

# Meeting Minutes of Working Group PC37.011 Guide for the Application of TRV for High-Voltage Circuit Breakers

October 10, 2017 Portland, Maine.

## Introduction of members and guests

Attendees: 59

Members: 16

Guests: 43

## Verbal call for patent identification

Result: No patent claim identified

## Approval of minutes from Spring meeting (Charlotte)

No objections to meeting minutes posted on website.

## Updates

First working group meeting (PAR approval in June 2017), prior meetings were by a Study Group.

The chair presented a list of substantive revisions/additions to the document.

PAR will be active until Dec. 31, 2021

## Latest content submittals

**Jan Weisker** submitted a proposed section that explains the difference between direct testing and synthetic testing of asymmetrical current TRV's and the modification of di/dt and TRV in case of interruption of asymmetrical currents.

The validity of reference to C37.081a was questioned since it will no longer be active. Discussion ensued that C37.081a was used in the past and references in the draft revision of C37.09 are to IEC 62271-101. Additional comment made that graph was hard to read. Suggestion made that graph text could be larger and figure colors may be changed.

After revision, this contribution will be included in the next draft D5.

Sushil Shinde submitted a proposal document for consideration concerning testing methods for multiple break interrupters (voltage distribution and the application of TRV test data to a multi-break interrupter). Sushil Shinde made a presentation in which he explained why some testing laboratories cannot test a full pole unit if multiple breaks are used and the equivalent TRV for the full pole must be derived from a unit test.

After revision, this contribution will be added to the next draft D5.

## Discussion of draft D4

Comments made by Ted Olsen were reviewed.

A question was made to the necessity of retaining Figure 6 since an expanded section on asymmetrical current testing was developed. Jan Weisker will revise the full section 4.3.5

The chair explained that the  $T_2 / t_3$  column of Table A.3 was modified to two significant digits.

#### Next Steps for the document

Update the draft and circulate to the WG members.

Chair expressed a desire to receive comments from a ballot group and receive larger input.

Chair proposed a ballot of next draft (D5) before Spring 2018 meeting. Group consensus was agreeable.

#### Action Items

Jan to revise asymmetrical testing wording to include historical standard C37.081a from the past and IEC 62271-101 for the present / future and see if we need Figure 6 since it duplicates the figure provided in the asymmetrical current testing document.

Jan to revise the figure contained in asymmetrical testing document (proposed changes incl. text size and graph line color/size).

Sushil to revise the multi-break TRV test document and send to the chair for submittal to the working group members.

Working group to check the references to NEC and NESC and comment after next circulation.

Denis will distribute the MOM, draft D4 and the two new contributions.

Denis will ask HVCB the permission to ballot the draft before the Spring meeting 2018.

**Working Group PC37.011  
Attendance Meeting in Portland (ME) October 10<sup>th</sup> 2017**

<b>Name</b>	<b>Affiliation</b>	<b>Member/Guest</b>
Denis Dufournet	Consultant (GE Grid Solutions)	Chair
Joanne Hu	RBJ Engineering	Vice-Chair
Carl Schuetz	ATC	Secretary
Roy Alexander	RwA Engineering	M
Mauricio Aristizabal	ABB	M
Arben Bufi	Hitachi HVB	M
Helmut Heiermeier	ABB	M
Victor Hermosillo	GE Grid Solutions	M
Amir Khosravi	BC Hydro	M
Jim van de Ligt	CANA High voltaje Ltd	M
Hua Y. Liu	Southern California Edison	M
Sushil Shinde	ABB	M
Mike Skidmore	AEP	M
Kirk Smith	Retired	M
Jan Weisker	Siemens	M
Xi Zhu	GE	M
Neil Hutchins	Southern Company Services	G (apply for M)
Samala Santosh Reddy	Powell Industries	G
Alexander Hoover	Siemens	G
Anthony Ricci	First Energy	G
Vincent Marshall	Southern Company Services	G

<b>Name</b>	<b>Affiliation</b>	<b>Member/Guest</b>
Will Zhang	HITACHI	G (apply for M)
Tom Pellerito	DTE Energy	G
Moin Shaikh	Siemens	G
Richard Burge	Southern States	G
Brian Roberts	Southern States	G
Zachary Pintado	Entergy	G
Chris Slattery	First Energy	G
Curtiss Frazier	Ameren	G
Pete Marzec	S&C Electric Co	G
Scott Lanning	S&C Electric Co	G
Chris Morton	Powertech Labs	G
Jerry Wen	BC Hydro	G
Casey Weeks	Siemens	G
Jon Rogers	Siemens	G
Andrew Chovanec	GE Grid Solutions	G
Haim Banninh	KEMA Netherlands	G
Cory Johnson	BPA	G
Vernon Toups	Siemens	G
Raj Nayar	Siemens	G
Jesse Shank	Power Engineers Inc	G
John Hall	TVA	G
Mike Crawford	MEPPI	G

<b>Name</b>	<b>Affiliation</b>	<b>Member/Guest</b>
Bobby Rich	Dominion Energy	G
Wirzi Tirsten	ABB	G
Jean-Marc Torres	Eaton	G
Wangpei Li	Eaton	G
Dave Johnson	Consultant	G
John Webb	ABB	G
Michael Christian	ABB	G
Patrick DiLillo	Conedison of NY	G
Henk te Paske	KEMA NL	G
Sergio Flores	Schneider Electric	G
Todd Irwin	GE Grid Solutions	G
Jordan Tovetanoff	First Energy	G
Dave Mitchell	Dominion Energy	G
Philip Fentress	Memphis Light, Gas & Water Div	G