

1) **Introduction of Members and Guests** Mauricio Aristizabal / Mike Skidmore

Member introductions: **Check roster for accuracy**

Introduction of new members: **None to report**

2) **Approval of Minutes of Previous Meeting** Mauricio Aristizabal / Mike Skidmore

At the spring 2015 meeting, the Main Switchgear Committee reported each committee or subcommittee does not need to seek approval of the minutes from the previous meeting. The meeting minutes are approved as posted in the IEEE PES Switchgear website (<http://www.ewh.ieee.org/soc/pes/switchgear/minutes/Minutes.html>) and no additional motion is necessary to approve the minutes. If corrections are needed to the meeting minutes, please notify the chairman. **Any corrections will be noted in the subsequent meeting notes. Any revision to the minutes will be corrected and re-posted as a revision at the next meeting.**

3) **Membership**

	ROLE AS MEMBERS	ROLE AS GUESTS	ROLE AS CORRESPONDING MEMBERS	REQUIRED* FOR QUORUM COUNT	TOTAL
HVCB Committee Roster	44	91	10	≥ 50% membership at meeting (≥ 22 members)	145
Attendance Recorded San Diego, Ca	34	23	0	~77% present	57

*Quorum Count includes: Active Members, Chair, Secretary, and (Corresponding Members if present at the meeting)

4) **Chairman's Report** Mauricio Aristizabal / Mike Skidmore

Chairman (Mauricio Aristizabal): m.aristizabal@ieee.org 724-696-1431
 Secretary (Mike Skidmore): mikeskidmore@ieee.org 614-552-1472

- WG chairs need to email minutes of their WG meetings to the subcommittee secretary no later than October 5th, 2015.

5) **Reports of Working Groups**

a) **Technical Paper Reviews**

Leslie Falkingham (John Webb)

The Switchgear Committee has received three papers to be reviewed for the IEEE PES T&D Conference and Exposition May 2-5, 2016.

Submission ID: TD0131

Title: Loss of Breaking Capability within Operations with Delayed Current Zeros

Submission ID: TD0210

Title: Advanced online monitoring of SF6 insulated switchgears

Submission ID: TD0276

Title: Partial Discharges Field Tests in a 230kV Circuit Breaker

b) WG Activities

Document	Title	SubCommittee	WG Chair	PAR	IEEE Status	Activity
PC37.04	Standard for Ratings and Requirements for AC High Voltage Circuit Breakers with Rated Maximum Voltage above 1000 V	HVCB	Stephen Cary	PAR Expires 12-31-2015	Reaffirmed 2006 Document Expires 12/31/2018	Stephen Cary assigned as Chair. Par extension request submitted for 12-31-2015 to 12-31-2017 Standard should go to ballot by Fall of 2015.
C37.04-1999 Cor 1-2009	IEEE Standard for Rating Structure for AC High-Voltage Circuit Breakers Corrigendum 1	HVCB	Stephen Cary		Document Expires 6/17/2019	Will be pulled into .04 – no update needed
C37.04a-2003	IEEE Standard Rating Structure for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis: Amendment 1 Capacitance Current Switching	HVCB	Roy Alexander	Included on PC37.04 PAR	Reaffirmed 2006 Document Expires 12/31/2018	Will be pulled into .04 – no update needed
C37.04b -2008	IEEE Standard for Rating Structure for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis Amendment 2: To Change the Description of Transient Recovery Voltage for Harmonization with IEC 62271-100	HVCB	Kirk Smith	Included on PC37.04 PAR	Document Expires 12/31/2018	Will be pulled into .04 – no update needed
C37.06.-2009 ANSI	IEEE Standard for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis - Preferred Ratings and Related Required Capabilities for Voltages Above 1000 V	HVCB	Mauricio Aristizabal	Included on PC37.04 PAR	Document Expires 9/11/2019	Needs amendment to address error in tables 6 and 7 for SLF reference - No update needed at this time - will be pulled into .04
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	HVCB	Sushil Shinde	PAR Expires 12-31-2016	Document Expires 12/31/2018	C37.06.1 will not be pulled into C37.04. Par extension request submitted from 12-31-2015 to 12-31-2016. Sushil expects the document to go to fall of 2015
PC37.09	IEEE Standard Test Procedure for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis	HVCB	Xi Zhu	PAR Expires 12/31/2017	Reaffirmed 2007 Document Expires 12/31/2018	On schedule to Ballot by Spring of 2016. Document to be completed by 2017. Meet for 3 sessions in San Diego.

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C37.09-1999 /Cor 1-2007	IEEE Standard Test Procedure for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis – Corrigendum 1	HVCB	Mauricio Aristizabal		Document Expires 12/31/2018	Will be pulled into .C37.09 – no update needed
C37.09a-2005 Amendment to C37.09-1999	American National Standard Test Procedure for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis Amendment 1: Capacitance	HVCB	Roy Alexander		Reaffirmed 2007 Document Expires 12/31/2018	Status .09a will be pulled into C37.09. – no update needed
C37.09b-2010	IEEE Standard Test Procedure for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis – Amendment 2: To Change the Description of Transient Recovery Voltage for Harmonization with IEC 62271-100	HVCB	Kirk Smith		Document Expires 12/8/2020	Will be pulled into .C37.09 – no update needed
PC37.010	Application Guide for AC High-Voltage Circuit Breakers > 1000 Vac Rated on a Symmetrical Current Basis	HVCB	Helmut Heiermeier	PAR expires 12-31-2016	Reaffirmed 2005 Document Expires 12/31/2018	Sponsor Ballot Recirculation on 7-13-15 and closed on 7-29-15
C37.011-2011	IEEE Guide for the Application of Transient Recovery Voltage for AC High-Voltage Circuit Breakers	HVCB	Denis Dufournet		Document Expires 12/31/2021	Revision needed - align with the revised C37.04, C37.09 and with IEEE C37.06.1 Denis discussed draft proposal of document. He expects a first Working Group meeting in Spring of 2017.
PC37.012	IEEE Application Guide for Capacitance Current Switching for AC High-Voltage Circuit Breakers	HVCB	Anne Bosma	PAR Expires 12-31-2019	Document Expires 3/31/2021	The corrigendum went to ballot with a closing date of September 29, 2015. Corrigendum may be on the RevCom meeting in December.
62271-37-013 (Replaces C37.013 and C37.013a)	Standard for AC High Voltage (rated above 1000 V) Generator Circuit Breakers for Use With Generators Rated 10 MVA or More	HVCB	Bill Long			The standards board approved the FDIS of 62271-37-013 (HV Generator Circuit Breakers) for publication. Standard may be available in October. This is a duel logo document (IEEE / IEC)
62271-37-082- 2012	Standard for High-voltage switchgear and control gear - Part 37-082: Measurement of sound pressure levels on AC HVCB	HVCB	Leslie Falkingham		Document Expires 12/31/2023	Done - no update needed at this time

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C37.013a-2007	IEEE Standard for AC High Voltage Generator Circuit Breakers Rated on a Symmetrical Current Basis—Amendment 1: Supplement for Use with Generators Rated 10-100 MVA	HVCB	Bill Long		Document Expires 12/31/2018	Was pulled into C37.013—no update needed—Can be closed since P62271-37-013 is approved. No need to keep in HVCB table. Will be removed for next meeting.
C37.015-2009	IEEE Guide for the Application of Shunt Reactor Switching	HVCB	Anne Bosma		Document Expires 12/9/2019	Anne is revising the document and will send it to the members of the WG early next year for commenting. Anne plans to discuss the draft Spring of 2016.
PC37.016	Standard for AC High Voltage Circuit Switchers Rated 15.5kV through 245kV	HVCB	Peter Meyer		Document Expires 12/31/2018	Draft 2 of document submitted to working group on 8-28-15 for comments. Document is being updated and sent out. Edits to be done by March of 2016.
C37.017-2010	IEEE Standard for Bushings for High-Voltage [over 1000 V (ac)] Circuit Breakers and Gas-Insulated Switchgear	HVCB-GIS	Devki Sharma		Document Expires 9/30/2020	Parts to be pulled into. 04 and .09. no action needed at this time
C37.081-1981	IEEE Guide for Synthetic Fault Testing of AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis	HVCB	Mauricio Aristizabal		Reaffirmed 2007 Document Expires 12/31/2018	TF meeting held on 4-28-15 - Motion was passed to support work of IEC 62271-101 into C37.09 - HVCB to let document expire. References to IEC 62271-101 will be used in C37.09.
C37.081a-1997	Supplement to IEEE Guide for Synthetic Fault Testing of AC HVCB Rated on a Symmetrical Current Basis	HVCB	Mauricio Aristizabal		Reaffirmed 2007 Document Expires 12/31/2018	TF meeting held on 4-28-15. Motion was passed to support work of IEC 62271-101 into C37.09 - HVCB to let document expire. References to IEC 62271-101 will be used in C37.09.
C37.083-1999	IEEE Guide for Synthetic Capacitive Current Switching Tests of AC High-Voltage Circuit Breakers	HVCB	Mauricio Aristizabal		Reaffirmed 2007 Document Expires 12/31/2018	TF meeting held on 4-28-15 Motion was passed to support work of IEC 62271-101 into C37.09 - HVCB to let document expire. References to IEC 62271-101 will be used in C37.09.
C37.10-2011	IEEE Guide for Investigation, Analysis, and Reporting of Power Circuit Breaker Failures	HVCB	Bill Bergman		Document Expires 12/31/2021	No Action needed at this time

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C37.10.1-2000	IEEE Guide for the Selection of Monitoring for Circuit Breakers	HVCB	Dave Mitchell	PAR Expires 12-31-2017	Reaffirmed 2006 Document Expires 12/31/2018	On Track to be finished. Draft sent to WG for comments. Ballot before Spring of 2015 meeting. Dave plans to review active roles of members and guests.
PC37.11	Standard Requirements for Electrical Control for AC High-Voltage (>1000V) Circuit Breakers	HVCB	John Webb		Reaffirmed 2003 Document Expires 12/31/2024	No updated needed at this time. Document published.
C37.12-2008	IEEE Guide for Specifications of High-Voltage Circuit Breakers (over 1000 Volts)	HVCB	John Webb		Document Expires 12/31/2018	Expect to be done Fall of 2016. First draft provided to WG on 9-18-15. WG chair expects to ballot by end of 2015
C37.12.1-2007	IEEE Guide for High Voltage (>1000V) Circuit Breaker Instruction Manual Content	HVCB	Ken Edwards		Document Expires 12/31/2018	Expect to be done Fall of 2016. This document is no longer a guide it is a recommended practice. WG chair expects to ballot by end of 2015
TBD PC37.xxx.x	Draft Standard for Definitions for High Voltage Circuit Breakers Above 1000V	HVCB	Tom Mulcahy			Work started on document as a study group. First meeting held on 9-22-15 – PAR to be requested by 10/16/15 for C37.100.5 number. Request made to all the Chairs to send Tom a list of all their definitions
C37.20.6-2007	4.76 kV to 38 kV Rated Grounding and Testing Devices Used in Enclosures	ADSCOM joint HVCB/SA	T. W. Olsen		Document Expires 2026	Done - Published
C37.59-2007	Requirements for Conversion of Power Switchgear Equipment	ADSCOM joint HVCB, SA, and LVSD	Dean Sigmon			Started Work. Two sessions with progress. No updated needed
C37.122-2010	Standard for High Voltage Gas-Insulated Substations Rated above 52 kV	Joint SUB/SWG HVCB	Jon Brunke			Done – Published - John Brunke reported C37.122 will start revision in 2016.
C37.122.3-2011 (was P1712)	IEEE Guide for Sulphur Hexafluoride (SF6) Gas Handling for High-Voltage (over 1000 Vac) Equipment	Joint SUB/SWG HVCB	Gordon van der Zel (Jeff Nelson)		Document Expires 2021	Done - Published

Note: Only those working groups with PAR information are currently active.

6) **Reports of Task Forces**

- HVCB Definitions Tom Mulcahy
PAR for C37.100.5 to be requested by 10/16/2015
Draft to be circulated as ballot before Spring 2016
WG chairs to submit to Tom definitions contained in their respective documents.

7) **Reports of AdsCom WG/TF**

- Capacitance Switching WG (PC37.100.2) Neil McCord

Ballot terminated in July 2015. Sponsor decided to terminate this ballot due to comments from initial ballot that necessitated a large number of changes. It was nearly impossible to track from version to version. Also many members of WG PC37.66 which is dependent upon this standard missed ballot invitation. Submitted for re-ballot on 8-14-15. Sponsor Ballot closed 9-13-15. Update provided by John Web. The ballot was valid. He does not expect to go to ballot before Spring meeting of 2016
- Common Requirements WG (C37.100.1) David Stone

Dave Stone expects document to be completed 2016. **No additional update at the meeting**

8) **Reports of CIGRE**

- a) A3.32 – Non–intrusive methods for condition assessment Albert Livshitz
(Expect to publish in 2016) – **Document should be completed by end of 2016**
- b) A3.26 Influence of shunt capacitor banks on circuit breaker fault interruption duties Anne Bosma
Work is done but Anne is not aware of a planned date of release in Electra – **Roy reported document is approved (Cigre Document 624)**
- c) A3.27 The impact of the application of vacuum switchgear at transmission voltages Arben Bufi
Done and is published as TB 589. This can be taken off the list for next meeting.
- d) A3.29 Deterioration of ageing substation equipment Ken Edwards

Working group is progressing, bulletin at least 2 years out. **Document is probably done but no one at meeting is following this document.**

- e) A3.30 Overstresses in S/E equipment. Ken Edwards
Committee to meet in Paris Fall of 2016

- f) JWG A3/B4.34 Technical requirements and specifications of state-of-the-art DC switching equipment. **Denis reported that it takes approximately two years to complete work and it will be terminated end of 2015.**

Jingxuan (Joanne) Hu

- g) **TF2 (SC121A – AG4) Arc – Flash Detection Function and Devices**
Albert Livshitz
Added to HVCB Subcommittee list at the end of the meeting

9) **Old Business**

- a) <https://development.standards.ieee.org/my-site/open-ballot-invitations>
b) Senior membership grade

10) **New Business**

- a) Presentation Reminder – Electromagnetic Field Surveys of the Home and Office Space (Thursday September 24, 2015 (11:45 AM to 2:45 PM)) Nenad Uzelac

Chair gave a reminder to subcommittee members about the presentation that will be given on 9-24-15.

- b) Subcommittee officer rotation 2016-2019 Mauricio Aristizabal

Chair: Mike Skidmore
Secretary: Victor Hermosillo

- c) Chair information required to report at next meeting Mauricio Aristizabal

Report for Active:
Par Expires:
Ballot Date:
Completion:

Information will be posted in meeting minutes by HVCB subcommittee chair in new format for all future meetings.

11) Future Meetings

- a) Spring 2016: Sonesta Resort, Hilton Head, SC April 25th – 29th, 2016
- b) Fall 2016: Sheraton, Pittsburgh, Pa. October 9th – 14th, 2016
- c) Spring 2017: Hilton Charlotte University Place, Charlotte, NC April 23rd – 28th, 2017
- d) Fall 2017: Marriott Portland Sable Oaks, Portland, ME October 8th – 13th, 2017
- e) Spring 2018: Disney's Contemporary Resort, Lake Buena Vista, FL April 22nd – 27th, 2018

12) Adjourn