



TRANSFORMERS COMMITTEE



September 15, 2017

Dear Committee Members and Guests:

You and your spouse/companion are cordially invited to Louisville, Kentucky, USA to attend the Fall 2017 meeting of the IEEE PES Transformers Committee, to be held October 29 to November 2. We look forward to welcoming you to the largest city in Kentucky and home of the Louisville Slugger! With its boundary-pushing twists on Southern cuisine that have made it one of the "10 Best New Food Cities" in America, to its one and only Urban Bourbon Experience, museums and premiere retail corridors, Louisville has something for everyone!

HOTEL INFORMATION: Our meeting will be held in the heart of downtown at the **Louisville Marriott Downtown**, 280 West Jefferson Street. Located just a few blocks from the Fourth Street Live Entertainment District, a premier dining, entertainment and shopping area, you will have the opportunity to experience a vibrant nightlife. Our discounted guestroom rate at the hotel is US\$139 per night and includes complimentary wireless internet in guestrooms, public space and meeting space. Visit the Committee's website for a link to reserve a room, or if you call the hotel, mention "IEEE Transformers" to receive the group rate. The cut-off date for the group rate is Friday, October 6, but we expect the hotel to sell out well before this date.

GETTING THERE: The **Louisville Marriott Downtown** is located approximately 15 minutes/7.5 miles (12 km) from Louisville International Airport (SDF). Taxi fare is approximately US\$20 one way from the airport, and taxis are required to accept credit card payments. UBER and Lyft are also approved for ridesharing at the Louisville airport. Self-parking in hotel garage is US\$27 for cars per night. Valet parking is \$32 for cars per night.

MEETING REGISTRATION: Register on-line at www.transformerscommittee.org for social events, tours and the meeting. Register by **Friday, October 6, 2017**, to receive a US\$50 early registration discount. The on-line registration system will be disabled on Wednesday, October 25, to print name badges and finalize counts. The cost to register on-site is substantially higher than the advance registration price.

WEATHER: Fall in Louisville is typically cool, but comfortable, with an average high of 65°F/18°C and evening low of 45°F/7°C. Most of our events are indoors, and we are hoping for great weather during your visit! Dress for the meeting is business casual.

SATURDAY EARLY BIRD EVENT: If you arrive early, please join us an evening of dinner and bowling at The Sports & Social Club. See flyer for details and register early!

SUNDAY EVENING WELCOME RECEPTION: Renew old friendships and form new ones! This reception will be held in the Louisville Marriott's magnificent Marriott Ballroom. Cash bars and plenty of fabulous food and soft music will be provided. Registered meeting attendees and spouses/companions are welcome to attend. Please indicate whether you will attend this reception during the meeting registration process.

SPOUSE/COMPANION TOURS: Monday's excursion is the Historic Mansions, Living History, Hot Browns and Julep Tour. Start your day with a narrated bus tour of the largest Victorian district in the U.S. Enjoy miles of grand homes before heading to the Frazier History Museum, where Louisville history comes to life. Savor lunch at the historic Brown Hotel, take a tour and then relax with a refreshing Mint Julep at the end of the day.

Tuesday is the **Horses, Hats & Derbies Tour**. Your day begins with a visit to a working horse farm. Here you will not only view but get UP CLOSE to connect with majestic thoroughbreds. See mares, foals, yearlings and horses in training. Experience the amazing scenery of the Kentucky Blue Grass region of the rolling hills, rock wall fencing and magnificent thoroughbred farms which dot the landscape. After guided tours of this home to multi-million dollar stallions, arrive at the "Home of the Kentucky Derby" where you can tour the track and museum, view a high definition movie projected in one of the world's only 360°, 4K theaters, create a custom Kentucky Derby hat and visit the gift shop before heading back. See flyers for details.

TECHNICAL TOURS: Join your fellow meeting attendees for a tour of **GE Appliances' FirstBuild**, a physical state-of-the-art microfactory on the University of Louisville's campus. Learn how FirstBuild is a co-creation community that is changing the way products come to market. Four identical tours are offered to reduce tour group size and give you flexibility to accommodate your meeting schedule. See flyer for details.

WEDNESDAY DINNER SOCIAL: We invite you to join us for an evening of inspiration and panoramic views of the city at the **Muhammad Ali Center**. When you arrive, take a breathtaking journey through the Center's interactive and multimedia exhibits. Discover the six core principles that Muhammad Ali embraced throughout his life, and how they gave him the wherewithal to be the best athlete he could be and the inspiration to dedicate himself to helping others. After experiencing three levels of exhibits and galleries, browse the gift shop and enjoy a buffet dinner on the sixth floor of the Center. See flyer for dinner menu and details.

ADDITIONAL MEETING INFORMATION: Along with this invitation letter, additional meeting information can be downloaded from the Committee's website at www.transformerscommittee.org:

- Registration Fee Summary – Use this as a guide to review the fees for each activity before you begin the on-line registration process.
- Meeting Schedule and General Sessions Agenda – If any noteworthy changes are made, an updated schedule will be posted on the Committee's website a few days prior to the meeting.
- Other informational flyers, including those for the Saturday Early Bird Event, Spouse/Companion Tours, Wednesday Dinner Social, technical tours and technical presentations.

We are certain you will enjoy all of what Louisville has to offer and look forward to seeing you at the Fall 2017 Meeting!

Best regards,

*IEEE Transformers Committee
Meetings Planning Subcommittee*

IEEE/PES TRANSFORMERS COMMITTEE**www.transformerscommittee.org****Fall 2017 Meeting; October 29 to November 2****Louisville Downtown Marriott Hotel; Louisville, Kentucky USA**

-- See Page 5 for a key to abbreviations.

-- Room locations designated as (1), (2), etc., indicate the "button to press" in the elevator. For instance, a room on (1) is located on First Level, and a room on (2) is located on Second Level.

<u>DATE/TIME</u>	<u>ACTIVITY</u>	<u>SUB-COM</u>	<u>ACTIVITY CHAIR</u>	<u>ROOM CAP/ARR/AV</u>	<u>MEETING ROOM</u>
Friday, October 27					
	No Meetings, Socials or Technical Tours				
Saturday, October 28					
	No Meetings or Technical Tours				
6:15 pm until ??	<u>Early Bird Event:</u> Dinner, Bowling & Fun at The Sports & Social Club. Advance on-line registration necessary. -- Meet in hotel lobby at 6:15 pm. We will walk together to S&SC (5-minute walk). -- Buffet dinner begins at 6:30 pm. Bowling lanes open at 7:30 pm. See flyer for details.				
Sunday, October 29					
	No Technical Tours planned				
1:00 pm - <u>5:30 pm</u>	Meeting Registration			Marriott Ballroom Foyer (2)	
2:00 pm - 5:30 pm	Administrative SC -- Closed meeting, by invitation only	Admin	S. Antosz	24 US w/buffet	Bluegrass 1+2 (2)
2:00 pm - 5:30 pm	NEMA Transformers -- Closed meeting, by invitation only	++	J. Caskey	20 US w/beverage cart	Rose (2)
6:00 pm - 8:00 pm	Welcome Reception			500 Reception	Marriott Ballroom 5+6 (2)
Monday, October 30 -- Monday Breaks Sponsored by Phenix Technologies **					
7:00 am - 5:00 pm	Meeting Registration				Marriott Ballroom Foyer (2)
<u>7:00 am</u> - 7:50 am	Newcomers Orientation -- Breakfast Meeting; arrive early! -- Newcomers & Guests are encouraged to attend!		S. McNelly	100 CL w/buffet in room	Kentucky F+G (1)
<u>7:00 am</u> - 7:50 am	Distribution SC Leaders Coordination -- Closed breakfast meeting, by invitation only		S. Shull	12 BD w/buffet in room	Thoroughbred (2)
7:00 am - 8:00 am	Breakfast - Attendees (no spouses/companions please)			280 RT (8/tbl)	Kentucky Ballroom A-E (1)
8:00 am - 9:30 am	Breakfast - Spouses/Companions (no meeting attendees please)			80 RT (8/tbl)	Bluegrass 1+2 (2)
9:15 am - 3:00 pm	<u>Spouses/Companions Tour:</u> Mansions, Living History, Hot Browns & Julep. Advance registration required. -- Bus departs front of hotel at 9:15 am, and returns ~3:00 pm. Includes lunch. See flyer for details.				
8:00 am - 9:15 am >	Opening Session -- <u>All attendees</u> are encouraged to attend -- See separate document for meeting agenda -- Attendance required to maintain Committee Member status.		S. Antosz	600 MX S1 (240 CL+360 TH)	Marriott Ballroom 5+6 (2)
9:15 am - 9:30 am	<i>Break (beverages only)</i>			First & Second Levels	

** Contact Ed Smith (edsmith@ieee.org) if you are interested in sponsoring a day of coffee breaks at a future meeting.

<u>DATE/TIME</u>	<u>ACTIVITY</u>	<u>SUB-COM</u>	<u>ACTIVITY CHAIR</u>	<u>ROOM CAP/ARR/AV</u>	<u>MEETING ROOM</u>
Monday, October 30 (continued)					
9:30 am - 10:45 am	WG Submersible Transf. C57.12.24	UTNP	G. Termini	90 MX (50 CL + 40 TH)	Kentucky F (1)
9:30 am - 10:45 am	TF LTC Field Tests - NEW!	PCS	M. Ferreira	90 MX	Kentucky G (1)
9:30 am - 10:45 am	TF External Dielectric Clearances	DiTests	E. Davis	140 MX S3	Marriott 1-3 (2)
9:30 am - 10:45 am	WG Tertiary/Stabilizing Windings PC57.158	PCS	E. Betancourt	140 MX S3	Marriott 7-9 (2)
9:30 am - 10:45 am	TF Consolidation of Insulating Fluid Guides	IF	T. Prevost	220 MX S1	Marriott 5 (2)
9:30 am - 10:45 am	TF Transformer Efficiency and Loss Evaluation (DOE Activity)	Dist	P. Hopkinson	220 MX S1 (120 CL+100 TH)	Marriott 6 (2)
10:45 am - 11:00 am	<i>Break (beverages only)</i>				First & Second Levels
11:00 am - 12:15 pm	WG Ventilated Dry Type PC57.12.51	Dry	S. Som	90 MX	Kentucky F (1)
11:00 am - 12:15 pm	--	--	--	90 MX	Kentucky G (1)
11:00 am - 12:15 pm	WG Overhead Distr. Transf. C57.12.20	Dist	A. Traut	140 MX S3	Marriott 1-3 (2)
11:00 am - 12:15 pm	WG Control Cabinets PC57.148	Power	J. Watson	140 MX S3	Marriott 7-9 (2)
11:00 am - 12:15 pm	WG Moisture in Insulation PC57.162	IL	T. Prevost	220 MX S1	Marriott 5 (2)
11:00 am - 12:15 pm	TF PCS Rev. to Test Code C57.12.90	PCS	H. Sahin	220 MX S1	Marriott 6 (2)
12:15 pm - 1:30 pm	Lunch Meeting: Standards Development Review -- <u>Everyone</u> welcome to attend. All SC/WG/TF leaders are <u>highly encouraged</u> to attend. -- Doors open ~12:00 pm. Come early, get a good seat, and start eating. -- Advance registration necessary. No paper tickets. Admission verified with name badge at the door. -- Anyone can join us for this luncheon, and sit & listen to the presentation, without eating lunch. Suggested time to arrive for only the presentation (without lunch) is 12:30 pm.				Kentucky Ballroom A-E (1)
1:45 pm - 3:00 pm	WG Dry Type Gen. Require. C57.12.01	Dry	C. Ballard	90 MX	Kentucky F (1)
1:45 pm - 3:00 pm	WG Sec. Network Protectors C57.12.44	UTNP	M. Faulkner	90 MX	Kentucky G (1)
1:45 pm - 3:00 pm	WG 1-ph Padmount Dist Transf. C57.12.38	Dist	A. Ghafourian	140 MX S3	Marriott 1-3 (2)
1:45 pm - 3:00 pm	WG Thru-Fault Current Duration PC57.109	PCS	V. Mehrotra	140 MX S3	Marriott 7-9 (2)
1:45 pm - 3:00 pm	WG Installation of Power Transf. C57.93	Power	M. Lau	220 MX S1	Marriott 5 (2)
1:45 pm - 3:00 pm	TF Audible Sound Revision to Test Code	PCS	R. Girgis	220 MX S1	Marriott 6 (2)
3:00 pm - 3:15 pm	<i>Break (beverages and treats)</i>				First & Second Levels
3:15 pm - 4:30 pm	SC HVDC Converter Transformers and Smoothing Reactors	HVDC	M. Sharp	90 MX	Kentucky F (1)
3:15 pm - 4:30 pm	--	--	--	90 MX	Kentucky G (1)
3:15 pm - 4:30 pm	WG 3-ph Padmount Dist Transf. C57.12.34	Dist	R. Stahara	140 MX S3	Marriott 1-3 (2)
3:15 pm - 4:30 pm	--	--	--	140 MX S3	Marriott 7-9 (2)
3:15 pm - 4:30 pm	WG Transformer Monitoring C57.143	Power	M. Spurlock	220 MX S1	Marriott 5 (2)
3:15 pm - 4:30 pm	TF PD Limits for Factory Tests	DiTests	V. Mehrotra	220 MX S1	Marriott 6 (2)
4:30 pm - 4:45 pm	<i>Break (beverages only)</i>				First & Second Levels
4:45 pm - 6:00 pm	WG Life Extension C57.140	Power	Work is complete. Document is published.		
4:45 pm - 6:00 pm	WG Dry Type Reactors PC57.16	Dry	A. Del Rio	90 MX	Kentucky F (1)
4:45 pm - 6:00 pm	--	--	--	90 MX	Kentucky G (1)
4:45 pm - 6:00 pm	WG Step-Voltage Regulators C57.15 / 60076-21	Dist	C. Colopy	140 MX S3	Marriott 1-3 (2)
4:45 pm - 6:00 pm	WG PD in Bushings & PT/CTs PC57.160	DiTests	T. Hochanh	140 MX S3	Marriott 7-9 (2)
4:45 pm - 6:00 pm				220 MX S1	Marriott 5 (2)
4:45 pm - 6:00 pm	TF PCS Revisions to C57.12.00	PCS	T. Ansari	220 MX S1	Marriott 6 (2)
4:45 pm - 6:00 pm	Technical Tours #1A & 1B: FirstBuild Microfactory (identical tours on Monday & Tuesday).				
6:15 pm - 7:30 pm	-- Advance registration necessary. Dinner on your own (eat before or after tour). See flyer for more info. -- Paper tickets will not be provided. Admission confirmed with RFID badge at bus (<u>bring your name badge!</u>). -- Tour #1A: Begin loading bus at hotel at ~4:30 pm and <u>depart promptly at 4:45 pm</u> . Return at ~6:00 pm. -- Tour #1B: Begin loading bus at hotel at ~6:00 pm and <u>depart promptly at 6:15 pm</u> . Return at ~7:30 pm.				

DATE/TIME	ACTIVITY	SUB-COM	ACTIVITY CHAIR	ROOM CAP/ARR/AV	MEETING ROOM
Tuesday, October 31; <u>Happy Halloween!</u> -- Tuesday Breaks Sponsored by R.L. Components					
7:00 am - 11:30 am	Meeting Registration			Marriott Ballroom	Foyer (2)
7:00 am - 8:00 am	Breakfast - Attendees (no spouses/companions please)			280 RT (8/tbl)	Kentucky Ballroom A-E (1)
8:00 am - 9:30 am	Breakfast - Spouses/Companions (no meeting attendees please)			80 RT (8/tbl)	Bluegrass 1+2 (2)
9:00 am - 4:00 pm Note early departure!	Spouses/Companions Tour: Horses, Hats and Derbies! Advance registration required. -- Bus departs front of hotel at 9:00 am, and returns ~4:00 pm. Includes lunch. See flyer for details.				
7:00 am - 7:50 am	EL&P Delegation (End-users only please) -- Breakfast meeting; arrive early		J. Murphy	40 CL w/buffet in foyer	Rose (2)
7:00 am - 7:50 am	100th Year Celebration Planning -- Breakfast meeting; arrive early	Mtgs	P. Balma	24 CL w/buffet in foyer	Filly (2)
	WG Revision to C57.12.10	Power	Work is complete. Document sent to Revcom.		
8:00 am - 9:15 am	WG Station Service Volt. Transf. C57.13.8	IT	D. Wallace	90 MX	Kentucky F (1)
8:00 am - 9:15 am	WG Enclosure Integrity C57.12.28, C57.12.29, C57.12.31, C57.12.32	Dist	D. Mulkey	90 MX	Kentucky G (1)
8:00 am - 9:15 am	TF Limits for Winding Insulation PF/Resistance	DiTests	S. Tarlapally	140 MX S3	Marriott 1-3 (2)
8:00 am - 9:15 am	WG Bushings Gen. Require. C57.19.00	Bush	P. Zhao	140 MX S3	Marriott 7-9 (2)
8:00 am - 9:15 am	WG Dry Type PD Detection PC57.124	Dry	T. Prevost	220 MX S1	Marriott 5 (2)
8:00 am - 9:15 am	WG Loading Guide PC57.91	IL	D. Wallach	220 MX S1	Marriott 6 (2)
9:15 am - 9:30 am	<i>Break (beverages only)</i>			First & Second Levels	
	WG GSU Bushings PC57.19.04	Bush	Balloting document.		
	WG Wind Turbine Transf. P60076-16	PCS	Work is complete. Report will be made in PCS meeting.		
9:30 am - 10:45 am	WG Tests for Instrument Transf. C57.13.5	IT	P. Riffon	90 MX	Kentucky F (1)
9:30 am - 10:45 am	WG 1-Ph Submersible Transf. C57.12.23	UTNP	A. Traut	90 MX	Kentucky G (1)
9:30 am - 10:45 am	WG Temp Measurement - NEW!	IL	P. McClure	140 MX S3	Marriott 1-3 (2)
9:30 am - 10:45 am	--	--	--	140 MX S3	Marriott 7-9 (2)
9:30 am - 10:45 am	WG Shunt Reactors C57.21	PCS	S. Som	220 MX S1	Marriott 5 (2)
9:30 am - 10:45 am	TF Condition Assessment Guide - New!	Power	B. Sparling	220 MX S1	Marriott 6 (2)
10:45 am - 11:00 am	<i>Break (beverages only)</i>			First & Second Levels	
11:00 am - 12:15 pm	WG PLC Caps & CCVTs PC57.13.9	IT	Z. Roman	90 MX	Kentucky F (1)
11:00 am - 12:15 pm	WG Liquid-immersed Secondary Network Transformers C57.12.40	UTNP	B. Klaponski	90 MX	Kentucky G (1)
11:00 am - 12:15 pm	WG PD Acoustic Detection C57.127	DiTests	D. Gross	140 MX S3	Marriott 1-3 (2)
11:00 am - 12:15 pm	WG Distrib. Transf. Bushings PC57.19.02	Bush	S. Shull	140 MX S3	Marriott 7-9 (2)
11:00 am - 12:15 pm	WG Semiconductor Power Rectifier Transformers C57.18.10	PCS	S. Kennedy	220 MX S1	Marriott 5 (2)
11:00 am - 12:15 pm	WG Transportation Issues C57.150	Power	G. Anderson	220 MX S1	Marriott 6 (2)
12:15 pm - 1:30 pm	<u>Awards Luncheon</u> -- Doors open ~12:00 pm. <u>Come early</u> , get a good seat, and start eating. -- Advance registration necessary. No paper tickets. Admission verified with name badge at the door. All meeting attendees are encouraged to attend this luncheon. It's a great way to show your appreciation and help us recognize our accomplishments.			D. Platts	245 RT (7/tbl) Kentucky Ballroom A-E (1)
	WG Std Require for Bushings C57.19.04	Bush	Work is complete. Document sent to Revcom.		
	WG Distr. Substation Transf. C57.12.36	Dist	Work is complete. Document sent to Revcom.		
	WG Tap Changers 60214-1-57-134	Power	Document on hold pending IEC joint review		
1:45 pm - 3:00 pm	WG 3-ph Transf. Connections PC57.105	PCS	R. Verdolin	90 MX	Kentucky F (1)
1:45 pm - 3:00 pm >	WG Tap Changer Applicat. Guide 60214-2 (above continued Thursday afternoon)	Power	C. Colopy	90 MX	Kentucky G (1)
1:45 pm - 3:00 pm	WG Thermal Evaluation of Insulation Systems, Dry Type C57.12.60	Dry	R. Wicks	140 MX S3	Marriott 1-3 (2)
1:45 pm - 3:00 pm	--	--	--	140 MX S3	Marriott 7-9 (2)
1:45 pm - 3:00 pm	--	--	--	220 MX S1	Marriott 5 (2)
1:45 pm - 3:00 pm	TF Revision to Low Frequency Tests	DiTests	B. Griesacker	220 MX S1	Marriott 6 (2)
3:00 pm - 3:15 pm	<i>Break (beverages and Pretzels!)</i>			First & Second Levels	

<u>DATE/TIME</u>	<u>ACTIVITY</u>	<u>SUB-COM</u>	<u>ACTIVITY CHAIR</u>	<u>ROOM CAP/ARR/AV</u>	<u>MEETING ROOM</u>
Tuesday, October 31 (continued)					
3:15 pm - 4:30 pm	WG Std Terminal Markings C57.12.70	Stds	S. Shull	90 MX	Kentucky F (1)
3:15 pm - 4:30 pm	WG Instrument Transf. Tests PC57.13.2	IT	T. Sizemore	90 MX	Kentucky G (1)
3:15 pm - 4:30 pm	WG High-Temp Insulat. Materials, P-1276	IL	R. Wicks	140 MX S3	Marriott 1-3 (2)
3:15 pm - 4:30 pm	WG Bushing Applicat. Guide C57.19.100	Bush	T. Spitzer	140 MX S3	Marriott 7-9 (2)
3:15 pm - 4:30 pm >	WG Gas Interpretation Guide C57.104	IF	C. Beauchemin	220 MX S1	Marriott 5 (2)
3:15 pm - 4:30 pm	TF Switching Transients Induced by Transf/Breaker Interaction PC57.142	PCS	J. McBride	220 MX S1	Marriott 6 (2)
4:30 pm - 4:45 pm	<i>Break (beverages only)</i> First & Second Levels				
	WG Tank Pressure Coordinat. C57.12.39	Dist	Work is complete. Document sent to Revcom.		
4:45 pm - 6:00 pm	WG Std Transf. Terminology C57.12.80	Stds	C. Clairborne	90 MX	Kentucky F (1)
4:45 pm - 6:00 pm	--	--	--	90 MX	Kentucky G (1)
4:45 pm - 6:00 pm	WG Dry Type Test Code C57.12.91	Dry	D. Foster	140 MX S3	Marriott 1-3 (2)
4:45 pm - 6:00 pm	WG Short Circuit Withstand PC57.164	PCS	S. Patel	140 MX S3	Marriott 7-9 (2)
> 4:45 pm - 6:00 pm	WG Gas Interpretation Guide C57.104	IF	C. Beauchemin	220 MX S1	Marriott 5 (2)
4:45 pm - 6:00 pm	TF Revisions to Impulse Test Sections of C57.12.00 and C57.12.90	DiTests	P. Riffon	220 MX S1	Marriott 6 (2)
4:45 pm - 6:00 pm	<u>Technical Tour #2A & 2B: FirstBuild Microfactory (identical tours on Monday & Tuesday).</u>				
6:15 pm - 7:30 pm	--- Advance registration necessary. Dinner on your own (eat before or after tour). See flyer for more info.				
	-- Paper tickets will not be provided. Admission confirmed with RFID badge at bus (<u>bring your name badge!</u>).				
	-- Tour #2A: Begin loading bus at hotel at ~4:30 pm and depart promptly at 4:45 pm. Return at ~6:00 pm.				
	-- Tour #2B: Begin loading bus at hotel at ~6:00 pm and <u>depart promptly at 6:15 pm</u> . Return at ~7:30 pm.				

Wednesday, November 1 -- Wednesday Breaks Sponsored by Northern Transformer Corporation **

No Meeting Registration, No Technical Tours, No Spouse/Companion Tours					
7:00 am - 8:00 am	Breakfast - Attendees (no spouses/companions please)			280 RT (8/tbl)	Kentucky Ballroom A-E (1)
8:00 am - 9:30 am	Breakfast - Spouses/Companions (no meeting attendees please)			80 RT (8/tbl)	Bluegrass 1+2 (2)
<u>7:00 am</u> - 7:50 am	SC Meetings Planning -- Breakfast meeting; arrive early	Mtgs	G. Anderson	24 CL w/buffet in foyer	Filly (2)
<u>7:00 am</u> - 8:30 am	IEC TC-14 Technical Advisory Group -- Breakfast meeting; arrive early -- All interested individuals welcome	++	P. Hopkinson	100 CL w/buffet in room	Kentucky F+G
8:00 am - 9:15 am	SC Instrument Transformers	IT	R. McTaggart	140 MX S3	Marriott 7-9 (2)
8:00 am - 9:15 am	SC Insulation Life	IL	S. Kennedy	360 MX S1 (240 CL+120 TH)	Marriott 5+6 (2)
9:15 am - 9:30 am	<i>Break (beverages only)</i> Marriott Ballroom Foyer				
9:30 am - 10:45 am	SC Bushings	Bush	P. Zhao	140 MX S3	Marriott 7-9 (2)
9:30 am - 10:45 am	SC Distribution Transformers	Dist	S. Shull	360 MX S1	Marriott 5+6 (2)
10:45 am - 11:00 am	<i>Break (beverages only)</i> Marriott Ballroom Foyer				
11:00 am - 12:15 pm	SC UG Transf. & Network Protectors	UTNP	D. Mulkey	140 MX S3	Marriott 7-9 (2)
11:00 am - 12:15 pm	SC Dielectric Tests	DiTests	A. Varghese	360 MX S1	Marriott 5+6 (2)
12:15 pm - 1:30 pm	Lunch (on your own)				
1:30 pm - 2:45 pm	SC Dry Type Transformers	Dry	C. Johnson	140 MX S3	Marriott 7-9 (2)
1:30 pm - 2:45 pm	SC Power Transformers	Power	B. Griesacker	360 MX S1	Marriott 5+6 (2)
2:45 pm - 3:00 pm	<i>Break (beverages and treats)</i> Marriott Ballroom Foyer				
3:00 pm - 4:15 pm	SC Insulating Fluids	IF	D. Wallach	140 MX S3	Marriott 7-9 (2)
3:00 pm - 4:15 pm	SC Performance Characteristics	PCS	E. teNyenhuis	360 MX S1	Marriott 5+6 (2)
4:15 pm - 4:30 pm	<i>Break (beverages only)</i>				
4:30 pm - 5:45 pm	SC Standards	Stds	J. Murphy	140 MX S3	Marriott 7-9 (2)
<u>6:30 pm</u> - 9:30 pm	<u>Evening Event: Dinner Social at The Muhammad Ali Center. Advance registration is necessary.</u> -- Paper tickets will not be provided. Admission confirmed with RFID name badge at entrance of The Center. -- Approx 15-minute walk from hotel (6 blocks). Shuttle bus available if desired. -- Doors open and event <u>begins at 6:30 pm</u> . Exhibits & gift shop open 6:30-7:30 pm. Dinner begins at 7:30 pm.				

KEY

Note: A PC projector will be furnished in each meeting room. Arrive early to ensure equipment operates/syncs correctly.

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

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

S1 = special sound set-up, w/podium & lapel mics, table mics, stand mics at mid-room

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

BD = boardroom; US = U-shape

RT = multiple roundtables

CL = classroom seating (w/head table for 2)

TH = theater seating (w/head table for 2)

MX = mix classroom & theater (w/head table)

SUBCOMMITTEES

Admin	Administrative	HVDC	HVDC Converter Transformers and Smoothing Reactors	Mtgs	Meetings
Bush	Bushings			PCS	Performance Characteristics
DiTests	Dielectric Tests	IF	Insulation Fluids	Power	Power Transformers
Dist	Distribution Transformers	IL	Insulation Life	UTNP	Underground Transformers and Network Protectors
Dry	Dry Type Transformers	IT	Instrument Transformers		
				Stds	Standards

Thursday, November 2

No Socials or Technical Tours					
7:00 am - 8:30 am	Breakfast - Attendees (no spouses/companions please)	280	RT (8/tbl)	Kentucky Ballroom A-E (1)	
8:00 am - 9:30 am	Breakfast - Spouses/Companions (no meeting attendees please)	80	RT (8/tbl)	Bluegrass 1+2 (2)	
8:00 am - 9:15 am	Technical Presentation #1: "Sound Pressure Levels for Power Transformer Specifications"; by Girgis & Howell. See flyer on website. **	400	MX S1 (240 CL+160 TH)	Marriott 5+6 (2)	
9:15 am - 9:30 am	Break (beverages only)			Marriott Ballroom Foyer	
9:30 am - 10:45 am	Technical Presentation #2: "Review of Loss Evaluation Guide, C57.120"; by Binder, Sauls, Schrammel, Verdolin. See flyer on website. **	400	MX S1	Marriott 5+6 (2)	
10:45 am - 11:00 am	Break (beverages only)			Marriott Ballroom Foyer	
11:00 am - 12:00 pm	Closing Session -- All attendees are encouraged to attend -- See separate document for meeting agenda	S. Antosz	400 MX S1	Marriott 5+6 (2)	
Lunch on your own					
> 1:30 pm - 5:00 pm >	WG Tap Changer Application Guide IEC/IEEE 60214-2 (continued from Tuesday afternoon)	Power	A. Kraemer	20 BD	Rose (2)

Friday, November 3

No Socials or Technical Tours					
> 8:00 am - 5:00 pm	WG Tap Changer Application Guide IEC/IEEE 60214-2	Power	A. Kraemer	20 BD	Rose (2)

** Contact Tom Prevost (tprevost@ieee.org) if you are interested in making a technical presentation at a future meeting.

FUTURE COMMITTEE MEETINGS

Spring 2018: March 25-29; Pittsburgh, Pennsylvania USA -- Our 100th Year Anniversary Celebration!

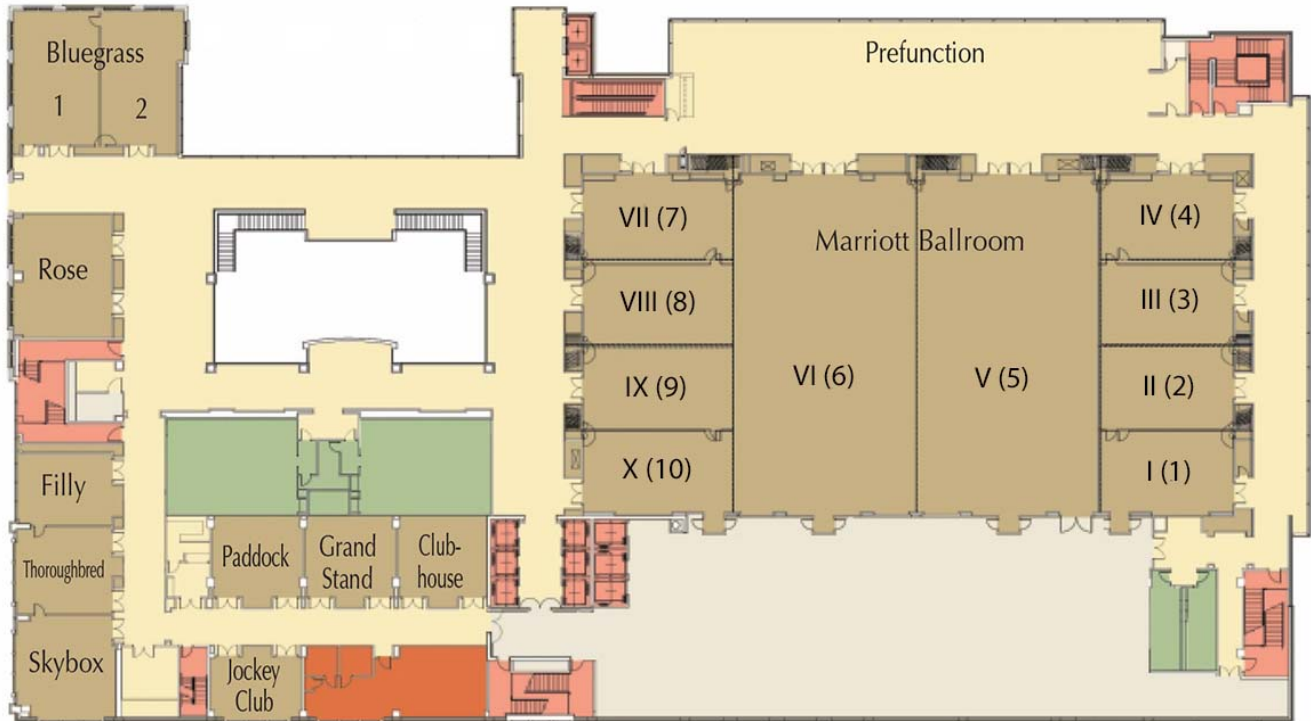
Fall 2018: October 14-18; Jacksonville, Florida USA

Spring 2019: March 10-14 or 17-21 or 24-28; USA Location, to be determined

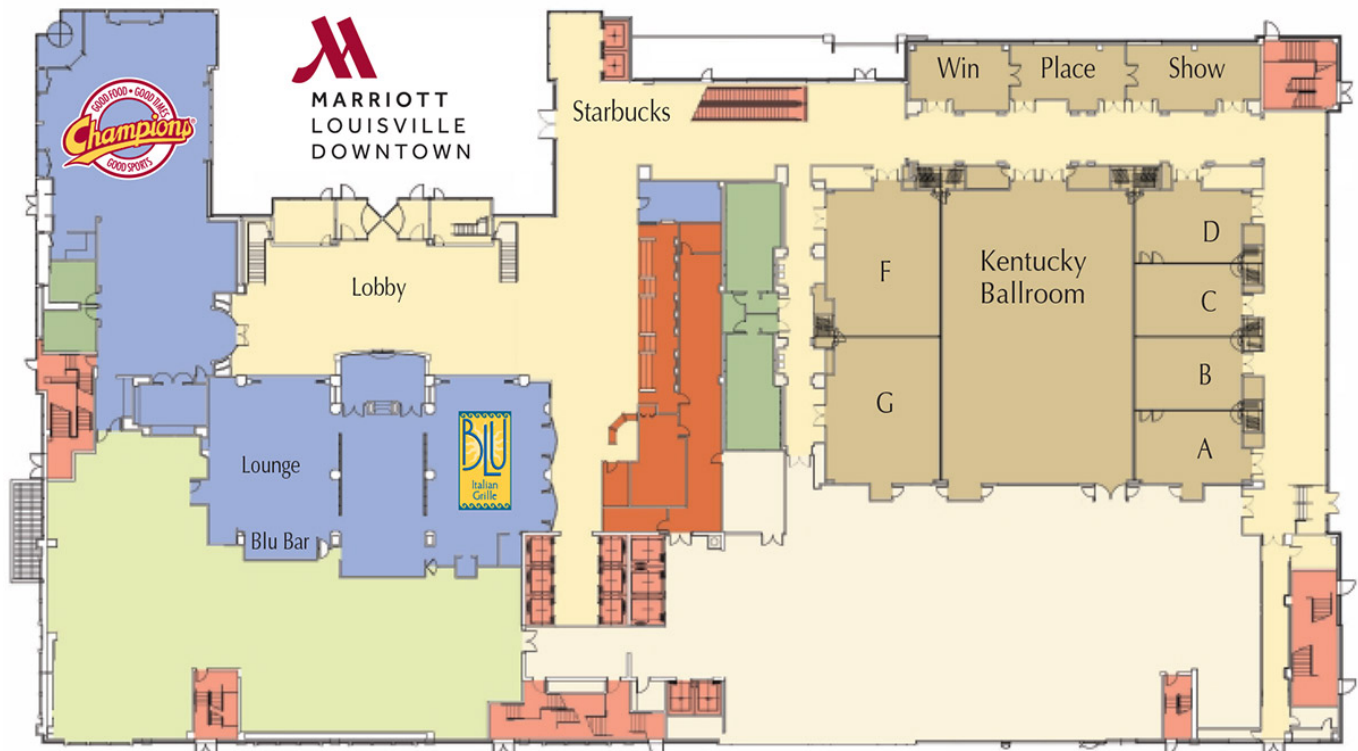
Marriott Louisville Downtown Hotel

280 West Jefferson Street
Louisville, Kentucky 40202 USA
+1.502.627.5045

SECOND LEVEL (2)



FIRST LEVEL (1)



IEEE/PES TRANSFORMERS COMMITTEE

Fall 2017 Meeting; Louisville, Kentucky

Agenda - General Sessions

Chair: Stephen Antosz **Vice Chair:** Sue McNelly **Secretary:** Bruce Forsyth
Treasurer: Greg Anderson **Awards Chair/Past Chair:** Don Platts **Standards Coordinator:** Jim Graham

Opening Session

Monday, October 30: 8:00 am - 9:15 am

(rosters circulated – attendance required to maintain Member status)

1. Welcome and Announcements Stephen Antosz
2. Meeting Minute Greg Anderson
3. Approval of Agenda Stephen Antosz
4. Approval of Minutes from Spring 2017 Meeting Stephen Antosz
5. Chair's Report & Administrative Subcommittee Report Stephen Antosz
6. Vice Chair's Report Sue McNelly
7. Secretary's Report Bruce Forsyth
8. Treasurer's Report Greg Anderson
9. Standards Report Jim Graham
10. Liaison Representative Reports
 - 10.1. CIGRE Raj Ahuja
 - 10.2. IEC TC-14..... Phil Hopkinson
 - 10.3. Standards Coordinating Committee, SCC18 (NFPA Standards) David Brender
 - 10.4. Standards Coordinating Committee, SCC4 (Electrical Insulation) Evanne Wang
11. Hot Topics for the Upcoming Week Subcommittee Chairs
12. New Business & Wrap-up Stephen Antosz

Closing Session

Thursday, November 2: 11:00 am - 12:00 pm

1. Chair's Remarks and Announcements Stephen Antosz
2. Meetings Planning Subcommittee Greg Anderson
3. Reports from Technical Subcommittees (decisions made during the week)
 - 3.1. Insulation Life Sheldon Kennedy
 - 3.2. Performance Characteristics Ed teNyenhuis
 - 3.3. Power Transformers Bill Griesacker
 - 3.4. Standards Jerry Murphy
 - 3.5. Subsurface Transformers & Network Protectors Dan Mulkey
 - 3.6. Bushings Peter Zhao
 - 3.7. Dielectric Tests Ajith Varghese
 - 3.8. Distribution Transformers Steve Shull
 - 3.9. Dry Type Transformers Chuck Johnson
 - 3.10. HVDC Converter Transformers & Reactors Mike Sharp
 - 3.11. Instrument Transformers Ross McTaggart
 - 3.12. Insulating Fluids David Wallach
4. Additional Report from Standards Subcommittee (issues from the week) Jim Graham
5. New Business (continued from Monday) and Wrap-up Stephen Antosz



Appropriate Sound Pressure Levels for Power Transformer Specifications – How and Why

— Technical Presentation —
Thursday, November 2, 2017

by Ian Brewe and Ramsis Girgis

1. Abstract

In most cases, noise levels included in power transformer specifications have a significant impact on the design and, consequently, the cost of the transformer. At the same time, transformer manufacturers have seen some of these specifications require unnecessarily low noise levels while some allow higher noise levels than they should, which often results in noise complaints when these transformers are installed in the field.

This presentation has two parts. In the first part, Dr. Ramsis Girgis will provide an overview of transformer noise and how specified noise levels impact the design and cost of a transformer. In the second part, Mr. Ian Brewe will provide information on methodologies used by substation design engineers to determine the appropriate noise levels of transformers in a substation to satisfy requirements of local and state noise ordinances.

2. Learning Objectives

This presentation plans to:

- Introduce the different components of transformer noise and their frequency spectrum that impact transformer sound propagation
- Outline the impact of specified noise level on the design and cost of a transformer
- Explain how transformer sound propagates, and factors affecting this propagation
- Describe methodologies used by substation design personnel to calculate the impact of power transformer noise on the noise level at the boundary of the substation
- Provide examples of local and state noise ordinance noise requirements

3. Learning Outcomes

As a result of attending this session, participants will gain an understanding of the following:

- Different components of transformer noise and their frequency spectrum
- Impact of specified noise level on the design and cost of a transformer
- How transformer sound propagates, and factors affecting this propagation
- Methodologies used by substation design engineers to calculate the impact of power transformers on the noise level at the boundary of a substation
- Typical noise requirements of local and state noise ordinances

4. Presenters' Biographies

Mr. Ian Brewe is a project manager in the Environmental Services Department at Burns & McDonnell Engineering Company. Ian specializes in managing and performing sound and vibration studies for generation, transmission and distribution projects, transportation and industrial projects. He leads an experienced team of noise specialists who perform noise calculations and modeling, conduct feasibility studies and assist clients with regulatory compliance. Ian received his Bachelor of Science Degree in Applied Mathematics with a Concentration in Physics from Indiana University and is an active member of The Institute of Noise Control Engineering and Acoustical Society of America.

Dr. Ramsis Girgis, IEEE Life Fellow Member, is presently leader of global ABB R&D activities in Power Transformer Technology. He has been an active member of the IEEE Transformers Committee over the past three decades, presently serving as Chair of the TF Audible Sound Revision to Test Code. Dr. Girgis was the technical advisor, representing the US National Committee, in the IEC Power Transformers Technical Committee 14. In 2013, Dr. Girgis was awarded the IEEE Standards Medallion for Significant Contributions to the Transformer Industry and Transformer Standards. Ramsis received his PhD in Electrical Power Engineering from the University of Saskatchewan, Canada.



Review of PC57.120 Guide for Loss Evaluation of Distribution & Power Transformers and Reactors

**— Technical Presentation —
Thursday, November 2, 2017**

by Wallace Binder, Rod Sauls, Alfons Schrammel and Rogerio Verdolin

1. Abstract

This guide provides details and explanations for determining the constituent components and methodology for determining the economic value of distribution and power transformer and reactor losses for both utility and non-utility segments. Focusing on the cost of losses from the energy consumption of equipment perspective, the guide does not provide methods to quantify other social or environmental benefits that could be related to equipment efficiencies.

Losses are quantified typically for the purposes of purchasing evaluation or replacement cost analysis. Quantifying losses is important because equipment manufacturers have a large number of available design options and providing loss values from the user will help the manufacturer propose the most economic design to fit the user's circumstances.

Presentation will cover the following topics:

- History of the Guide for Loss Evaluation
- Highlights of the approved draft
- Loss evaluation, equipment, cost and load parameters
- Transformer loss evaluation for industrial and commercial entities and transmission only electric utilities
- Experience of loss evaluation from a utility company's perspective
- Experience of loss evaluation from a manufacturer's perspective

2. Learning Objectives

This presentation will help attendees understand the principles and concepts regarding the application of power transformer loss evaluation and will assist users when deciding how to value the efficiency of equipment. Ultimately, efficiency depends heavily on how the equipment is used, where on the power system it is used and what decisions are made regarding operating conditions, such as loading beyond nameplate and timing of asset additions/replacement.

3. Learning Outcomes

As a result of attending this presentation, members will gain an understanding of the economic loss evaluation of liquid-filled distribution and power transformers, dry-type distribution and power transformers and reactors.

4. Presenters' Biographies

Wallace Binder is a consultant engineer at WBBinder Consultant. He has over 30 years of utility experience managing maintenance and operation of company owned and major customer owned substations. He also managed substation apparatus engineering, including application, technical and economic evaluation, preparation of specifications, vendor contacts, bidder qualification and performance evaluation. Wallace led all corporate activities for transmission and distribution planning; site and right-of-way acquisition; transmission, distribution and substation design and project management for a subsidiary operating company. He has been an active member of the IEEE PES Transformers Committee since November 1987.

Rod Sauls is a principal engineer with Southern Company Services. He works in the Substation Transmission Design and Maintenance Support Group with responsibility for substation major equipment, including circuit breaker, switchgear, voltage regulator, transformer and mobile substation specifications across the Alabama Power Company territory. Rod began his career in the steel mill and telecommunications industries before coming to Alabama Power Company in 2002. He received his BSEE degree from University of Alabama-Tuscaloosa and earned his Professional Engineering license from the State of Alabama. Rod has many years of involvement with IEEE PES Transformers and Switchgear Committees and is the current Vice Chair for WG PC57.120.

Alfons Schrammel is a senior manager in the Engineering Department of Siemens Transformers in Weiz, Austria. He is in charge of electrical design of large power transformers and shunt reactors. After graduating from the Technical University of Graz, he started in 1986 as a design engineer for large power transformers at ELIN. In 1990, he changed to technical project management and was responsible for special projects, such as the first 500kV phase shifter ever built. From 1996 onward, Alfons was in charge of the electrical design department. Since 2012, he has been responsible for engineering in the business function Global Technology Center for Large Power Transformers.

Dr. Rogerio Verdolin is a consultant engineer at Verdolin Solutions. He spent more than 20 years with CEPEL - Brazil's preeminent Electrical Energy Research Centre, where he managed the High Voltage Laboratory and various research programs supported by utility companies, equipment manufacturers and other industry companies. After moving to Calgary in 1998, he joined GE Energy Services, where he contributed to the development of new products for substation on-line monitoring. Rogerio's 40-year career also includes positions with SNC Lavalin, ENMAX, ATCO and Teshmont Consultants, providing support in substation design, high voltage equipment specification, power system transient overvoltage studies and consultant services, including transient recovery voltage, insulation coordination and geomagnetically induced current simulation studies. He received his BS and MS degrees in Electrical Engineering from the Federal University of Rio de Janeiro and his PhD from the University of Manitoba and has enjoyed many years of involvement with the IEEE PES Transformers Committee, including his current position as Chair of WG PC57.120.



EARLY BIRD EVENT Saturday, October 28, 2017

Dinner & Bowling — The Sports & Social Club



Enjoy an evening in downtown Louisville at The Sports & Social Club, ranked #21 in ESPN Magazine's "29 Greatest Sports Bars in the Known Universe" article! Located at Fourth Street Live!, enjoy dinner in the Eagle room followed by a fun night of amateur bowling with friends. Pool tables also available. www.thesportsandsocialclub.com



Registration fee includes buffet dinner (see menu below), shoe rental and unlimited bowling. Cash bar available (credit cards accepted).

Itinerary

- 6:15 pm: Meet in Louisville Marriott Downtown lobby and walk to venue (approximately 5-10 minutes)
- 6:30 pm: Dinner buffet and cash bar (credit cards accepted)
- 7:30 pm: Bowling begins (rental shoes provided)
- 9:30 pm: Return to hotel

Dinner Menu

Please advise of any special dietary needs at registration.

- Caesar salad
- Seasonal fruit display
- Toasted ravioli
- Chicken parmesan and veggie lasagna
- Non-alcoholic beverages/soft drinks and iced tea
- Assorted cookies and brownies

Attendance is limited...REGISTER EARLY!





Technical Tours

Monday & Tuesday, October 30 & 31, 2017
(2 identical tours each day)

GE Appliances' FirstBuild is a global co-creation community that is changing the way products come to market. Harnessing the brainpower of the maker movement, FirstBuild changes the way major home appliances are conceived, designed and manufactured. With a physical state-of-the-art microfactory on the University of Louisville's campus and an online forum of like-minded individuals, FirstBuild speeds products from mind to market and enables customization through small batch production, without the costs and risks of traditional mass manufacturing. A place to bounce your ideas off one another, or just a place to hang out with other creative minds. No good idea or comment will go unrecognized! See what the community is making today!

www.firstbuild.com



FirstBuild's mission is to invent a new world of home appliances by creating a socially-engaged community of home enthusiasts, designers, engineers and makers who will share ideas, try them out and build real products to improve your life.

Follow them on Twitter! <https://twitter.com/firstbuild>

Our tours will be led by Director of FirstBuild, Mr. Larry Portaro. From our first contact with Mr. Portaro, he has been passionate about showing this concept to the Transformers Committee.

Itinerary: Four (4) separate 45-minute tours

MONDAY*

Tour #1A: Begin loading bus at hotel at ~4:30 pm and depart promptly at 4:45 pm; return at ~6:00 pm

Tour #1B: Begin loading bus at hotel at ~6:00 pm and depart promptly at 6:15 pm; return at ~7:30 pm

TUESDAY*

Tour #2A: Begin loading bus at hotel at ~4:30 pm and depart promptly at 4:45 pm; return at ~6:00 pm

Tour #2B: Begin loading bus at hotel at ~6:00 pm and depart promptly at 6:15 pm; return at ~7:30 pm

~ DINNER ON YOUR OWN BEFORE OR AFTER THE TOUR ~

* *Carefully choose which tour you wish to attend, based on your desired attendance at Committee meetings, etc. Once a tour is nearly sold out, switching to another tour will be difficult.*

** Indicate the desired tour when registering on-line for the Transformers Committee meeting **

** Once registered for the tour, you will receive an email from GE Appliances, requiring you to sign a release form **

** Spouses/Companions welcome, but they must be registered for the meeting **

** Wear your IEEE name badge on the tour – required for admittance on the bus **

Deadline to register for tour is Friday, October 20, but we expect all four tours to sell out quickly.



SPOUSE/COMPANION TOUR Monday, October 30, 2017

Mansions, Living History, Hot Browns & Julep



The day begins with a narrated tour of Old Louisville, a National Preservation district (third largest in the nation) and the largest Victorian district in the United States.

After a “rolling tour” through the neighborhood, it’s on to visit “real life” history at the Frazier History Museum, an affiliate of the Smithsonian. www.fraziermuseum.org
Many artifacts in the Frazier Museum once belonged to famous politicians and celebrities, great Native American warriors, soldiers and noted frontiersmen. Some exhibits you will see at no other museum in the world:



- Ceremonial sword of Founding Father Josiah Bartlett
- Family Bible of the legendary pioneer Daniel Boone
- Original “Big Stick” of President Theodore Roosevelt
- Bow attributed to the great Apache leader, Geronimo
- Ivory-handled Colt pistols belonging to General George Armstrong Custer

Monday afternoon is all about the historic Brown Hotel, starting with lunch in J. Graham’s Café, home of the Hot Brown Sandwich. A tour of the hotel after lunch concludes with a special Mint Julep demonstration at the 2nd level bar area. Each guest will receive a “recipe” card for the perfect Mint Julep and a sample of this hometown beverage. www.brownhotel.com

Itinerary (times are approximate)

- 9:15 am: Depart on coach buses from Louisville Marriott Downtown
- 10:30 am: Arrive at the Frazier Museum
- 12:15 pm: Depart for the Brown Hotel
- 12:30 pm: Buffet lunch at the Brown Hotel
- 1:15 pm: Tour of the Brown Hotel with special Mint Julep demonstration and sampling
- 3:00 pm: Arrive back at hotel

WEAR COMFORTABLE WALKING SHOES!

Buffet Lunch Menu

Please advise of any special dietary needs at registration.

- | | |
|-------------------------|-------------------------------|
| - Salad and antipasto | - Fresh fruit |
| - Bread & butter | - Soup |
| - Hot entrée selections | - Vegetables |
| - Decadent desserts | - Coffee, tea and soft drinks |

Attendance is limited...REGISTER EARLY!





SPOUSE/COMPANION TOUR Tuesday, October 31, 2017 Horses, Hats & Derbies



Tailored especially for the outdoor enthusiast, Tuesday's tour begins with a visit to a working horse farm. Here you will not only view but get UP CLOSE to connect with majestic thoroughbreds. See mares, foals, yearlings and horses in training. Experience the amazing scenery of the Kentucky Blue Grass region, including rolling hills, rock wall fencing and magnificent thoroughbred farms which dot the landscape.



After guided tours of this home to multi-million dollar stallions, arrive at Churchill Downs. Horse racing in Kentucky dates back to 1789, when the first racecourse was constructed in Lexington. Almost 100 years later in 1875, Churchill Downs officially opened its gates in Louisville and began its tradition as "Home of the Kentucky Derby," the longest continually running sporting event in America. www.churchilldowns.com

The afternoon includes a 30-minute, guided walking tour of the historic racetrack. Learn about past Derby winners, trivia and fun facts while walking through the property to the paddock and out to the grandstand. Enjoy lunch at the Derby Café and a thrilling viewing of "The Greatest Race™", projected in one of the world's only 360°, 4K theaters at the adjacent Kentucky Derby Museum. You will also have the opportunity to create a custom Kentucky Derby hat with your own "Hatitude" and enjoy self-guided tours of interactive exhibits on the museum's two floors. Visit the Gift Shop before boarding the bus back to the hotel. www.derbymuseum.org

Itinerary (times are approximate)

- 9:00 am: Depart on buses from Louisville Marriott
- 10:15 am: Arrive at Broodmare Farm & Stud Farm
- 11:45 am: Depart for Churchill Downs
- 12:15 pm: Buffet lunch at Churchill Downs
- 1:10 pm: The Greatest Race in the Great Hall
- 1:30 pm: Historic walking tour of Churchill Downs
- 2:00 pm: Hatitude! and exhibits
- 3:30 pm: Depart the museum/Churchill Downs
- 4:00 pm: Arrive back at hotel

Lunch Menu

Please advise of any special dietary needs at registration.

- Build your own salad bar
- Benedictine (cucumber spread)
- Chicken salad
- Kentucky Hot Brown casserole
- BBQ and country ham
- Derby Pie bars, bread pudding
- Water, coffee, tea and soft drinks

WEAR COMFORTABLE WALKING SHOES!

Attendance is limited ... REGISTER EARLY!



DINNER SOCIAL Wednesday, November 1, 2017



Evening Social at Muhammad Ali Center

Located in the heart of historic downtown Louisville, the Muhammad Ali Center is a multicultural and award-winning museum founded by Lonnie and Muhammad Ali. Capturing the inspiration derived from the story of Ali's legendary life, a visit to the Center is not just an experience, but a journey into the heart of a champion.

When you arrive, take a breathtaking journey through the Center's interactive and multimedia exhibits. Discover the six core principles that Muhammad Ali embraced throughout his life, and how they gave him the wherewithal to be the best athlete he could be and the inspiration to help others.

After experiencing three levels of exhibits and galleries, browse the gift shop and enjoy a buffet dinner on the sixth floor of the Center with panoramic views of the city. www.alicenter.org



Itinerary

- 6:15 pm: Walk to venue (~15 minutes/6 blocks), or a mini-bus will continuously shuttle from the Marriott until 7:00 pm
- 6:30 pm: Doors to Center and gift shop open – cash bar (credit cards accepted); NO BEVERAGES OR FOOD ALLOWED IN THE MUSEUM/EXHIBIT AREA
- 7:30 pm: Reception concludes*; dinner buffet begins on Level 6
- 9:30 pm: Evening concludes

* Gift shop and exhibits close at 7:30 pm at conclusion of reception

Reception & Dinner Menu

Appetizers during reception:

- Green chili wontons with guacamole
- Smoked corn and cheddar grit cake with BBQ shrimp
- Pastry tart with apple, goat cheese and caramelized onion

Buffet dinner includes:

- Classic Caesar salad
- Sliced beef brisket (pot roast style, cut thick)
- BBQ chicken, seasoned and grilled with Kentucky bourbon sauce
- Hot Brown crepes with turkey, bacon, tomato, broccoli and Mornay cheese sauce
- Vegetarian lasagna
- Grilled vegetable medley
- Vegetable rice pilaf and yellow cheddar gratin potatoes with panko
- Mini desserts, including cheesecake, shortcake, panna cotta, bread pudding



**Attendance limited ...
REGISTER EARLY!**