaetch	
Guest	Jailin	Li	Hydro One	X
Guest	Leo	Lopez	WIKA Instrument, LP	X
Guest	Vincent	Marshall	Southern Company	
Guest	Andreas	Nenning	Omicron electronics	X
Guest	Roberto	Olivares	Siemens	
Guest	Fernando	Ordein	Dominion Energy	X
Guest	Lalit	Patil	Eaton	X
Guest	Icaas	Pounders	Meiden America Switchgear, Inc.	
Guest	Laxminarayem	Raja	Uniersity of Texas at Austin	
Guest	Paul	Rakus	Eaton	X



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Guest	Anthony	Ricciuti	Eaton Corporation	X
Guest	Frank	Richter	50Hertz Transmission	X
Guest	Jan	Rogers	Siemens Energy	
Guest	Zoltan	Roman	General Electric	X
Guest	Oscar	Salas	Dke Energy	
Guest	Alex	Salinas	Doble/Vanguard	
Guest	Jennifer	Santulli	IEEE	
Guest	Ben	Sax	Nashville Electric	
Guest	Daniel	Schiffbauer	Toshiba International Corporation	X
Guest	Carl	Schuetz	American Transmission Company (ATC)	
Guest	Devki	Sharma	Retired	
Guest	Paul	Shiller	First Power	X
Guest	Don	Steigerwalt	Duke Energy	X
Guest	Christo	Thomas	Schneider Electric	
Guest	Vernon	Toups	Siemens Energy	
Guest	Francois	Trichon	Schneider Electric	X
Guest	Andrew	Truman	Black & Vaetch	
Guest	Joseph	Usner	AEP	
Guest	Will	Weishuhn	ABB	X
Guest	Matt	Westerdale	Bureau of Reclamation	X
Guest	Dan	Wolde	MEPPI	
Guest	Li	Yu	Eaton	X
Guest	Sam	Zaharko	MEPPI	