

- 1) Introduction of Members and Guests** Rod Sauls  
See S10HVCBa1.pdf and S10HVCBa2.pdf  
Member introductions (Note: Update roster)

- 2) Approval of Minutes of Previous Meeting** Rod Sauls/Mauricio Aristizabal  
Motion to approve. The members approved the minutes. Not valid due to lack of quorum.  
Need to be addressed on the electronic ballot.

- 3) Discussion of IEEE patent policy** Rod Sauls  
Slides shown and explained to the group

**4) Membership (See S10HVCBa2.pdf )**

	Utility	Manufacturer	Independent / Consultants/Corresponding	Total Membership	Guests
Current membership	19	27	13	59	
Attendance	12	9	5	26	25

- 5) Chairman's Report** Rod Sauls  
Chairman (Rod Sauls): [rodsauls@ieee.org](mailto:rodsauls@ieee.org) 205-257-4143  
Secretary (Mauricio Aristizabal): [m.aristizabal@ieee.org](mailto:m.aristizabal@ieee.org) 724-873-2606

- Reminder to everyone to review posted meeting minutes.  
After posting, an email will go out as an announcement
- Minutes to all WG meetings will be posted to the web in pdf format, unless otherwise specified

**6) Reports of Working Groups**

- a) Technical Paper Reviews** Jeff Nelson  
Jeff is looking for someone to help him as editor of the technical papers for HVCB. He is looking for volunteers.  
There is a common complaint among members that they get a lot of request for review out of their scope and after declining they still receive emails reminding them of due dates

**b) WG Activities**

HVCB Switchgear Subcommittee Minutes, 2010-04-28, Myrtle Beach, SC

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<b>Document</b>	<b>Title</b>	<b>SubCommittee</b>	<b>WG Chair</b>	<b>PAR</b>	<b>IEEE Status</b>	<b>Activity</b>
C37.04-1999	IEEE Standard Rating Structure for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis	HVCB	Jeff Nelson	2007	Corrigendum Published	WG active, kickoff meeting
Activity: Meeting this week, Defined the scope of the revision, the WG is starting to consolidate amendments of 04a and 04b plus 06 and SG4 in one document. See S10HVCBa3.pdf						
C37.04a-2003 Amendment to C37.04-1999	IEEE Standard Rating Structure for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis---Amendment 1: Capacitance Current Switching	HVCB	Roy Alexander		Reaffirmed 2006	To be incorporated into new C37.04
C37.04b-2008 Amendment to C37.04-1999	IEEE Standard Rating Structure for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis---Amendment 2 Required TRV Values:	HVCB	Kirk Smith		Approved New Document DEC 2009	Will be rolled into C37.04
C37.06.-2009 ANSI	American National Standard for Switchgear--AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis---Preferred Ratings and Related Required Capabilities	HVCB	Georges Montillet	2009	Published 2009	
Activity: Will be incorporated in C37.04 revision						
C37.06.1-2000 ANSI	American National Standard Guide for High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis---Designated "Definite Purpose for Fast Transient Recovery Voltage Rise Times"	HVCB	Keith Wallace		In balloting process	
Activity: Keith Wallace chaired the meeting. They have collected information to update the range of tests to cover at least 90% of the transformers surveyed. See S10HVCBa4.pdf						
C37.09-1999	IEEE Standard Test Procedure for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis	HVCB	Kirk Smith		R2007	Corrigenda and Errata published. Revision to be undertaken.
C37.09a-2005 Amendment to C37.09-1999	Standard Test Procedure for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis---Amendment 1: Capacitance Current Switching	HVCB	Roy Alexander		Published	Will be incorporated into new C37.09
PC37.09b Amendment to C37.09-1999	Draft Standard Test Procedure for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis---Amendment 2 Required TRV Values:	HVCB	Kirk Smith		PAR will expire in 2010	Draft under development when C37.04b is balloted.
Activity:Kirk Smith volunteered to lead the revision of PC37.09 and PC37.09b						

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C37.010-2005	IEEE Application Guide for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis	HVCB	Helmut Heiermeier		R2005	
Activity: There is a common question among members about the half-cycle delay being too long for newer relays which introduces a higher %DC WG did not have a formal meeting because Helmut Heiermeier could not attend. However a brief meeting was held.						
C37.011-2005	IEEE Application Guide for Transient Recovery Voltage for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis	HVCB	Denis Dufournet		PAR approved December Dec 2009	Draft will be balloted before the meeting in Las Vegas.
Activity: Align the content with Changes in 04 and 06 See S10HVCBa5.pdf						
C37.012-2005	IEEE Application Guide for Capacitance Current Switching for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis	HVCB	Anne Bosma			
Activity: No meeting however, Anne Bosma sent a note prior to the committee meeting that indicated the standard needs to be reaffirmed this year. In F09, it was voted that the standard should be revised/amended after the revision of 04. That being the case, Anne will be happy to reaffirm until the work in 04 is complete and by that time, comments from CIGRE A3.26 can be included as well.						
C37.013-1997	IEEE Standard for AC High-Voltage Generator Circuit Breaker Rated on a Symmetrical Current Basis	HVCB	Bill Long	Approved until Dec 2013	R2008	Will incorporate C37.013a when revised.
Activity: Draft almost complete on 013 See S10HVCBa6.pdf						
PC37.013a	IEEE Standard for AC High-Voltage Generator Circuit Breaker Rated on a Symmetrical Current Basis---Supplement for generators 10 to 100 MVA	HVCB	Bill Long		Approved	
C37.015-2010	IEEE Application Guide for Shunt Reactor Switching	HVCB	Anne Bosma	2008	Publised 2010	Complete
Activity: Work is done as the standard is published.						
C37.016-2006	Standard for AC High-Voltage Circuit Switchers rated 15.5 kV through 245 kV	HVCB	Peter Meyer (Randy Dotson)	Approved until Dec 2013		TF formed to address dual logo issues
PC37.017	Draft Standard for Bushings for High Voltage (over 1000 Volts ac) Circuit Breakers and Gas Insulated Switchgear	HVCB GIS	Devki Sharma	2008	PAR approved Sept 2008	
Activity: Draft Balloted Feb 2010. Reviewing comments. There is a new requirement for PD test as routine test for composite bushings. See S10HVCBa7.pdf						

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C37.081-1981	IEEE Guide for Synthetic Fault Testing of AC High-Voltage Circuit Breakers Rated on a Symmetrical Current basis	HVCB	TBD (Mel Smith)		R2007	
C37.081a-1997	Supplement to C37.081-1981	HVCB	TBD (Mel Smith)		R2007	
C37.082-1982	IEEE Standard Methods for the Measurement of Sound Pressure Levels of AC Power Circuit Breakers	HVCB	Leslie Falkingham	2008	PAR approved Sept 2008	WG formed to revise for IEEE/IEC Dual Logo
<p>Activity: Meeting 04-28 &amp; 04-28. This is a IEC/IEEE dual logo. The WG proposed a change to the number and title of the document in hopes to satisfy the requirements of the IEEE/IEC Dual Logo agreement as well as keep the desired IEEE historical references intact.</p> <p>Motion for the sub-committee to support decision of the WG to change the number to 62271-37-082 and the title to <b>“High Voltage Switchgear and controlgear - Standard methods for the measurement of sound pressure levels of outdoor circuit breakers (Based on IEEE C37.082-1982)”</b> in order to continue the work and for the sub-committee to review the document number and title prior to approving the final standard.</p> <p>The motion can’t be entertained due to lack of quorum. It is going to be sent as an electronic ballot to the members of the sub-committee.</p> <p>A suggestion from the sub-committee “to clearly document both sides of the discussion related to the document number PC37.082 and the title” This suggestion was approved by the committee members unanimously approved on a straw poll</p> <p>See S10HVCBa8.pdf</p>						
C37.083-1999	IEEE Guide to Synthetic Capacitor Current Switching Test of AC High-Voltage Circuit Breakers	HVCB	TBD (Mel Smith)		R2006	
C37.10-1995	IEEE Guide for Diagnostics and Failure Investigation of Power Circuit Breakers	HVCB	Bill Bergman	Approved until Dec 2013	R2002 R2008	TF formed to coordinate with 1325
<p>Activity: WG met See S10HVCBa9.pdf</p>						
1325-2002	IEEE Recommended Practice for Reporting Field Failure Data for Power Circuit Breakers	HVCB	Bill Bergman			TF formed to consolidate with C37.10
<p>Activity: PAR needs to be updated and document to be circulated</p>						
C37.10.1-2000	IEEE Guide for the Selection of Monitoring for Circuit Breakers	HVCB	Bill Bergman		R2006	
C37.11-2003	IEEE Standard Requirements for Electrical Control for High-Voltage Circuit Breakers Rated on A Symmetrical Current Basis	HVCB	Paul Barnett	2008C		PAR approved Sept 2008 Pending proof that patent slides were shown in the OCT 2007 meeting

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Activity: The PAR was approved after solving procedure issues on the Oct 2007 meeting (??? What is this? I guess I don't remember that discussion.) See S10HVCBa10.pdf						
C37.12 ANSI C37.12-1991	Guide for the Specification of AC High Voltage Circuit Breakers American National Standard for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis— Specifications Guide	HVCB	Ken Edwards		Approved Dec 2008 R2008	
Activity: Needs to be updated after the consolidation of 04 and 06 is completed						
C37.12.1	Draft IEEE Guide for High Voltage (>1000V) Circuit Breaker Instruction Manual Content	HVCB	Bill Bergman		Published March 2008	Published
C37.20.6	4.76 kV to 38 kV Rated Grounding and Testing Devices Used in Enclosures	ADSCOM joint HVCB/SA	T. W. Olsen t.olsen@ieee.org		APPROVED 2007	
C37.59	Requirements for Conversion of Power Switchgear Equipment	ADSCOM joint HVCB, SA, and LVSD	Pete Dwyer 610.296.1273 <a href="mailto:pete.dwyer@ieee.org">pete.dwyer@ieee.org</a>		Approved 2007	
C37.122	Standard for High Voltage Gas-Insulated Substations Rated above 52 kV	SUB/GIS Joint HVCB	Jon Brunke		Draft 15, Jan 2010	
1712	Guide for Sulphur Hexafluoride (SF6) Gas Handling for High Voltage (over 1000Vac) Equipment	SUB/SF6 Joint HVCB	Jeff Nelson	Par Expires Dec. 2010		
C57.142	Guide to Describe the Occurrence and Mitigation of Switching Transients Induced by Transformer and Switching Device Interaction	SUB/HVCB	Steve Lambert			
Activity: It is coming out again for re-circulation						

C57.16 Series reactor switching is asking for input in their document from the HVCB sub-committee. Ken Edwards and Bill Long will address it and share with the sub-committee. Specifically annex F. Ken Edwards requested HVCB review and provide comments that can be passed on to the Transformer Committee. See draft 7 of the standard (S10HVCBa11.pdf)

## 7) Reports of Task Forces

- a) “Longer Line Fault” TRV CIGRE A3-19

Roy Alexander

The report from Cigre was published in February and Now Roy Alexander will lead a WG to address its applicability for our committee

## 8) Reports of AdsCom WG/TF

- a) Capacitance Switching TF Neil McCord  
John Webb as secretary announced they got approval from ADSCOM and will circulate a new ballot of C37.100.2
- b) Fault Current Limiters Testing guide M. Steurer  
Pat DiLillo reported the meeting presented several new designs of fault current limiters and the work of some foreign utilities on the area
- c) Taskforce on SWG Committee O&P Rod Sauls  
The taskforce decided to define as High Voltage DC above 3200Vdc

## 9) Reports of CIGRE

- a) CIGRE circuit breaker performance survey CIGRE A3-06 Bill Bergman  
Bill Bergman updated the Committee on the work being done as continuation of the statistical analysis of the collected data.
- b) Vacuum Interrupter WG Kirk Smith/Mietek Glinkowski  
China and Japan are pushing the design of vacuum circuit breakers at high voltage.  
Next meeting will be held in August on the next CIGRE session in Paris.

## 10) Old Business

- a) Switchgear O&P Manual, HVCB Scope Review Rod Sauls
  - LVSD and HVS subcommittees use 3200Vdc as the voltage range. AGREED
- b) Update on IEEE/IEC Dual Logo Policy Rod Sauls
  - Discussed above in C37.082 WG information
- c) Requests for Interpretation Rod Sauls
  - Interrupting time as defined in C37.04, .06 & .09. (cycles and milliseconds) as well as testing required at 50HZ and 60HZ (Submitted by John Webb)

## 11) New Business

- a) C57.13 Standard for Instrument Transformers is working on a chapter on bushing mounted CT's (BCT). The scope of appendix A includes power circuit breakers. Should we have some HVCB member look into that WG?
  - The C37.04 WG will look into this matter
- b) Two new CIGRE Working groups. There is no call for the experts yet, but expected to happen within the next few months/weeks.
  - I. A3.xx Deterioration of Ageing Substation Equipment and Possible Mitigation Techniques
  - II. A3.xx Impact of Overstressing of Substation Equipment
- c) P1712 Guide for Sulphur Hexafluoride (SF6) Gas Handling for High Voltage (over 1000Vac) Equipment

- It seems Switchgear is a joint sponsor for this document. Should HVCB have active participation on this WG? ADSCOM? Bill Long listed on PAR

d) Update roster for attendance and membership status

Rod Sauls/Mauricio Aristizabal

## **12) Future Meetings**

a) Fall 2010 Las Vegas

September 26~ 30, 2010

b) Spring 2011 Orlando

May 15~19, 2011

- Motion to adjourn.... Thanks for a good meeting!!