

1) **Introduction of Members and Guests**

**Chair:** Victor Hermosillo  
**Secretary:** Carl Schuetz

Welcome, Introductions and Roster Circulation made.

2) **IEEE Patent Policy**

Policy was reviewed, no patent claims were identified.

3) **Approval of Minutes of Previous Meeting**

Victor Hermosillo / Carl Schuetz

Approval of Minutes of Kansas City, MO

Sent to all members and guests via e-mail.

Follow up: None required

Neil Hutchins motion for approval

Pat DiLillo second

no abstentions

Approval by consensus

4) **Membership**

	ROLE AS MEMBERS	ROLE AS GUESTS	ROLE AS CORRESPONDING MEMBERS	REQUIRED* FOR QUORUM COUNT	TOTAL
HVCB Committee Roster	44	150	10	≥ 50% membership at meeting (≥ 22 members)	204
Attendance Recorded Burlington, VT	28	49		Quorum met	77

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

Introduction of new members, recognitions:

- Mirko Palazzo added to HVCB Subcommittee.
- Recognition of Mr. David Mitchell, subcommittee member who will be retiring after the present IEEE Switchgear Committee meeting.

Excused members (4): D. Dufoumet, Helmut Heiermeier, Anne Bosma, Stephen Cary

Member resigned (1): Chi Chao

5) **Chairman's Report**

Victor Hermosillo / Carl Schuetz

Contact information was given for the Chair and Secretary.

Chair (Victor Hermosillo):

vfhermosillo@ieee.org

(724) 483-7875

Secretary (Carl Schuetz):                      cschuetz@ieee.org                      (262) 506-6962

- WG chairs need to email minutes of their WG meetings to the subcommittee secretary no later than May 17<sup>th</sup>, 2019. Several received already.

## 6) **Reports of Working Groups**

### a) **Technical Paper Reviews**

Kirk Smith

One paper received January 2019, not accepted. Second paper received in April 2019 under consideration. IEEE PES looking for submissions through Subcommittee

### b) **WG Activities**

#### **PC37.04**

Update provided by Stephen Cary e-mail - Document submitted to RevCom on 10-8-18. Publication expected in May

#### **PC37.09**

Update provided by Xi Zhu - Document published April 2019

#### **PC37.011**

Update provided by Denis Dufornet e-mail - Document submitted to RevCom and approved by IEEE-SA in Feb. of 2019

#### **62271-37-013 (Replaces C37.013 and C37.013a)**

Update provided by Mike Palazzo - WG established and work continues for upgrades to the document

#### **C37.016**

Document approved by RevCom

Correspondence via e-mail from Neil McCord -. Errors found, requesting errata or corrigenda, need PAR, Neil McCord volunteer to lead. See new business

#### **C37.017**

Update provided by Devki Sharma - First WG meeting held in Burlington. Proposed schedule to go to ballot in spring of 2021

#### **PC37.10.1**

Update provided by Dave Mitchel - Document submitted to RevCom on 10-15-18

#### **PC37.11**

Update provided by John Webb - No change in scope or content only update.

Tony Riccui appointed Secretary

#### **PC37.12**

Update provided by John Webb - Document submitted to RevCom on 10-10-18.

WG for this PAR disbanded

**PC37.12.1**

Update provided by Ken Edwards - Document approved by RevCom December 18<sup>th</sup>, 2018. Guide Published.

**C57.16**

Motion to be entertained, see New Business g)

**C57.142**

Update provided by Dave Caverly - First WG meeting held in Burlington. D6 complete and will be distributed for comments

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

- Common Requirements WG (C37.100.1) John Webb

Meeting held to decide future actions regarding this standard. IEEE members are participating in IEC representing USA on 62271-1 WG. Two options were voted: 1) Adopt IEC 62271-1 as a reference, 2) Update C37.100.1-2018. Majority decided in favor of second option.

- TF to review Shunt Reactor (inductive load) Switching cancelled

Survey has not been launched yet. Chair (Sushil Shinde) was absent, meeting was cancelled.

- Technology and Innovation Subcommittee Nenad Uzelac

TF on Performance of SF6 Alternatives held two meetings. Preparation of chapters ongoing. Attended by 87 individuals, 36 members, 51 guests.

Request for HVCB Subcommittee to nominate three (3) representatives to the T&I Subcommittee. Chair prepared a list of active participants in existing TF.

**8) CIGRE Reports**

Nenad Uzelac appointed Chair of CIGRE SC A3 August 2018. The following is a list of CIGRE WG activity:

Technical Committee Meeting in Porto, March 26-27, 2019

- Highlights
  - 10 active A3 working groups, 2 JWG approved in 2018
    - o 4 new working groups started, 2 disbanded
    - o 278 members, 13 female, 21 young
  - Published Green book "Switching Equipment"

- Published 3 Technical Reports and Presented 5 tutorials
- Important activities in 2019
  - 2 Technical brochures and 1 Electra paper planned for 2019
  - Updating Strategic plan (sent questionnaire to NC)
  - Reorganizing A3 committee
  - Participating in 3 conferences (Cairo, Hakodate, Bucharest)
- Technical Directions:
  - Impact on T&D Equipment under introduction of renewables, distributed generation and storage
  - Lifetime management and new developments in T&D Equipment

New WG:

- **WG A3.40** Technical Requirements and Testing Recommendations for MV DC switching equipment at distribution levels
- **WG A3.41** Interrupting and switching performance with SF6 free switching equipment
- **WG A3.42** Failure analysis and risk mitigation for recent incidents of AIS instrument transformers
- **JWG A3.43/ CIRED** Tools for lifecycle management of T&D switchgear based on data from condition monitoring systems

Technical Brochures:

Published:

- **JWG A3/B5/C4.37:** System conditions for and probability of Out-of-Phase
- **WG A3.29:** Deterioration & ageing of HV substation equipment (TB 725)
- **JWG A3.32/CIRED:** Non-intrusive methods for condition assessment of distribution and transmission switchgears (TB737)

Upcoming:

- WG A3.30: Overstressing of HV substation equipment
- WG A3.35: Guidelines and best practices for commissioning and operation of controlled switching projects

Victor Hermosillo on behalf of Nenad Uzelac

CIGRE Updates go to <https://cigre-usnc.tamu.edu/study-committees/>

9) **Old Business**

- a) <https://development.standards.ieee.org/my-site/open-ballot-invitations>
- b) Senior membership - 102 senior members total in switchgear.

10) **New Business**

- a) Presentation Reminder – “HV Fuse Tutorial and Application Guide or how I learned to stop worrying and love the fuse protection”

(Thursday May 2<sup>nd</sup>, 2019 (11:45 AM to 3:30 PM))

Dr. John Leach

b) Documents Approved by RevCom

Documents approved by RevCom included: PC37.04, PC37.09, PC37.011, PC37.10.1, PC37.12, PC37.12.1, and PC37.016.

c) Subcommittee officer rotation beginning of 2019

Victor Hermosillo appointed as Chair starting January 2019

Carl Schultz appointed as Secretary starting January 2019

New Chair and Secretary would like to thank Mr. Mike Skidmore for his years of service to the HVCB Subcommittee

d) C37.10 “IEEE Guide for Investigation, Analysis, and Reporting of Power Circuit Breaker Failures” expires 12/31/2021. Need motion to issue PAR for revision, form WG.

Motion made to form a PAR Study Group by Mike Skidmore

Second by Neil Hutchins

Motion passed by consensus

Chair: Neil Hutchins

Secretary: Todd Irwin

e) Errors have been found in C37.016-2018, WG has not been disbanded yet. Subcommittee may receive motion to establish a PAR and WG for corrigenda or addendum to address errors.

Motion to create a PAR Study Group for a corrigenda or addendum to address errors made by Mike Skidmore

Second by John Webb

Motion passed by consensus

Chair: Neil McCord

Secretary: TBD

f) Request received for C37.11 to amend the PAR by adding aux switch requirements. WG Chair currently John Webb, Tony Ricculti Secretary. Motion made by John Webb to have TF in C37.11 continue work regarding ratings of aux switches and if needed to be inserted into C37.11.

Second by Mike Skidmore

Motion passed by consensus

g) C57.16 “IEEE Standard for Requirements, Terminology, and Test Code for Dry-Type Air-Core Series-Connected Reactors”.

David Caverly presented an overview with results of discussion about implications of this standard for switchgear. Meeting results to be reviewed by HVCB SubCommittee.

Motion made to create a Task Force to support the preparation of the new revision of C57.16.

First: Roy Alexander, Second: Michael Skidmore

A recommendation was made that the Task Force have circuit breaker and systems studies participants.

Roy Alexander (RWA Engineering) offers to participate.  
Craig Polchinski (MEPPI) may join.

Motion made by Ken Edwards to create a liaison TF with Transformer Committee

Second: Mike Crawford

Motion passed by consensus

Chair: Dave Caverly

Secretary: Lucas Collette

#### h) HVDC circuit breaker Standard

Motion: Establish a Task Force to review the need for a standard for HVDC Breakers.

Jingxuan (Joanne)Hu presented the motion described above.

Second: John Webb

Motion passed by consensus

Joanne Hu: Chair

Steven Chen: Secretary

If a joint (IEC / IEEE) standard is desired a recommendation will be made by the group before the Fall meeting.

Any interested parties to contact Joanne.

Contents:

Communicate with interested parties to add participants.

Current activity:

- Chinese standard: NB/T 42107-2017, "High Voltage DC Circuit Breaker"  
Sector / Industry: Energy Industry Standard (Recommended)  
Date of Issue: 2017-08-02, Date of Implementation: 2017-12-01  
Regulation (derived from): National Energy Board Bulletin 2017 No. 8;  
Industry Standard Filing Announcement 2017 No. 10 (Total No. 214)
- IEC 62271-312 High-voltage switchgear and controlgear - Part 312: Direct current circuit-breakers, New Work Item Proposal: 17A/1224/NP

- CIGRE A3-40 Medium voltage DC circuit breakers. Difficulty finding US members.
- i) Todd Irwin, Mike Crawford, Devki Sharma, Albert Livshitz, Ken Edwards, Carl Schuetz volunteered for TF participation to review the C57.148 control cabinet standard for CB applicability.
- j) The Chair informed the sub-committee of proposed revisions to ANSI 84.1 and IEEE 1547.1 increasing maximum rated voltage to 110% of nominal. Any concerned party should send concerns to the HVCB chair. The ballot group for these revisions closes on May 10
- k) Motion made by Mike Skidmore to form a PAR Study Group to collect information to review 37.04 and 37.09.  
Second: Ken Edwards  
Motion approval by consensus  
Chair: Jan Weisker  
Secretary: TBD

#### Future Meetings

- a) Fall 2019: Catamaran Resort, San Diego, CA – October 6<sup>th</sup> to 10<sup>th</sup>, 2019
- b) Spring 2020: Peppermill Resort, Reno, NV – May 4<sup>th</sup> to 8<sup>th</sup>, 2020
- c) Fall 2020: Sheraton Sundance Square, Fort Worth, TX – October 4<sup>th</sup> to 8<sup>th</sup>, 2020
- d) Spring 2021: Hilton Charlotte University Place, Charlotte, NC – April 18<sup>th</sup> to 23<sup>rd</sup> 2021

#### 11) Adjourn

Motion made by Ken Edward  
Second: Jim van de Ligt

Submitted by: Carl Schuetz  
HVCB Subcommittee Secretary  
May 01, 2019

HVCB Switchgear Subcommittee Meeting Minutes, 05/01/2019, 3:45-5:30 PM, Burlington, VT

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<b>Role</b>	<b>First Name</b>	<b>Last Name</b>	<b>Company</b>	<b>Present in Burlington, VT</b>
Guest	Mehmet	Adanur	Southern Company Services	
Member	Roy	Alexander	RWA Engineering	X
Guest	Natasha	Alvarado	IEEE Standards Association	
Guest	Michael	Anderson	Retired	
Member	Mauricio	Aristizabal	ABB Meramec Instrument Transformer Co.	X
Guest	Brad	Armstrong	Eaton Corporation	
Guest	Koustubh	Ashtekar	Siemens Industry	
Guest	Aasim	Atiq	Ameren MO	X
Guest	Georges	Auguste	Nashville Electric Service	
Guest	Roy	Ayers	Nashville Electric Service	
Guest	William	Bane	Tennessee Valley Authority	
Guest	Robert	Barnett	Federal Pacific	
Guest	Jerry	Baskin	POWER Engineers	
Guest	George	Becker	ENMAX Power Corp.	
Guest	Michael	Becker	Google	
Guest	Diego	Berenguela		
Corresponding Member	W.J. (Bill)	Bergman	Bergman& Associates Ltd.	
Guest	Jean-Marc	Biasse	Schneider Electric	
Corresponding Member	J	Billings	John S Billings Consulting	
Guest	Bruno	Bisewski	RBJ Engineering Corp	
Guest	Marcus	Bonner	GE	
Guest	Dave	Booth	Exiscan	X
Member	Anne	Bosma	ABB AB	
Member	Alessandro	Bottarelli	ABB	
Guest	Michael	Boulus	PSE&G	X
Guest	Cody	Brehm		
Guest	Andrew	Brignac	Entergy	
Guest	Jeffrey	Brogdon	Georgia Transmission	
Guest	Steven	Brown	Allen & Hoshall	
Guest	Raymond	Browning	FirstEnergy Corp.	
Guest	John	Brunke	Dr. John H. Brunke, P.E.	
Member	Arben	Bufi	Hitachi T&D Solutions, Inc.	X
Guest	Richard	Burge	Southern States LLC Shell Projects & Technology -	
Guest	Dave	Burns	Innovation R&D	
Guest	Ted	Burse	Powell Industries, Inc	
Guest	Ed	Burt	BC Hydro	
Member	Eldridge	Byron	Schneider Electric	X
Member	Fernando	Calderon	AC Electric Systems	



<b>Role</b>	<b>First Name</b>	<b>Last Name</b>	<b>Company</b>	<b>Present in Burlington, VT</b>
Guest	Michael	Cannady	Southern Company Services	
Guest	Donald	Cantrelle	Georgia Power	
Corresponding Member	Gilbert	Carmona	Southern California Edison	
Member	Stephen	Cary	SMC	
Guest	David	Caverly	Trench Ltd.	X
Guest	Samuel	Chang	Pacific Gas & Electric Co	
Guest	Jonathan	Cheatham	GE	
Member	Steven	Chen	Eaton Corporation	X
Guest	Vincent	Chiodo	HICO	
Guest	Andrew	Chovanec	GE Power	X
Guest	Michael	Christian	ABB	
Guest	Roggero	Ciofani	Altalink	
Guest	Michael	Colesanti	Google	
Member	Lucas	Collette	Duquesne Light	X
Guest	Dave	Collette	Mitsubishi Electric	
Guest	Philippe	Corriveau	MindCore Technologies	
Guest	Lee	Cox, Jr.	Efacec	
Member	Michael	Crawford	Mitsubishi Electric	X
Guest	Randall	Creach	AZZ Switchgear Systems	
Guest	Jason	Cunningham	Hitachi HVB, Inc.	
Member	Jason	Cunningham	Southern States, LLC	X
Guest	Jerod	Day	Vacuum Interrupters, Inc.	
	Wolfgang	Degen	Senior Technical Consultant	
Guest	Steven	Delisi	Mitsubishi Electric	
Member	Patrick	Di Lillo	Consolidated Edison Co. of NY, Inc.	X
Guest	Federico	Di Michele	CESI S.p.A.	X
Guest	Jeffrey	Door	The H-J Family of Companies	X
Corresponding Member			Lakeland Electric, City of Lakeland, FL	
Member	Randall	Dotson	FL	
Member	Denis	Dufournet	Retired	
Guest	Kirk	Duncan	Hitachi T&D Solutions	
Corresponding Member	Pete	Dwyer	Dwyer Enterprises	
Guest	Bernie	Dwyer	PECO	X
Member	John	Eastman	Franklin Electric- Grid Solutions	
Guest	Alexander	Ebbert	HICO America	
Member	Ken	Edwards	FirstEnergy Corp.	X
Guest	Doug	Edwards	Siemens Industry, Inc.	
Guest	Emily	Eftink	Burns & McDonnell	X
Guest	Tanner	Esco	Eaton Corporation	
Guest	Aaron	Evans	HICO America	

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Member	Leslie	Falkingham	Vacuum Interrupters Limited	
Guest	David	Feldmann	HICO America	
Guest	Howard	Fennell	Nashville Electric Service	
Guest	Philip	Fentress	Memphis Light, Gas & Water Div	
Guest	Arnaud	Ficheux	AREVA T&D	
	Hernan	Figueroa	Hubbell Power Systems	
	William	Fink	Powell Industries	
Guest	Michael	Flack	Southern Company Services, Inc.	
Member	Sergio	Flores	Schneider Electric Inc. USA	X
Guest	Shane	Ford	Nashville Electric Service	
Member	Robert	Foster	Megger	
Guest	Paul	Fox	Schneider Electric	
Guest	Raymond	Frazier	Ameren	
Guest	Didier	Fulchiron	Schneider-Electric	
Guest	John	Galatic	HICO America	
Member	David	Galicia	Ameren	
Guest	Elizabeth	Gall	MEPPI	
Guest	Rick	Gavazza	Pacific Gas & Electric	
Guest	Kenneth	Gettman	NEMA	
	Douglas	Giraud	Powell Electrical Systems	
Member	Douglas	Giraud	Powell Industries	
Guest	Mietek	Glinkowski	Schneider Electric	
Guest	Anne	Good	Netshape Technologies, Inc.	
Guest	Keith	Gray	None	
	David	Groves	SMC Electrical Products	
Member	John	Hall	Tennessee Valley Authority	X
Guest	Charles	Hand	Southern California Edison	
Guest	John	Harley	FirstPower Group LLC	
Member	Helmut	Heiermeier	ABB	
Guest	Travis	Heintzelman	Burns & McDonnell Mitsubishi Electric Power Products Inc.	
Guest	Jeremy	Hensberger		
Chair	Victor	Hermosillo	GE Grid Solutions	X
Guest	Edward	Hester	Entergy	X
Guest	Harold	Hirz	Thomas and Betts	
Member	Luther	Holloman	Retired	
Guest	George	House	Yaskawa Electric America	
Corresponding	Jingxuan			
Member	(Joanne)	Hu	RBJ Engineering Corporation	X
Guest	Jennifer	Hunter	MEPPI	
Member	Roy	Hutchins	Southern Company Services	X
	Scott	Hutchinson	Jacobs Engineering	

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Guest	Katarzyna	Hyjek	DTE	X
Member	Todd	Irwin	GE Grid Solutions	X
Guest	Carlos	Isaac	Oncor Electric Delivery	
Guest	Richard	Jackson	Detroit Edison	
Guest	Christopher	Jarnigan	Southern Company Services	X
Guest	Joseph	Jasinski	ITC Holdings Corp.	X
Guest	Cory	Johnson	BPA	
Guest	David	Johnson	HVCB	X
Guest	Joe	Kausek	FirstEnergy	
Guest	Thomas	Keels	Salt River Project	
Guest	John	Kelly	Beureau Of Reclamation	
	Aftab	Khan	ABB Inc.	
Guest	Amir	Khosravi	BC Hydro	
Guest	Jinho	Kim	HICO America	
Guest	SangTae	Kim	HICO/HYOSUNG	X
Guest	Hong Jun	Kim	HICO	
Guest	jungdae	kim	hyosung	X
Guest	Thomas	Kohler	Ameren	
Guest	Alan	Kollar	FirstEnergy	
Guest	Masayuki	Kosakada	Toshiba	
Guest	Sandeep	Kulkarni	CG	
Guest	Robert	Kuntz	HICO AMERICA	
Guest	Carl	Kurinko	ABB Inc.	
Member	Joseph	Lachimia		
	Thomas	Lagerstrom	Pedersen Power Products Mitsubishi Electric Power Products, Inc.	
Guest	William	LaMantia		
Guest	Stephen	Lambert	Shawnee Power Consulting, LLC	
	Scott	Lanning	Eaton	
Guest	Carl	LaPlace	GE Industrial Solutions	
Guest	Matthew	Lawrence	Doble Engineering	
Guest	Brad	Leccia	Eaton	
Guest	Marc	Leclerc	Hydro-Quebec Research Institute	
	CHANG			
Guest	HOON	LEE	HYOSUNG Heavy industries	X
Member	David	Lemmerman	PECO/Exelon	
Guest	Werner	Lesse	Siemens AG	
Corresponding				
Member	George	Lester	Boston Edison Retired	
Guest	Paul	Leufkens	Power Projects Leufkens	
Member	Hua Ying	Liu	Southern California Edison	
Member	Li	Liu	Eaton	

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Member	Albert	Livshitz	CE Power Engineered Services	X
Guest	Bjorn	Lofgren	Siemens Energy	
Member	Russell	Long	Retired	
Guest	Elmer	Luehring	Hi-Voltage Equipment	
Guest	Chunming	Ma	Burns and McDonnell	
Guest	Jess	Mains	ABB Inc	
Guest	Kamran	Majeed	ENMAX Power Corporation	
Guest	Antonio	Mannarino	PSE&G	X
Guest	Vincent	Marshall	Southern Company Services	X
Guest	Gary	Martin	Entergy	
Guest	Ricardo	Martinez	CFE-LAPEM	
Guest	Benjamin	Marx	Sargent and Lundy	X
Guest	Peter	Marzec	S&C Electric Co.	X
Guest	Douglas	Mason	ComEd	X
	Joseph	Matsko	Eaton Corp	
Guest	Steven	May	Southern Company	X
Guest	James	McBride	JMX Services, Inc.	X
Member	Neil	McCord	KEC Precision	
Guest	Peter	Meyer	S&C Electric Company	X
Member	Dave	Mitchell	Dominion Energy	X
Guest	Terry	Monahan	Schneider Electric	
Guest	Oscar	Montano	Salt River Project	
Corresponding Member	Georges	Montillet	GFM Consulting LLC	
Guest	Stephanie	Montoya	Southern California Edison	X
	Darryl	Moser	ABB	
Member	Tom	Mulcahy	Dominion Virginia Power	
Member	Yasin	Musa	AEP	
Guest	Volney	Naranjo	GERS USA	
Guest	Raj	Nayar	Siemens Energy Inc.	
Corresponding Member	Jeffrey	Nelson	Tennessee Valley Authority	
	Jeff	Norfolk	RWE INNOGY	
Corresponding Member	T	Olsen	Retired, formerly with Siemens Industry, Inc.	
Guest	Nicholas	Orlando	IEEE-SA	
Guest	Miklos	Orosz	Myers Controlled Power	
Guest	Luis	Osorio	The H-J Family of Companies	
Member	Mirko	Palazzo	ABB	X
Guest	Justin	Palmer	ELECTRONSYSTEM MD	X
Guest	Donald	Parker	Alabama Power Company	
	Raghnath	Parthasarathi	Bechtel Power	

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Guest	Amit	Patel	GE	
Guest	Mark	Pattison	H-J Family of Companies	
Member	Thomas	Pellerito	DTE Energy	X
Guest	Alan	Peterson	Utility Service Corporation	
Guest	Andrew	Peterson	ABB	X
Guest	Mark	Peterson	Xcel Energy	X
Guest	Lise	Phan	Pacific Gas and Electric Company	
	Kevin	Phelps	Nashville Electric Service	
Guest	John	Phouminh	PEPCO HOLDINGS, INC.	X
Guest	Zachary	Pintado	Entergy	
Guest	Anton	Poeltl	ABB	
Guest	Craig	Polchinski	MEPPI	X
Guest	Iulian	Profir	Rockwell Automation	
Guest	Ahmad	Qasem	Bechtel	
			Mitsubishi Electric Power Products INC	
	Jose	Quinones	INC	
Guest	Syed	Rahman	The United Illuminating Company	
Guest	Russell	Raymond	Northeast Utilities	
	Samala			
Guest	Santosh	Reddy	Powell Industries	
Guest	Frank	Ricard	FirstPower Group LLC	
Member	Anthony	Ricciuti	Eaton Corporation	X
Guest	Bobby	Rich	Dominion Virginia Power	X
Guest	Dave	Riffe	Westinghouse Electric Company	
			HPS - Electro Composites (2008)	
Guest	Sebastien	Riopel	ULC	
Guest	Brian	Roberts	Southern States, LLC	
Guest	Jon	Rogers	Siemens Energy, Inc	X
Corresponding Member	Hugh	Ross	Ross Engineering Corporation	
Guest	Joe	Rostron	Southern States LLC	X
Guest	Joe	Rostron	Southern States LLC	X
Guest	Alex	Salinas	Director of Operations	X
Guest	Leonel	Santos	Schneider Electric	X
Member	Roderick	Sauls	Southern Company Services	
	Fabrizio	Sauro	Eaton	
Guest	Victor	Savulyak	DNV GL KEMA Laboratory	
	Christian	Schacherer	ABB Switzerland Ltd	
	Michael	Schacker	Burlington Electrical Testing Co.	
	Michael	Schacker	American Electrical Testing Co.	
Member	Daniel	Schiffbauer	Toshiba International Corporation	
Guest	Carl	Schneider	Schneider Electric	

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Guest	Gerard	Schoonenberg	Eaton American Transmission Company (ATC)	
Vice-Chair	Carl	Schuetz	American Transmission Company (ATC)	X
Guest	Jon	Schumann	American Transmission Company	
Guest	Moin	Shaikh	Siemens	
Member	Devki	Sharma	Entergy	X
Guest	Harish	Sharma	Southern Company	
Guest	Ryan	Sherry	ITC Holdings Corp.	X
Member	Sushil	Shinde	ABB Inc.	
Guest	John	Shullaw	Retired	
Guest	Robert	Sicker	FirstEnergy Corp	X
Guest	Dean	Sigmon	Eaton Corporation	
	Michael	Sigmon	Eaton	
Past Chair	Michael	Skidmore	AEP	X
Guest	Christopher	Slattery	FirstEnergy	X
Member	Robert	Smith	Retired	X
Member	H.	Smith		
Guest	Zachary	Smith	Mitsubishi Electric Power Products, Inc.	
Guest	Jordan	Snider	Pacific Gas & Electric Co.	
	Hongbiao	Song	Bechtel	
Guest	Erin	Spiewak	IEEE	
Guest	James	Stacy	Schneider Electric	
Member	Bradley	Staley	Salt River Project	
Guest	Kresimir	Starcevic	KEMA-Powertest, LLC	
Member	Don	Steigerwalt	Duke Energy	X
Guest	David	Stone	DTS Technical Services	
	Ryan	Stone	Mitsubishi Electric Power Products, Inc.	
	Ryan	Stone	Mitsubishi Electric Power Products, Inc.	
Member	Alan	Storms	Storms Advisory Services	
Guest	Donald	Swing	Powell Industries	
Guest	Dragan	Tabakovic	Meramec Hubbell Power Systems	
Guest	Humayun	Tariq	American Electric Power	
Guest	John	Toney	GE	
Guest	Jean-Marc	Torres	EATON	
Guest	Vernon	Toups	Siemens	X
Guest	Francois	Trichon	Schneider Electric	
Guest	Richard	Trussler	Schneider Electric	
Guest	Jordan	Tsvetanoff	First Energy	
Guest	James	van de Ligt	CANA High Voltage Ltd.	X

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Guest	Wes	Wadsworth	Hitachi HVB, Inc.	
Corresponding Member	Charles	Wagner	Consultant Mitsubishi Electric Power Products Inc.	
Guest	Waqar	Wahid	Southern Company	
Guest	Keith	Wallace	Southern Company	
Guest	Jeffrey	Ward	Doble Engineering Company	X
Guest	Robert	Warren	KEMA Powertest	
Member	John	Webb	ABB	X
Guest	Casey	Weeks	Siemens Energy	X
Guest	Jan	Weisker	Siemens AG	X
Guest	Jerry	Wen	BC Hydro	
Guest	Matt	Westerdale	Bureau of Reclamation	
Guest	Terry	Williams	Bureau of Reclamation	
	Terry	Williams	Bureau of Reclamation	
	Sharon	Williams	Puget Sound Energy	
Guest	Matthew	Williford	Schneider Electric	
Guest	Torsten	Wirz	ABB AG	
Member	Terrance	Woodyard	Siemens Industry Inc. Mitsubishi Electric Power Products Inc.	X
Member	Richard	York	Inc.	X
Guest	Colin	Younce	Burns & McDonnell Mitsubishi Electric Power Products, Inc.	
Guest	Marcus	Young	Inc.	X
Guest	Li	Yu	Eaton Corporation	X
Guest	Lukas	Zehnder	ABB Switzerland	
Guest	Jiong	Zhang	MEPPI	
Guest	Wei	Zhang	Hitachi T&D Solutions, Inc.	X
Guest	Jim	Zhong	American Transmission Company	X
Member	Xi	Zhu	GE Energy Management	X