

WG: C37.010 - Circuit breaker application Guide

Chair: Helmut Heiermeier

Vice Chair: Xi Zhu

Secretary: Mike Skidmore

Location: Hilton Head, SC

Participants: (Including Chair, Vice Chair, and Secretary)

29 members

30 guests

- 1.) The meeting started with the chair introduction and introductions of the attendees. The chair asked all attendees to sign the roster and provide affiliation if not noted on the roster.
- 2.) There is no longer the need to obtain a motion to approve the meeting minutes from previous meetings. The meeting minutes are approved as posted on the IEEE PES Switchgear website. Any errors found should be reported to the secretary or chair. No problems with the posted meeting minutes were discussed.
- 4.) The PAR is good until 12/31/2016.
- 5.) The chair updated the committee on the status of the working group and the work performed to date. Helmut said he had a ballot recirculation on Draft 12 that started in February and closed on 3/15/16.
- 6.) There was a total 37 comments and most were editorial with a 95% approval rate.
- 7.) The Chair and WG discussed the following selected comments:

One comment was to change the title from “1000 V” to 1000 Vac” since the PAR reads like that. This comment was accepted.

subclause 4.2.1

The WG discussed the need to include a dated reference for C37.100.1 - 2007. A dated reference will be included. Chair agreed to make the change.

Roy Alexander asked to have subclause of 5.14 (page 42) Lines 27 – 32 updated to include / remove wording. The wording should not have “capacitance switching factor”. This is not a “switching” factor. It is really a “capacitive voltage factor (Ka)”. Helmut agreed to review the wording and make the necessary changes.

Thermal time constants note under subclause 5.5.4.4.2 was reviewed and discussed. It was agreed to remove the last two sentences under Note that is found just below table 9 of the document. Remove “However no validated Should be used.” The chair agreed to make the change. (page 23 of document):

NOTE—The thermal time constants may differ from circuit breaker type as well as from size of the circuit breaker. The given time constants of 4 and 8 hours are based on experience from oil circuit breakers and may be different for other type of circuit breakers. However no validated other time constants are published. If such more precise time constants become available they should be used.

Helmut asked if he can change what was already entered into the IEEE ballot website for this item. Erin said this can be updated by just completing a new file to overwrite the one already posted. Helmut agreed to make the change and upload a new document.

Discussion took place for subclause 5.5.1. The committee agreed to not make a change because C37.010 is only a guide.

The committee discussed 145kv vs 145 kV. There should be a space between the number and kV to read 145 kV. Helmut said he will review the document to see if this can be updated. There is no easy way to search then entire document to make the updates. Helmut updated some of the ones found and believes the document is fine.

8.) Helmut proposed to submit draft 13 to revcom. The committee agreed he should make the updates and recirculate the document for ballot for 10 days. The chair agreed. He plans to recirculate the document as soon as possible after the spring meeting.

9.) The working group committee agreed to adjourn meeting.

10.) All slides provided at the meeting are included as attachments.

Meeting Roster – Hilton Head, SC

First Name	Last Name	Company	Role	Hilton Head SC 4/25/2016
Mehmet	Adanur	Southern Company Services	Guest	
Syed Shahab Uddin	Ahmed	Siemens Energy Inc	Member	
Roy	Alexander	RWA Engineering	Member	X
Michael	Anderson	Retired	Member	
Mauricio	Aristizabal	ABB	Member	
Aasim	Atiq	Siemens Energy	Guest	
Roy	Ayers	Nashville Electric Service	Guest	X
William	Bane	Nashville Electric Service	Guest	
Amildo	Barrio	Parsons	Guest	
George	Becker	POWER Engineers	Member	
Robert	Behl	ABB	Member	
W.J. (Bill)	Bergman	PowerNex Associates Inc.	Member	
Stan	Billings	Mitsubishi Electric PP	Member	
Anne	Bosma	ABB AB	Member	
Cody	Brehm		Member	
Jeffrey	Brogdon	Georgia Transmission	Guest	X

Steven	Brown	Allen & Hoshall	Member	X
Raymond	Browning	FirstEnergy Corp.	Guest	X
John	Brunke	Dr. John H. Brunke, P.E.	Guest	
Arben	Bufl	Hitachi HVB, Inc.	Member	X
Eldridge	Byron	Schneider Electric	Member	X
Donald	Cantrelle	Georgia Power	Guest	X
Gilbert	Carmona	Southern California Edison	Member	
Stephen	Cary	GE Energy Management	Member	
Steven	Chen	Eaton Corporation	Member	X
Vincent	Chiodo	HICO	Guest	
Chih	Chow	PEPCO	Member	X
Michael	Christian	ABB	Member	X
Roggero	Ciofani	Altalink	Guest	
Lucas	Collette	Mitsubishi Electric	Guest	X
Dave	Collette	Mitsubishi Electric	Guest	
Lee	Cox, Jr.	Efacec	Guest	
Michael	Crawford	Mitsubishi Electric	Guest	X
Jason	Cunningham	Hitachi HVB, Inc.	Guest	X
David	Dart	NOJAPower	Guest	
Jerod	Day	Vacuum Interrupters, Inc.	Guest	
Patrick	Di Lillo	Consolidated Edison Co. of NY, Inc.	Member	X
Denis	Dufournet	Retired	Member	
Edgar	Dullni	ABB	Member	
Carolyn	Durham	Entergy	Guest	
Bernie	Dwyer	PECO	Guest	
John	Eastman	INCON	Member	X
Ken	Edwards	Bonneville Power Administration	Member	X
Leslie	Falkingham	Vacuum Interrupters Limited	Member	
Howard	Fennell	Nashville Electric Service	Guest	X
Thomas	Field	Entergy	Member	
Lori	Fish	Entergy	Guest	
Sergio	Flores	Schneider Electric Inc. USA	Guest	X
Shane	Ford	Nashville Electric Service	Guest	
Robert	Foster	Megger	Guest	
Paul	Fox	Schneider Electric	Guest	
Douglas	Giraud	Powell Electrical Systems	Guest	
John	Hall	Tennessee Valley Authority	Guest	X
Daryl	Hallmark	Southern Company Services	Guest	
John	Harley	FirstPower Group LLC	Guest	
Helmut	Heiermeier	ABB	Chair	X
Christian	Heinrich	Siemens AG	Guest	
Charles	Hendrickson	Arizona Public Service	Guest	X

		Company		
Jeremy	Hensberger	Mitsubishi Electric Power Products Inc.	Guest	X
Victor	Hermosillo	Alstom Grid	Member	X
Jingxuan (Joanne)	Hu	RBJ Engineering Corporation	Guest	X
Roy	Hutchins	Southern Company Services	Guest	X
Todd	Irwin	GE Grid Solutions	Member	X
Carlos	Isaac	Oncor Electric Delivery	Guest	
Richard	Jackson	Detroit Edison	Member	
Anton	Janssen	Liander	Guest	
Joseph	Jasinski	ITC Holdings Corp.	Guest	
Cory	Johnson	BPA	Member	
Wolfgang	Jung	Siemens AG	Guest	
Jayamali	Kasige	Crown Technical Systems	Guest	
Thomas	Keels	Salt River Project	Guest	X
Amir	Khosravi	BC Hydro	Guest	X
Carl	Kurinko	ABB Inc.	Guest	
Thomas	Lagerstrom	Pedersen Power Products	Guest	
Stephen	Lambert	Shawnee Power Consulting, LLC	Member	
Carl	LaPlace	GE Industrial Solutions	Guest	
Matthew	Lawrence	Doble Engineering	Guest	
HaeKyu	Lee	HICO America	Guest	
David	Lemmerman	PECO/Exelon	Guest	X
Werner	Lesse	Siemens AG	Guest	
Wangpei	Li	Eaton	Guest	
Qian	Li	Powertech Labs INC.	Guest	
Hua Ying	Liu	Southern California Edison	Member	X
Li	Liu	Eaton	Member	
Albert	Livshitz	CE Power Solutions	Member	
Bjorn	Lofgren	Siemens Energy	Member	
Russell	Long	Retired	Member	
Jess	Mains	ABB Inc	Guest	
Antonio	Mannarino	PSE&G	Guest	
Vincent	Marshall	Southern Company Services	Guest	X
Gary	Martin	Entergy	Member	X
Ricardo	Martinez	CFE-LAPEM	Guest	
Peter	Marzec	S&C Electric Co.	Guest	
John	Marzula	Mitsubishi	Guest	
Joel	Mathewson	Siemens	Guest	X
Frank	Mayle	Technibus, Inc.	Member	
Deepak	Mazumdar	Central Electric Manufacturing Co.	Guest	
John	McClelland	Technibus	Guest	

Neil	McCord	Southern States	Guest	
Timothy	McGee	Siemens Energy	Guest	
Dave	Mitchell	Dominion	Member	X
Oscar	Montano	Salt River Project	Guest	
Georges	Montillet	GFM Consulting LLC	Member	
Stephanie	Montoya	Southern California Edison	Member	
Tom	Mulcahy	Dominion Virginia Power	Member	X
Volney	Naranjo	GERS USA	Guest	
Jeffrey	Nelson	Tennessee Valley Authority	Member	
Joe	Nims	Allen & Hoshall	Guest	
Miklos	Orosz	Schneider Electric	Guest	
Mirko	Palazzo	ABB	Member	
Amit	Patel	GE	Guest	
Shawn	Patterson	US Bureau of Reclamation	Member	X
Thomas	Pellerito	DTE Energy	Member	
Alan	Peterson	Utility Service Corporation	Guest	
Andrew	Peterson	ABB	Guest	X
Lise	Phan	Parcific Gas and Electric Company	Member	
Zachary	Pintado	Entergy	Guest	X
Cornelius	Plath	Omicron electronics	Guest	
Iulian	Profir	Rockwell Automation	Guest	
Ahmad	Qasem	Bechtel	Guest	X
Syed	Rahman	The United Illuminating Company	Guest	X
Reynaldo	Ramos	Southern Company	Member	
Samala Santosh	Reddy	Powell Industries	Guest	
Frank	Ricard	FirstPower Group LLC	Guest	
Anthony	Ricciuti	Eaton Corporation	Member	X
Dave	Riffe	Westinghouse Electric Company	Guest	
Julian	Rizo	Xcel Energy	Guest	
Brian	Roberts	Southern States, LLC	Guest	X
Jon	Rogers	Siemens Energy, Inc	Member	
Ian	Rokser	Eaton Corp	Guest	
Ben	Rosenkrans	Eaton Corporation	Guest	
Charles	Ross	PGH Wong Engineering	Member	
Roderick	Sauls	Southern Company Services	Member	X
Robert	Sazanowicz	The United Illuminating Company	Guest	
Daniel	Schiffbauer	Toshiba International Corporation	Guest	X
Carl	Schuetz	American Transmission Company (ATC)	Member	X
Jon	Schumann	American Transmission	Member	X

		Company		
Mike	Seabrook	GE	Guest	
Devki	Sharma	Consultant	Member	X
Harish	Sharma	Southern Company	Guest	
Sushil	Shinde	ABB Inc.	Member	X
John	Shullaw	Retired	Guest	
Sunita	Singh	Bechtel OG&C	Guest	
Michael	Skidmore	AEP	Secretary	X
Robert	Smith	Eaton Corporation	Guest	
Zachary	Smith	Mitsubishi Electric Power Products, Inc.	Member	
Erin	Spiewak	IEEE	Guest	X
James	Stacy	Schneider Electric	Guest	
Kresimir	Starcevic	DNV GL KEMA Laboratories	Guest	
Don	Steigerwalt	Duke Energy	Member	X
David	Stone	DTS Technical Services	Guest	
Donald	Swing	Powell Industries	Guest	
Chand	Tailor	Eaton Corporation	Guest	
Humayun	Tariq	American Electric Power	Guest	
Jey	Thayalan	Schneider Electric	Guest	
Jean-Marc	Torres	EATON	Guest	
Vernon	Toups	Siemens	Guest	X
Stephen	Tyler	Dominion	Guest	
James	van de Ligt	CANA High Voltage Ltd.	Member	
Steve	Vatterott	ABB Inc.	Guest	
Wes	Wadsworth	Hitachi HVB, Inc.	Guest	
John	Webb	ABB	Member	X
Casey	Weeks	Siemens Energy	Guest	X
Jan	Weisker	Siemens AG	Member	X
Jerry	Wen	BC Hydro	Guest	X
Matthew	Williford	Schneider Electric	Guest	
Barnes	Wilson	Avista	Guest	X
Terry	Woodyard	Siemens Industry Inc.	Guest	
Oon	Yek	Pacific Gas & Electric	Guest	
Dong Sun	Yoon	HICO America	Guest	
Richard	York	Mitsubishi Electric Power Products, Inc.	Guest	
Jiong	Zhang	MEPPI	Member	
Wei	Zhang	Hitachi HVB, Inc.	Guest	
Xi	Zhu	GE Energy Management	Vice-Chair	X

“X” - individual was at the meeting in Hilton Head, SC