

## **C37.100.1 WG**

# **Common Requirements for HV Power Switchgear Rated Above 1000 V**

### **October 3, 2012 – San Diego, California**

The Working Group for the revision of C37.100.1-2007 held its 3rd meeting on October 3, 2012 at San Diego, California. Sixteen (16) WG members, seven (7) Corresponding Members and sixteen (16) guests were present.

Meeting was called to order by David Stone (Chairman)

The agenda was reviewed and a motion to approve was made by Larry Farr and a “second” by Kirk Smith. The motion was approved by acclamation.

Oral Introductions of meeting members followed and attendance sheets were circulated. The Chair encouraged WG members to actively participate in all activities and assignments to remain in good standing with the WG.

All attendees were advised of the process and access requirements to retrieve information from the IEEE document archives at the following URL:

<http://grouper.ieee.org/groups/c37/100/1/private>.

Username and password were shown at the meeting and may be requested by WG members from the Chairman.

#### **IEC 62271-1:**

The Chair advised that IEC 62271-1 is currently under revision and following a recent meeting in Montreal, over 400 comments were generated. A revised CD for the standard should be available by early 2013 and will be posted to the WG URL for review. WG for C37.100.1 will strive to incorporate many of the items being adopted by IEC. Significant changes being considered by the IEC MT include:

1. Removal of hanging paragraphs.
2. Removing specifications that are not or cannot be verified by a test or inspection.
3. Service conditions: Removing wording/comments that are application or design guides rather than absolute specifications'
4. Normal service temperature range-specified one value for low temp., moved all optional temp classes to special service conditions.
5. Altitude correction factors: Adopting the IEEE position.
6. Term “rated continuous current” will replace “rated normal current”.
7. Definitions: Cannot begin with the word “rated”. For example: “continuous current” is defined as “r.m.s. value of the current which switchgear and control-gear shall be to able to carry continuously under specified conditions of use and behavior.” Rated continuous current is a rating, a preferred

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value.

8. Add note acknowledging equality of IEC Rated Voltage and IEEE Rated Maximum Voltage.
9. Voltage ratings table 1b is questioned: North American practice. Conflicting practice of HVCB, HVS and Substation. Also, note on circuit isolation is questioned.
10. Temperature rise table and associated language for running temp rise tests are moved to Clause 6 recognizing that "continuous current" is rating, not "temperature rise". Temperature rise is a test criteria, not a rating itself.
11. Tightness a rating?? Should gas and vacuum tightness be considered a rating, e.g. percent leakage rates per year, rather than a Design and Construction item.
12. Documentation questions removed from Design and Construction chapter.
13. Much of the material in Design and Construction chapter being deleted because of vague or absence of verification requirements. Examples include auxiliary controls and corrosion sub-clauses.
14. Nameplate sub-clause being changed to a "template" and "guideline" rather than minimum specifications recognizing that most equipment standards have their own unique requirements.
15. Degrees of protection of enclosures will specify a minimum IP rating of IP1XP; eliminates potential circular reference in standards.
16. RIV: Requirements for test may be raised from 123 kV to 245 kV.
17. X-ray emissions chapter revised to recognize new vacuum equipment at 72.5 kV much higher.
18. Grouping of Tests: Concept of limiting the number of test specimens to four is eliminated.
19. Add requirements for electrical continuity of earthed metallic parts. (parts that may be touched)

Voluntary Task Forces were formed to address these items for C37.100.1.

**Task Force**

**Volunteers**

Voltage Rating Tables

Carl Reigart  
Tom Mulcahy

Clause 2 - Service Conditions

Jim Collins  
Ed Jankowich  
Tom Mulcahy  
Ken Harless  
Bill Bergman

Clause 3 – Definitions

Larry Farr  
Gerard Schoonenberg  
Harold Hirz

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Clause 4 – Ratings (Except voltage ratings)	No Volunteers
Clause 5 – Design and Construction	Steven Chen Russell Boyce
Clause 6 – Design Tests	Kirk Smith Antone Bonner Peter Meyer Larry Yonce
Clause 7 – Production Tests	Bob Behl Don Elliott
Annexes	David Stone Gerard Schoonenberg

A motion to adjourn was made by Gerard Schoonenberg, seconded by Frank DeCesaro and approved by acclamation.

Larry E. Yonce, Secretary

**Annex A: Attendance: C37.100.1-2007 WG Meeting October 3, 2012**  
**X = present at meeting**

Role	First Name	Last Name	Company Name	10/3/2012
Chair	David	Stone	DTS Technical Services	x
Member	Chris	Ambrose	Federal Pacific (Division of Electro-Mechanical Corp.)	x
Member	George	Becker	The United Illuminating Company	x
Member	Robert	Behl	ABB	x
Member	W.J. (Bill)	Bergman	PowerNex Associates Inc.	x
Member	Antone	Bonner	Cooper Power Systems	x
Member	Anne	Bosma	ABB AB	absent
Member	Russell	Boyce	Eaton	x
Member	Arben	Bufi	HITACHI HVB, INC.	absent
Member	Ted	Burse	Powell Industries, Inc	excused
Member	Gilbert	Carmona	Southern California Edison	absent
Member	Frank	DeCesaro	Cooper Power Systems	x
Member	Denis	Dufournet	Alstom Grid	absent
Member	Donald	Elliott	ABB	x
Member	Leslie	Falkingham	Vacuum Interrupters Limited	absent
Member	Lawrence	Farr	Eaton Electrical	x

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Member	Hua Ying	Liu	Southern California Edison	x
Member	Albert	Livshitz	Schneider Electric Services	absent
Member	Steven	Meiners	GE	absent
Member	Frank	Muench	Cooper Power Systems	absent
Member	Gerard	Schoonenberg	Eaton	x
Member	Robert	Smith	Eaton Corporation	x
Secretary	Larry	Yonce	Eaton Corporation	x
Corres. Member	Arun	Arora	Consultant	absent
Corres. Member	James	Collins	CRC Industries	x
Corres. Member	Larry	Davis	Reuel Inc	absent
Corres. Member	Ken	Edwards	Bonneville Power Administration	absent
Corres. Member	Charles	Hand	Southern California Edison	absent
Corres. Member	Kenneth	Harless	Pascor Atlantic	x
Corres. Member	Harold	Hirz	Thomas and Betts	x
Corres. Member	Jingxuan (Joanne)	Hu	RBJ Engineering Corporation	absent
Corres. Member	David	McMullen	Southern Company Services	x
Corres. Member	Joachim	Oemisch	Siemens AG	absent
Corres. Member	Muhammad	Omer	ABB Inc	absent
Corres. Member	Edward	Peters	Powell Electrical Systems - Delta/Unibus Division	absent
Corres. Member	Larry	Putman	Powell Electrical Systems Inc.	x
Corres. Member	Carl	Reigart	Hubbell Power Systems/USCO	x
Corres. Member	Hugh	Ross	Ross Engineering Corporation	x
Corres. Member	Carl	Schneider	Schneider Electric	absent
Corres. Member	Hongbiao	Song	Bechtel	absent
Corres. Member	Paul	Sullivan	DuPont	absent
Corres. Member	Chand	Tailor	Eaton Corporation	absent
Guest	John Paul	Adigwu	Southern California Edison	x
Guest	Steven	Chen	Chenhouse North America	x
Guest	Lee	Cox, Jr.	Efacec	x
Guest	John	Hall	Tennessee Valley Authority	x
Guest	Reid	Herzog	OG&E	x
Guest	Danny	Hoss	Southern States	x
Guest	Bill	Hurst	Alstom Grid	x
Guest	Edward	Jankowich	Jankowich Consulting LLC	x
Guest	Peter	Meyer	S&C Electric Company	x
Guest	Tom	Mulcahy	Dominion	x
Guest	Mike	Seabrook	GE	x
Guest	Devki	Sharma	Consultant	x
Guest	Francois	Soulard	Hydro-Quebec	x
Guest	James	Swank	Cooper Power Systems	x

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Guest	Donald	Swing	Southern States, LLC	x
Guest	Andrew	Swisher	Southern California Edison	x

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