# **IEEE/PES TRANSFORMERS COMMITTEE**

www.transformerscommittee.org
Fall 2009 Meeting; 25-29 October 2009
Hosted by Thomas Callsen and ComEd, an Exelon Company

Hosted by Thomas Callsen and ComEd, an Exelon Company
The Westin Lombard Yorktown Center; Lombard, Illinois USA

**NOTES:** See Page 5 for a key to abbreviations. A vertical line in the left margin indicates a noteworthy revision since last revision.

<u>DATE/TIME</u> Saturday, October 24	ACTIVITY	SUB- COM	ACTIVITY CHAIR	ROOM <u>CAP/ARR/AV</u>	MEETING ROOM (Floor)	
	No Meeting Registration, No Transformer Committee Meetings, No Social Events					
Sunday, October 25						
8:00 am - 12:30 pm	Technical Tour: S&C Complex and Advar Indicate your desire to attend while regist Bus will depart the Westin at 8:00 am and Contact Michael Kilpatrick at 773.338.100	ering on-line d return befo	e for the Committe ore 12:30 pm. Box	e Meeting. <u>Limited</u> k breakfast provide	d attendance. d on the bus.	
1:00 pm - <u>5:30 pm</u>	Meeting Registration				Jr. Ballroom Foyer	
2:00 pm - 5:30 pm	Administrative SC closed meeting, by invitation only	Admin.	T. Prevost	24 US (w/snack buffet)	Magnolia A	
2:00 pm - 5:30 pm	NEMA Transformers closed meeting, by invitation only	++	C. Drexler	15 US (w/beverages)	Magnolia B/C	
6:00 pm - 8:00 pm	Welcome Reception			350 Reception	Jr. Ballroom A/B/C	
Manday Ostobor 26	Manday Bracks Spansared by OM	ICDON ale	otronico ***			
7:00 am - 5:00 pm	<ul> <li>Monday Breaks Sponsored by OM Meeting Registration</li> </ul>	ICRON EI	ectronics		Jr. Ballroom Foyer	
7:00 am - 6:00 pm	Internet Cafe'			12 SQ	Oak	
7:00 am - 7:50 am	Newcomers Orientation Breakfast Mtg (al Newcomers & Guests are encouraged		E. Smith	50 CL	Grand Ballroom J	
7:00 am - 7:45 am	Distribution SC Leaders Coordination Me (by invitation only)		S. Shull	14 CONF	Water Wall Room in Holy Mackerel	
7:00 am - 8:00 am	Breakfast - Attendees (no spouses/compa	anions plea	se)	250 RT (8/tbl)	Grand Ballroom F	
8:00 am - 9:00 am	Breakfast - Spouses/Companions (no me	eting attend	lees please)	75 RT (8/tbl)	Sheffield Room in Harry Caray's Private Ballroom	
9:15 am - 4:30 pm	Spouses/Companion Tours: "Chicago Hig- Advance registration required. Bus dep					
8:15 am - 10:45 am	IEC TC-14 Technical Advisory Group (all interested individuals welcome)	++	P. Hopkinson	50 CL	Magnolia A	
8:00 am - 9:15 am	WG Dry-Type Reactors C57.16	Dry	R. Dudley	40 CL	Magnolia B/C	
8:00 am - 9:15 am	WG 3-ph Underground Distribution Transformers C57.12.24	UTNP	G. Termini	40 CL	Cypress A/B	
8:00 am - 9:15 am	(TBD)			80 CL	Lilac A/C	
8:00 am - 9:15 am	TF DPV Grid Transformers	Power	H. Shertukde	80 CL	Lilac B/D	
8:00 am - 9:15 am	TF Electrical Partial Discharge Measurements Guide C57.113	DiTests	E. Lemke	100 CL S3	Jr. Ballroom C	
8:00 am - 9:15 am	WG Transformer Monitoring C57.143	Power	D. Chu	150 CL S3	Jr. Ballroom A/B	
9:15 am - 9:30 am	Break (beverages only)			Jr. Ballroom Foy	er	

<sup>\*\*\*</sup> Contact Joe Watson (joe\_watson@ieee.org) if you are interested in sponsoring coffee-breaks at a future meeting.

DATE/TIME	ACTIVITY	SUB- COM	ACTIVITY CHAIR	ROOM CAP/ARR/AV	MEETING ROOM
Monday, October 26	(continued)				
9:30 am - 10:45 am	WG Sealed Dry-Type Power Transformers C57.12.52	Dry	S. Kennedy	40 CL	Magnolia B/C
9:30 am - 10:45 am	WG Liquid-immersed Secondary Network Transformers C57.12.40	UTNP	B. Klaponski	50 CL	Cypress A/B
9:30 am - 10:45 am	WG Overhead Distribution Transformers C57.12.20	Dist	A. Wilks/ T.Cooper	80 CL	Lilac A/C
9:30 am - 10:45 am	WG Revision of C57.12.10	Power	G. Hoffman	80 CL	Lilac B/D
9:30 am - 10:45 am	TF Furan Tests	IL	K. Haggerty	100 CL S3	Jr. Ballroom C
9:30 am - 10:45 am	WG PCS Rev. to Test Code C57.12.90	PCS	M. Perkins	150 CL S3	Jr. Ballroom A/B
10:45 am - 11:00 am	Break (beverages only)			Jr. Ballroom Foy	yer
11:00 am - 12:15 pm	TF IEEE-IEC Cross Reference	Stds	J. Sim	50 CL	Magnolia A
11:00 am - 12:15 pm	WG Dry-Type Gen. Require. C57.12.01	Dry	T. Holdway	40 CL	Magnolia B/C
11:00 am - 12:15 pm	WG Std Requires for Sec. Network Protectors C57.12.44	UTNP	B. Wimmers	50 CL	Cypress A/B
11:00 am - 12:15 pm	WG 1-ph Padmount Distribution Transformers C57.12.38 (12.21 & 12.25)	Dist	A. Ghafourian/ M. Faulkenberry	80 CL	Lilac A/C
11:00 am - 12:15 pm	WG Control Cabinets PC57.148	Power	J. Watson	80 CL	Lilac B/D
11:00 am - 12:15 pm	TF External Dielectric Clearances	DiTests	E. Davis	100 CL S3	Jr. Ballroom C
11:00 am - 12:15 pm	WG Thermal Evaluation of Power and Distribution Transformers C57.100	IL	R. Wicks	150 CL S3	Jr. Ballroom A/B
12:15 pm - 1:30 pm	Lunch Meeting: Standards Development R All SC/WG/TF leaders are encouraged to a control of the control of th	to attend. ox lunch).	B. Bartley	120 (8/tbl)	Grand Ballroom F
1:45 pm - 3:00 pm	SC HVDC Converter Transformers and Smoothing Reactors	HVDC	R. Dudley	50 CL	Cypress A/B
1:45 pm - 3:00 pm	WG 3-ph Padmount Distribution Transformers C57.12.34	Dist	R. Stahara/ S. Shull	80 CL	Lilac A/C
1:45 pm - 3:00 pm	WG Tap Changer Performance C57.131	Power	W. Henning	80 CL	Lilac B/D
1:45 pm - 3:00 pm	WG Procedures for Harmonizing IEEE & IEC Standards	Stds	J. Puri	80 CL	Magnolia A/B/C
1:45 pm - 3:00 pm	TF Special Dielectric Test Issues	DiTests	B. Forsyth	100 CL S3	Jr. Ballroom C
1:45 pm - 3:00 pm	WG Frequency Response Analysis (FRA) Guide PC57.149	PCS	C. Sweetser	150 CL S3	Jr. Ballroom A/B
3:00 pm - 3:15 pm	Break (beverages and treats)			Jr. Ballroom Foy	yer
3:15 pm - 4:30 pm	WG Dry-Type Test Code C57.12.91	Dry	D. Foster	50 CL	Cypress A/B
3:15 pm - 4:30 pm	WG Loss Evaluation Guide for Distribution Transformers	Dist	A. Traut/ D. Duckett	80 CL	Lilac A/C
3:15 pm - 4:30 pm	WG Transformer Paralleling Guide	Power	T. Jauch	80 CL	Lilac B/D
	TF PD in Bushings and PTs/CTs	DiTests	T. Hochanh	80 CL	Magnolia A/B/C
3:15 pm - 4:30 pm	TF Moisture in Oil (New!)	IF	B. Rasor	100 CL S3	Jr. Ballroom C
3:15 pm - 4:30 pm	WG PCS Revisions to C57.12.00	PCS	S. Snyder	150 CL S3	Jr. Ballroom A/B
4:30 pm - 4:45 pm	Break (beverages only)			Jr. Ballroom Foy	yer
4:45 pm - 6:00 pm	Presentation: "Electrical Steel and Core Peby R. Girgis, M. Hastenrath, and J. Schoer Sponsored by SC Performance Characteri	٦.	.",	200 CL S3 (add 50-75 TH seats in rear)	Jr. Ballroom A/B
6:30 pm - 10:00 pm	Technical Tour: MacLean Power Systems Indicate your desire to attend while regis Bus will depart the Westin at 6:30 pm an Contact Paul Lindemulder at 847-451-28	stering on-lind return be	ne for the Commit efore 10:00 pm. D	tee Meeting. <u>Lim</u> inner will be serve	ed at the facility.

<sup>\*\*</sup> Contact N. Kent Haggerty (n.kent.haggerty@ieee.org) if you are interested in making a technical presentation at a future meeting.

DATE/TIME	ACTIVITY	SUB- COM	ACTIVITY <u>CHAIR</u>	ROOM CAP/ARR/AV	MEETING ROOM
Tuesday, October 27	Tuesday Breaks Sponsored by TB	EA Sheny	ang Transform	er Group ***	
7:00 am - <u>12:00 pm</u>	Meeting Registration				Jr. Ballroom Foyer
7:00 am - 6:00 pm	Internet Cafe'			12 SQ	Oak
7:00 am - 8:00 am	Breakfast - Attendees (no spouses/compa	nions pleas	se)	250 RT (8/tbl)	Grand Ballroom F
8:00 am - 9:00 am	Breakfast - Spouses/Companions (no mee	eting attend	lees please)	75 RT (8/tbl)	Sheffield Room in Harry Caray's
9:15 am - 4:45 pm	Spouses/Companions Tour: "Chicago Mus Bus departs Westin at 9:15 am and retu Field Museum, Adler Planetarium) and a Michigan & Chestnut at 3:00 pm, and at	rns by 4:45 t Michigan Museum C	opm. Drop-off at " Avenue & Chestro campus at 3:30 pm	Museum Campus ut. Pick-up at san . Lunch and entry	" (Shedd Aquarium, ne location at
	WG HV Instrument Transformer Tests		document comple		
8:00 am - 9:15 am	WG Oil Reclamation Guide PC57.637	IF	J. Thompson	50 CL	Cypress A/B
8:00 am - 9:15 am	WG Enclosure Integrity C57.12.28, C57.12.29, C57.12.31, C57.12.32	Dist	R. Olen/ D. Mulkey	80 CL	Lilac A/C
8:00 am - 9:15 am	TF Heating of Metallic Parts in contact with Insulation (New!)	IL	J. Ray	80 CL	Lilac B/D
8:00 am - 9:15 am	WG PC57.152 Field Test Guide	Stds	J. Verner	80 CL	Magnolia A/B/C
8:00 am - 9:15 am	TF Transf. Tank Rupture & Mitigation	Power	P. Zhao	100 CL S3	Jr. Ballroom C
8:00 am - 9:15 am	WG Switching Transients Induced by Transf./Breaker Interaction PC57.142	PCS	R. Degeneff	150 CL S3	Jr. Ballroom A/B
9:15 am - 9:30 am	Break (beverages only)			Jr. Ballroom Foy	/er
	WG HVDC Bushings C57.19.03	Joint IEC	-IEEE WG HVDC	Bushings will mee	et on Saturday, 10/24
9:30 am - 10:45 am	WG Terminal Markings C57.12.70	Stds	S. Shull	50 CL	Cypress A/B
9:30 am - 10:45 am	WG Neutral Ground. Devices PC57.32	PCS	S. Schappell	80 CL	Lilac A/C
9:30 am - 10:45 am	TF Functional Life Tests, De-energized Tap Changers (DETC)	Power	P. Hopkinson	80 CL	Lilac B/D
9:30 am - 10:45 am	WG Impulse Test Guide C57.98/138	DiTests	A. Molden	80 CL	Magnolia A/B/C
9:30 am - 10:45 am	TF DGA Natural Ester Fluids	IF	P. Boman	100 CL S3	Jr. Ballroom C
9:30 am - 10:45 am	WG Revision to Loading Guide C57.91	IL	D. Duckett	150 CL S3	Jr. Ballroom A/B
10:45 am - 11:00 am	Break (beverages only)			Jr. Ballroom Foy	/er
11:00 am - 12:15 pm	WG Revision to IEEE 638	Power	C. Swinderman	50 CL	Cypress A/B
11:00 am - 12:15 pm	WG Voltage Step Regulators C57.15	Dist	Colopy/Kennedy	80 CL	Lilac A/C
11:00 am - 12:15 pm	(TBD)			80 CL	Lilac B/D
11:00 am - 12:15 pm	TF Tertiary/Stabilization Windings (New!)	PCS	E. Betancourt	80 CL	Magnolia A/B/C
11:00 am - 12:15 pm	WG Guide for DGA in LTCs C57.139	IF	F. Jakob	100 CL S3	Jr. Ballroom C
11:00 am - 12:15 pm	WG Temperature Rise Test Procedures in Section 11 of C57.12.90	IL	P. Powell	150 CL S3	Jr. Ballroom A/B
12:15 pm - 1:30 pm	<ul> <li>Speaker Luncheon: Rick Bush, Editor in C</li> <li>Topic: "The Dumb Grid, Connecting Ger in the Era of Green". Advance registrations are not provided. Admissional Admissi</li></ul>	nerators an on is neces	d Refrigerators sary.	200 (8/tbl) with elevated table for 5	Grand Ballroom F
	WG Dielectric Test Tables, Liquid-filled	Work is o			
1:45 pm - 3:00 pm	WG Phase-shift Transf. Guide C57.135	Power	J. Sim	50 CL	Cypress A/B
1:45 pm - 3:00 pm	TF Transformer Efficiency and Loss Evaluation (DOE Activity)	Dist	P. Hopkinson	80 CL	Lilac A/C
1:45 pm - 3:00 pm	TF GSU Bushing Standardization	Bush	C. Hurley	80 CL	Lilac B/D
1:45 pm - 3:00 pm	WG Sound Level Measurement Guide	ASV	R. Girgis	80 CL	Magnolia A/B/C
1:45 pm - 3:00 pm	WG Revision to Gas Guide C57.104	IF	R. Ladroga	100 CL S3	Jr. Ballroom C
1:45 pm - 3:00 pm	WG Revision to Low Frequency Tests	DiTests	B. Poulin	150 CL S3	Jr. Ballroom A/B
3:00 pm - 3:15 pm	Break (beverages <u>and treats</u> )			Jr. Ballroom Foy	
2.22 p 0.10 p	(			• o,	-

<sup>\*\*\*</sup> Contact Joe Watson (joe\_watson@ieee.org) if you are interested in sponsoring coffee-breaks at a future meeting.

DATE/TIME	ACTIVITY	SUB- COM	ACTIVITY <u>CHAIR</u>	ROOM <u>Cap/arr/av</u>	MEETING ROOM
Tuesday, October 27 (continued)			Work		
	WG Bushing Applic. Guide C57.19.100	Work is r	nearly complete.		
3:15 pm - 4:30 pm	TF Semiconductor Rectifier Transformers C57.18.10	PCS	S. Kennedy	50 CL	Cypress A/B
3:15 pm - 4:30 pm	WG Electronic Test Data Reporting C57.12.37	Dist	Hollingsworth/ Callsen	80 CL	Lilac A/C
3:15 pm - 4:30 pm	WG High Temp. Transformers PC57.154	IL	R. Marek	80 CL	Lilac B/D
3:15 pm - 4:30 pm	WG Revisions to Impulse Test Sections of C57.12.00 and C57.12.90	DiTests	P. Riffon/ P. Heinzig	80 CL	Magnolia A/B/C
3:15 pm - 4:30 pm	TF Guide for Field Application of Natural Ester Fluids	IF	J. Graham	100 CL S3	Jr. Ballroom C
3:15 pm - 4:30 pm	WG Transportation Issues Guide	Power	G. Anderson	150 CL S3	Jr. Ballroom A/B
4:30 pm - 4:45 pm	Break (beverages only)			Jr. Ballroom Foy	/er
4:45 pm - 6:00 pm	Presentation: "Dielectric Frequency Response Testing (DFR)", by D. Chu, D. Kim, P. Patel, M. Perkins, P. Werelius. Sponsored by SC Dielectric Tests **			200 CL S3 (add 50-75 TH seats in rear)	Jr. Ballroom
6:30 pm - 10:30 pm	Technical Tour: E.O. Schweitzer Manufacturing Facility (a division of SEL); Lake Zurich, Illinois Restricted attendance; by invitation only (EOS will send invitations separately) Bus will depart the Westin at 6:30 pm and return before 10:30 pm. Dinner served at the factory Contact Gayle Yauch at 847-540-8480 or <gayle_yauch@eosmfg.com> for more details.</gayle_yauch@eosmfg.com>				

Wednesday, October 28 -- Wednesday Breaks Sponsored by HICO \*\*\*

	No Meeting Registration, No Technical To	urs			
7:00 am - 6:00 pm	Internet Cafe'			12 SQ	Oak
7:00 am - 8:00 am	Breakfast - Attendees (no spouses/compa	nions pleas	e)	200 RT (8/tbl)	Grand Ballroom F
8:00 am - <u>9:30 am</u>	Breakfast - Spouses/Companions (no me	eting attend	ees please)	75 RT (8/tbl)	Sheffield Room in Harry Caray's
9:15 am - 4:00 pm	Spouses/Companions Tour: "Shopping at Westin bus will shuttle throughout the d See Bell Stand desk in the Westin lobby Optional lunch at Maggiano's Restaurar	ay, beginnir / to request	ng at 9:15 am, but the shuttle. Shut	tle will pick-up at N	Macy's.
7:00 am - 7:45 am	SC Meetings Planning Get breakfast in Grand Ballroom F and take to Grand Ballroom G. Arrive early!	Meetings	G. Anderson	30 CL	Grand Ballroom G
8:00 am - 9:15 am	EL&P Delegation (Users only meeting)	++	S. Shull	50 CL	Lilac D
8:00 am - 9:15 am	SC Instrument Transformers	IT	J. Smith	100 CL S3	Jr. Ballroom C
8:00 am - 9:15 am	SC Insulation Life	IL	D. Platts	200 CL S3	Jr. Ballroom A/B
9:15 am - 9:30 am	Break (beverages only)			Jr. Ballroom Foy	/er
9:30 am - 10:45 am	SC Audible Sound & Vibration	ASV	J. Puri	50 CL	Lilac D
9:30 am - 10:45 am	SC Bushings	Bush	F. Elliott	100 CL S3	Jr. Ballroom C
9:30 am - 10:45 am	SC Distribution Transformers	Dist	S. Shull	200 CL S3	Jr. Ballroom A/B
10:45 am - 11:00 am	Break (beverages only)			Jr. Ballroom Foy	/er
11:00 am - 12:15 pm	SC UG Transf. & Network Protectors	UTNP	C. Niemann	100 CL S3	Jr. Ballroom C
11:00 am - 12:15 pm	SC Dielectric Tests	DiTests	L. Wagenaar	200 CL S3	Jr. Ballroom A/B
12:15 pm - 1:30 pm	Lunch (on your own)				_
1:30 pm - 2:45 pm	SC Dry Type	Dry	C. Johnson	100 CL S3	Jr. Ballroom C
1:30 pm - 2:45 pm	SC Power Transformers	Power	T. Lundquist	200 CL S3	Jr. Ballroom A/B
2:45 pm - 3:00 pm	Break (beverages <u>and treats</u> )			Jr. Ballroom Foy	/er

<sup>\*\*</sup> Contact N. Kent Haggerty (n.kent.haggerty@ieee.org) if you are interested in making a technical presentation at a future meeting.
\*\*\* Contact Joe Watson (joe\_watson@ieee.org) if you are interested in sponsoring coffee-breaks at a future meeting.

## **KEY**

Note: A PC projector will be furnished in each meeting room. Arrive early to ensure that equipment operates/syncs correctly. Overhead projectors are available in the meeting registration area.

> -- activity continued into another session / from another session

++ -- not a Transformers Committee activity TBD = "To Be Determined"

FC = flip chart; S1 = sound (see note)

S2 = stand mic in front only; S3 = one stand mic in front & stand mic(s) at mid-room

CL -- classroom seating (w/head table for 2-3)

TH -- theater seating (with head table for 2-3)

RT -- multiple roundtables (8-9/table)

US -- U-shape table

DATE/TIME	ACTIVITY	SUB- COM	ACTIVITY <u>CHAIR</u>	ROOM CAP/ARR/AV	MEETING <u>ROOM</u>
Wednesday, Octobe	er 28 (continued)				
3:00 pm - 4:15 pm	SC Insulating Fluids	IF	S. McNelly	100 CL S3	Jr. Ballroom C
3:00 pm - 4:15 pm	SC Performance Characteristics	PCS	S. Antosz	200 CL S3	Jr. Ballroom A/B
4:15 pm - 4:30 pm	Break (beverages only)			JR. Ballroom Fo	yer
4:30 pm - 5:30 pm	SC Transformer Standards	Stds	B. Bartley	100 CL S3	Jr. Ballroom C
6:30 pm - 10:00 pm	Dinner Social: "Cantigny; Robert R. Mo Advance registration is necessary. Ir Buses begin boarding at 5:45 pm. TI Paper tickets will not be provided. Ad	ndicate meal he last bus de	selection when you per a selection when you per selection when you be selection.	ou register. . All buses return be	efore 10:00 pm.

#### Thursday, October 29

	No Meeting Registration, No Spouses/Companio	ns Tours, No Internet	: Cafe', No EPRI Me	eting	
7:00 am - 8:00 am	Breakfast - Attendees (no spouses/companions p	200 RT (6/tbl)	Grand Ballroom F		
8:00 am - <u>9:30 am</u>	Breakfast - Spouses/Companions (no meeting at	60 RT(8/tbl)	Sheffield Room in Harry Caray's		
8:00 am - 9:45 am >	General Session, Transformers Committee All attendees are encouraged to attend See separate document for meeting agenda.	T. Prevost	200 CL S1 75 TH elevat. table for 4	Jr. Ballroom A/B/C	
9:45 am - 10:00 am	Break (beverages only)	Jr. Ballroom Foyer			
> 10:00 am - 11:30 am	General Session, Transformers Committee	T. Prevost	200 CL S1 75 TH	Jr. Ballroom A/B/C	
12:00 pm - 7:30 pm	<u>Technical Tour</u> : Waukesha Electric Systems; Wa <u>Restricted attendance</u> ; by invitation only (Waukesha will depart the Westin at 12:00 pm and ret-Arrangements can be made with WES to provision Contact Tammy Behrens at 262.513.5401 or <	kesha Electric will ser urn before 7:30 pm. I de transportation to C	nd invitations separa Box lunches provide Chicago airports afte	ed on the bus. er the tour.	
12:00 pm - 4:00 pm	Technical Tour: S&C Complex and Advanced Te Indicate your desire to attend while registering Bus will depart the Westin at 12:00 pm and ret Arrangements can be made with S&C to provic Contact Michael Kilpatrick at 773.338.1000	on-line for the Comm urn before 4:00 pm. I le transportation to C	ittee Meeting. <u>Limi</u> Box lunches provide hicago airports afte	ted attendance.  ed on the bus.  r the tour.	
1:30 pm - 5:00 pm	Joint WG HVDC Bushings Bush IEEE PC57.19.03/ IEC 62199	n J. Graham	40 CL	Magnolia A	

### Friday, October 30

No Transformer Committee Meetings, No Internet Cafe', No EPRI Meeting, No Tours.

#### **FUTURE COMMITTEE MEETINGS**

<u>SPRING 2010</u> - March 7-11; Houston, Texas. Hosted by Jeremy Kriska and Nynas USA <u>FALL 2010</u> - date and location to be determined

# The Westin Lombard Yorktown Center

70 Yorktown Center; Lombard, Illinois 60148 USA

