TRANSFORMERS COMMITTEE
SPRING 2023 MEETING

February 6, 2023

Dear Committee Members and Guests:

You and your spouse/companion are cordially invited to Milwaukee, Wisconsin, USA, to attend the spring 2023 meeting of the IEEE PES Transformers Committee, March 19–23. Named the Midwest's "coolest" and "most-underrated" city by Vogue magazine, Milwaukee's downtown revival, walkable neighborhoods and long-standing history of industry and immigration, including strong German, Polish and Italian roots, make the "Cream City" a melting pot similar to some of the country's largest cities without the stuffy feeling and extraordinarily high costs of living. Set on the coast of Lake Michigan, Milwaukee prides itself on being a place that welcomes all people and has something for everyone!

HOTEL INFORMATION: Our meeting will be held in downtown Milwaukee at the Hyatt Regency, 333 West Kilbourn Avenue. Offering locally sourced dining, craft cocktails and Starbucks® coffee at its onsite restaurants as well as a well-equipped fitness center and comfortable rooms and suites, the Hyatt Regency is right where all the action is. You will find a wide variety of award-winning restaurants in the surrounding historic neighborhoods. Museums, galleries and shopping all within a mile of the hotel, including The Milwaukee Public Market with its high-quality selection of artisan and ethnic products and freshly-made foods.

Our discounted guestroom rates start at US$184 per night. All rates include complimentary wireless internet in guestrooms and hotel public space as well as complimentary fitness center access for all overnight guests. Visit the Committee's website for a link to reserve a room, or if you call the hotel, mention "IEEE Transformers" to receive the respective group rate. Cut-off date for the group rate is Wednesday, March 1, but we expect the hotel to sell out sooner.

GETTING THERE: The Hyatt Regency Milwaukee is located approximately 8 miles/13 km north of General Mitchell International Airport (MKE). Taxi fare is approximately US$30 one way from the airport to downtown, and taxis are required to accept credit card payments. UBER and Lyft (US$19–US$25) are also approved for ridesharing at MKE. Discounted self-parking in the hotel's adjacent garage attached on the 2nd floor via skywalk is US$26/car per night. Valet parking is also available at a rate of US$34/car per night.

MEETING REGISTRATION: Register on-line for the meeting, Sunday night reception, Monday and Tuesday lunches, spouse/companion Monday tour and Wednesday night event: https://cvent.me/Wqy01y. This link can also be found on the Committee website Next Meeting page. Register by **Friday, February 24**, to receive a US$50 to US$60 early registration discount (depending on your registration type). The on-line registration system will be disabled on Wednesday, March 15 to print name badges and finalize counts. The cost to register on-site is substantially higher than the advance registration price, and some events may not be available for on-site registration.

WEATHER: March temperatures in Milwaukee are typically on the upswing compared to January and February, with only a small chance of precipitation (average high of 48°F/8°C and low of 32°F/0°C). Dress for the meeting is business casual.

SUNDAY EVENING WELCOME RECEPTION: The reception will be held inside the Hyatt Regency hotel in the beautiful Regency Ballroom. Featuring live music by a local instrumental trio, plenty of tasty food and cash bars, kick off the week by catching up with old friends and meeting new ones. Please indicate whether you will attend this reception during the meeting registration process.

SPOUSE/COMPANION TOURS: Both Monday's and Tuesday's tours keep our group close to "home base" as they enjoy a Progressive Ethnic Food Tour in the downtown area's surrounding neighborhoods on Monday and share the universal experience of cooking, learning and eating on Tuesday at a Hands-On Cooking Class at the famous Milwaukee Public Market. Lunch is included both days as is time to shop and learn about Milwaukee's historic past and delicious present!

See flyers for details and register early as attendance is limited.

TECHNICAL TOURS: Tours of Prolec GE Waukesha, Eaton and Dynamic Ratings manufacturing facilities are planned for Monday evening, Tuesday evening and Thursday afternoon, respectively. Register on-line for all tours. Attendance is limited – see flyers for details.

WEDNESDAY DINNER SOCIAL: The Harley-Davidson Museum is one of Milwaukee's top tourist destinations for visitors from around the globe! Discover culture and history through stories and interactive exhibits that celebrate expression, camaraderie, and love for the sport of motorcycling. Guests will have time to explore the entire facility, including a newly revitalized Experience Gallery, hands-on displays and a variety of special and permanent exhibits that tell the story of Harley-Davidson's history and heritage. Enjoy a tasty buffet and cash bars in the Harley-Davidson Complex's Rumble Room before (and/or after!) exploring the attached Museum and corner gift shop. After dessert, continue the experience until 10:00 PM or head out early to explore Milwaukee. Attendance is limited – 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:

- Registration Fees Summary – Guide to review all fees before logging into the registration system
- 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

We are certain you will enjoy everything Milwaukee has to offer and look forward to seeing you at the spring 2023 meeting!

Best regards,

Dharam Vir, Tammy Behrens
&
the Prolec GE Waukesha team

Spring 2023 Meeting Hosts

waukesha
a prolec ge company

IEEE PES TRANSFORMERS COMMITTEE
Spring 2023 Meeting
Milwaukee, Wisconsin USA

~ Meeting Registration Fees Summary ~

– Register on-line with credit card or wire transfer (extra fee applies for wire transfer) at the registration link posted on this page: https://www.transformerscommittee.org/meetings/2023-spring-milwaukee/; contact the Committee at tc-meetings@ieee.org if an alternate form of payment is necessary.
– Each individual must register for the meeting and pay appropriate registration fee to attend any social event or tour
– **Print a receipt at the end of the registration process**; paper receipts are NOT provided at the meeting
– Refund provided only if request received by Wednesday, March 15, 2023, and valid once confirmation email received; US$25 service charge for a refund of entire registration or US$10 for a partial refund
– US Tax ID No. 13-1656633, Canadian Business No. 12563 4188, Euro Tax Registration No. EU826000081

REGISTRATION FEES AS SHOWN BELOW – all fees in US dollars – all fees stated are per person	**On or Before February 24**	**After Feb 24, on or before March 15**	**On-site**
MEETING REGISTRATION			
Attendee — IEEE member (will be verified when registering)	$415	$465	$565
Attendee — non-IEEE member	$500	$560	$680
Attendee — IEEE Life or Committee Emeritus (will be verified)	$185	$235	$335
Spouse/Companion or guest* and children age 12 and over	$195	$245	$345
– Attendee registration fee includes Sunday night welcome reception, entry into meeting area, coffee breaks and four breakfasts (Mon, Tues, Wed, Thurs) – Spouse/Companion registration fee includes Sunday night welcome reception, four breakfasts (Mon, Tues, Wed, Thurs) and ability to register for tours (which are subsidized by the Committee)			
* This fee category is for anyone who is attending for non-commercial reasons, i.e. not attending the technical meetings, etc. Spouses/Companions/Guests, including children (age 12 and over) must be registered for the meeting with above meeting registration fees to attend any tour, social event and/or breakfasts.			
LUNCHEONS			
Monday Standards Development Luncheon – Buffet lunch (no meal selection required)	$30	$30	$30
Tuesday Awards Luncheon – Meal selection required - indicate beef, chicken or vegetarian	$40	$40	$40
SOCIAL EVENTS & TOURS (see flyers for details)			
Sunday Night Welcome Reception: Regency Ballroom – Hyatt Regency	included in registration fee; *please register in advance for headcount purposes*		
Wednesday Evening Dinner Social: Harley-Davidson Museum** – Enjoy museum exhibits and gift shop before and/or after dinner at your own pace — with or without headset/audio tour – Appetizers, buffet dinner and cash bars in the Rumble Room, which is connected to the museum by an enclosed walkway	$105	$105	$105
Monday Spouse/Companion Tour: Ethnic Milwaukee Food Tour**	$130	$130	$130
Tuesday Spouse/Companion Tour: Hands-On Cooking Class**	$150	$150	$150
TECHNICAL TOURS			
Monday Evening: Prolec GE Waukesha** *LIMITED TO ONE BUS/50 ATTENDEES*	$30	$30	$30
Tuesday Evening: Eaton** *LIMITED TO TWO BUSES/100 ATTENDEES*	$30	$30	$30
Thursday Afternoon: Dynamic Ratings** *LIMITED TO 25 ATTENDEES*	$30	$30	$30
** Attendance will be limited for Wednesday evening social event, spouse/companion tours and technical tours due to space constraints, so register early! *On-site registration for these events only available if space allows.*			

IEEE PES TRANSFORMERS COMMITTEE

Spring 2023 Meeting: Milwaukee, Wisconsin

Agenda - General Sessions

Chair: Ed teNyenhuis **Vice Chair:** David Wallach **Secretary:** Bill Griesacker
Treasurer: Troy Tanaka **Awards Chair/Past Chair:** Bruce Forsyth **Standards Coordinator:** Steve Shull

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Opening Session

Monday, March 20, 2023: 8:00 am - 9:15 am CDT (UTC-06:00)

(Attendance recorded by roster – attendance required to maintain Member status)

1. Welcome and Announcements ..... Ed teNyenhuis
2. Meeting Minute ..... Tammy Behrens
3. Approval of Agenda ..... Ed teNyenhuis
4. Approval of Minutes from Fall 2022 Meeting ..... Ed teNyenhuis
5. Chair's Report & Administrative Subcommittee Report ..... Ed teNyenhuis
6. Vice Chair's Report ..... David Wallach
7. Secretary's Report ..... Bill Griesacker
8. Treasurer's Report ..... Troy Tanaka
9. Standards Report ..... Steve Shull
10. Liaison Representative Reports
    - 10.1. CIGRE ..... Craig Swinderman
    - 10.2. IEC TC-10 ..... Ed Casserly
    - 10.3. IEC TC-14 ..... Christoph Ploetner
    - 10.4. Standards Coordinating Committee, SCC4 (Electrical Insulation) ..... Evanne Wang
    - 10.5. ASTM ..... Ed Casserly
    - 10.6. Transactions on Power and Delivery (TPWRD) Editor Liaison ..... Xose Lopez-Fernandez
11. Hot Topics for the Upcoming Week ..... Subcommittee Chairs
12. New Business & Wrap-up ..... Ed teNyenhuis

Closing Session

Thursday, March 23, 2023: 11:00 am - 12:00 pm CDT (UTC-06:00)

1. Chair's Remarks and Announcements ..... Ed teNyenhuis
2. Meetings Planning Subcommittee ..... Tammy Behrens
3. Reports from Technical Subcommittees (decisions made during the week)
    - 3.1. Performance Characteristics ..... Rogerio Verdolin
    - 3.2. Power Transformers ..... Ryan Musgrove
    - 3.3. Standards ..... Dan Sauer
    - 3.4. Subsurface Transformers & Network Protectors ..... George Payerle
    - 3.5. Bushings ..... Eric Weatherbee
    - 3.6. Dielectric Tests ..... Poorvi Patel
    - 3.7. Distribution Transformers ..... Ed Smith
    - 3.8. Dry Type Transformers ..... Casey Ballard
    - 3.9. Transformers and Reactors for HVDC Applications ..... Ulf Radbrandt
    - 3.10. Instrument Transformers ..... Thomas Sizemore
    - 3.11. Insulating Fluids ..... Scott Reed
    - 3.12. Insulation Life ..... Sam Sharpless
4. Additional Report from Standards Coordinator (issues from the week) ..... Steve Shull
5. New Business (continued from Monday) and Wrap-up ..... Ed teNyenhuis

IEEE PES TRANSFORMERS COMMITTEE

SPRING 2023 MEETING: MARCH 19 TO MARCH 23

Hyatt Regency; Milwaukee, WI USA

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

TRACK LEGEND

Admin	Administrative SC	Ins Life	Insulation Life SC
Bush	Bushings SC	Instr TR	Instrument Transformers SC
DiTests	Dielectric Tests SC	Mtgs	Meetings Planning SC
Distr	Distribution Transformers SC	PCS	Performance Characteristics SC
Dry Type	Dry Type Transformers SC	Power	Power Transformers SC
HVDC	HVDC Converter Transfs. and Smoothing Reactors SC	STNP	Submersible Transf. & Network Protectors SC
IF	Insulating Fluids SC	Stds	Standards SC

STATUS LEGEND

N	New
I	In-Progress
NC	Near Completion
B	Ballot Stage
C	Complete
E	Entity

SATURDAY, MARCH 18

No Events Planned

SUNDAY, MARCH 19

TIME	ACTIVITY	TRACK	MTG CHAIR	STATUS	ROOM (FLOOR)
1:00 PM – 5:30 PM	Meeting Registration				Regency Prefunction (2)
2:00 PM – 5:00 PM	Administrative Subcommittee - Closed meeting, by invitation only	Admin	E. teNyenhuis	–	Milwaukee (2)
2:00 PM – 5:00 PM	NEMA Transformers - Closed meeting, by invitation only	++	J. Stewart	–	Executive AB (2)
6:00 PM – 8:00 PM	Welcome Reception				Regency Ballroom (2)

Renew old friendships and form new ones! This reception will be held inside the beautiful Regency Ballroom, so weather will not be an issue. Cash bars, plenty of fabulous food and live music will be provided. Please indicate whether you will attend this reception during the meeting registration process. All registered attendees and spouses/companions are welcome to attend.

IEEE PES TRANSFORMERS COMMITTEE

SPRING 2023 MEETING: MARCH 19 TO MARCH 23

Hyatt Regency; Milwaukee, WI USA

MONDAY, MARCH 20 Breaks Sponsored by The H-J Family of Companies*

TIME	ACTIVITY	TRACK	MTG CHAIR	STATUS	ROOM (FLOOR)
7:00 AM – 5:00 PM	Meeting Registration				Regency Prefunction (2)
7:00 AM – 7:50 AM	Newcomers Orientation - Arrive early, grab breakfast and get a good seat - Newcomers and guests are encouraged to attend		D. Wallach	–	Lakeshore Ballroom (1)
7:00 AM – 8:00 AM	Breakfast - Attendees (no spouses/companions please)				Atrium (2)
8:00 AM – 9:30 AM	Breakfast - Spouses/Companions (no meeting attendees please)				Vue (21)
8:00 AM – 9:15 AM	Opening Session - All registered meeting participants are encouraged to attend - See separate document on website for meeting agenda - *Attendance required to maintain Committee Member status*		E. teNyenhuis	–	Regency Ballroom (2)
9:30 AM – 3:15 PM	Spouses/Companions Tour: Ethnic Milwaukee Food Tour - Advance on-line registration required — space is limited! - Lunch included at the historic On the Clock bar and grill - See website/flyer for details	Tour			
9:15 AM – 9:30 AM	*Break (beverages only): The H-J Family of Companies*				*Atrium (2)*
9:30 AM – 10:45 AM	TF IEEE-IEC Cross Reference	Stds	A. Washburn	I	Gilpatrick (1)
9:30 AM – 10:45 AM	WG Guide of FRA for Liquid Filled Transf. C57.149	PCS	C. Sweetser	I	Lakeshore Ballroom (1)
9:30 AM – 10:45 AM	WG Standard Requirements for Tap Changers - C57.131	Power	C. Colopy	I	Milwaukee (2)
9:30 AM – 10:45 AM	WG Std Transf. Terminology C57.12.80	Stds	D. Sauer	I	Executive Ballroom (2)
9:30 AM – 10:45 AM	TF Transf Efficiency & Loss Evaluation (DOE Activity)	Distr	P. Hopkinson	I	Regency B (2)
9:30 AM – 10:45 AM	TF Guide for Tank Rupture Mitigation C57.156	Power	P. Zhao	N	Regency A (2)
10:45 AM – 11:00 AM	*Break (beverages only): The H-J Family of Companies*				*Atrium (2)*
11:00 AM – 12:15 PM	WG Overhead Distr. Transf. C57.12.20	Distr	A. Traut	I	Lakeshore Ballroom (1)
11:00 AM – 12:15 PM	WG Loading Guide PC57.91	Ins Life	D. Wallach	I	Executive Ballroom (2)
11:00 AM – 12:15 PM	WG Class 1E Transf.for Nuclear Power Gen Std. 638	Power	C. Swinderman	I	Regency A (2)
11:00 AM – 12:15 PM	WG Guide for Field Testing PC57.152	Stds	M. Ferreira	I	Milwaukee (2)
11:00 AM – 12:15 PM	TF Partial Discharge Tests for Class I Trfs	DiTests	D. Ayers	I	Regency B (2)
11:00 AM – 12:15 PM	WG Guide for DGA in Silicone PC57.146	IF	P. Boman	I	Gilpatrick (1)
12:15 PM – 1:30 PM	Standards Development Review Luncheon Everyone is welcome to attend. All SC/WG/TF leaders are highly encouraged to attend. Doors open ~12:00 pm. Come early, get a good seat and start eating. Advance on-line registration required. To listen to the presentation without eating lunch, arrive by 12:30 pm.				Regency CD (2)
1:45 PM – 3:00 PM	WG 1-ph Padmount Dist Transf. C57.12.38	Distr	A. Ghafourian	I	Executive Ballroom (2)
1:45 PM – 3:00 PM	WG Dry Type Gen. Requirements C57.12.01	Dry Type	C. Ballard	I	Milwaukee (2)
1:45 PM – 3:00 PM	WG Guide for Phase Shifting Transf C57.135	Power	E. Schweiger	N	Regency A (2)
1:45 PM – 3:00 PM	WG Sec. Network Protectors C57.12.44	STNP	M. Faulkner	I	Lakeshore Ballroom (1)
1:45 PM – 3:00 PM	TF Audible Sound Revs & WG Sound Guide C57.136 (S. Antosz)	PCS	R. Girgis	I	Regency B (2)
1:45 PM – 3:00 PM	WG App of High-Temp Insulation Matrs IEEE 1276 Annex B	Ins Life	K. Biggie	I	Gilpatrick (1)
3:00 PM – 3:15 PM	*Break (beverages and treats): The H-J Family of Companies*				*Atrium (2)*
3:15 PM – 4:30 PM	WG 3-ph Padmount Dist Transf. C57.12.34	Distr	S. Shull	I	Milwaukee (2)
3:15 PM – 4:30 PM	WG Transformer Monitoring C57.143	Power	M. Spurlock	I	Lakeshore Ballroom (1)
3:15 PM – 4:30 PM	WG Transformer Impulse Test Guide PC57.98	DiTests	T. Hochanh	I	Executive Ballroom (2)
3:15 PM – 4:30 PM	TF Test for Eval of Insulation for Dry-Type Transfs IEEE 259	Dry Type	D. Stankes	I	Gilpatrick (1)
3:15 PM – 4:30 PM	TF PCS Cont. Revisions to C57.12.00	PCS	T. Ansari	I	Regency B (2)
3:15 PM – 4:30 PM	WG Bushing Applicat. Guide C57.19.100	Bush	T. Spitzer	I	Regency A (2)
4:30 PM – 4:45 PM	*Break (beverages only): The H-J Family of Companies*				*Atrium (2)*
4:45 PM – 6:00 PM	WG Submersible Transf. C57.12.24	STNP	B. Garcia	I	Milwaukee (2)
4:45 PM – 6:00 PM	TF Tank Touch Temperatures	Distr	B. Webb	N	Regency A (2)
4:45 PM – 6:00 PM	WG Failure Investigation & Reporting PC57.125	Power	H. Sahin	N	Regency B (2)
4:45 PM – 6:00 PM	TF Inverter Transf Precautions on Ground Shields C57.159	PCS	P. Hopkinson	N	Executive Ballroom (2)
4:45 PM – 6:00 PM	TF Core Ground & Winding Insul. Resistance - Perf & Int.	DiTests	D. Robalino	N	Gilpatrick (1)
4:45 PM – 6:00 PM	SC HVDC Converter Transfs & Smoothing Reactors	HVDC	U. Radbrandt	-	Lakeshore Ballroom (1)
6:15 PM – 10:00 PM	Technical Tour: Prolec GE Waukesha Advance registration required—space is limited to one bus! Admission confirmed with badge at bus. Start loading bus for Prolec GE Waukesha's power transformer manufacturing facility at the hotel's Martin Luther King Drive entrance at ~6:15 PM and depart at 6:30 PM. Dinner provided on-site at the PGE Waukesha facility. Return at ~10:00 PM. See website/flyer for more information.	Tech Tour			

IEEE PES TRANSFORMERS COMMITTEE

SPRING 2023 MEETING: MARCH 19 TO MARCH 23

Hyatt Regency; Milwaukee, WI USA

TUESDAY, MARCH 21 Breaks Sponsored by Central Moloney, Inc.*

TIME	ACTIVITY	TRACK	MTG CHAIR	STATUS	ROOM (FLOOR)
7:00 AM – 11:30 AM	Meeting Registration				Regency Prefunction (2)
7:00 AM – 7:50 AM	EL&P Delegation (End-users only please) - Arrive early and grab breakfast from Regency AB		J. Murphy	–	Crystal (2)
7:00 AM – 8:00 AM	Breakfast - Attendees (no spouses/companions please)				Regency CD (2)
8:00 AM – 9:30 AM	Breakfast - Spouses/Companions (no meeting attendees please)				Vue (21)
11:00 AM – 2:00 PM	Spouses/Companions Tour: Hands-On Cooking Class - Advance on-line registration required — limited to 20 people! - Held upstairs at the Milwaukee Public Market - See flyer for details	Tour			
8:00 AM – 9:15 AM	TF Guide for Life Tests of Switch Contacts C57.157	Power	A. Sewell	N	Gilpatrick (1)
8:00 AM – 9:15 AM	WG Condition Assessment Guide PC57.170	Power	K. Mani	I	Lakeshore Ballroom (1)
8:00 AM – 9:15 AM	WG Power-Line Carrier Coupling Cap & Volt Transf. C57.13.9	Instr TR	Z. Roman	I	Milwaukee (2)
8:00 AM – 9:15 AM	WG Practice for Install & Operation of Dry Type PC57.94	Dry Type	K. Klein	I	Regency A (2)
8:00 AM – 9:15 AM	WG Encl Int C57.12.28, C57.12.29, C57.12.31, C57.12.32	Distr	D. Mulkey	I	Regency B (2)
8:00 AM – 9:15 AM	TF on Revision of Impulse Tests C57.12.00 & C57.12.90	DiTests	S. Plante	I	Executive Ballroom (2)
9:15 AM – 9:30 AM	*Break (beverages only): Central Moloney, Inc.*				*Atrium (2)*
9:30 AM – 10:45 AM	WG Low Frequency Test Guide PC57.168	DiTests	D. Sauer	I	Lakeshore Ballroom (1)
9:30 AM – 10:45 AM	WG Transportation Issues C57.150	Power	G. Anderson	I	Executive Ballroom (2)
9:30 AM – 10:45 AM	TF Instrument Transf. Accuracy	Instr TR	I. Ziger	I	Gilpatrick (1)
9:30 AM – 10:45 AM	WG Bushings IEC/IEEE 65700.19.03 Dual Logo	Bush	E. Weatherbee	I	Milwaukee (2)
9:30 AM – 10:45 AM	TF PCS Cont. Rev. to Test Code C57.12.90	PCS	H. Sahin	I	Regency B (2)
9:30 AM – 10:45 AM	WG Guide for DGA Applied to Factory Temp Rise Test C57.130	IF	B. Forsyth	I	Regency A (2)
10:45 AM – 11:00 AM	*Break (beverages only): Central Moloney, Inc.*				*Atrium (2)*
11:00 AM – 12:15 PM	WG Sw Transients Ind by TR/Bkr Interaction PC57.142	PCS	J. McBride	I	Executive Ballroom (2)
11:00 AM – 12:15 PM	WG Liquid-immersed Sec. Network TRs C57.12.40	STNP	J. Vartanian	I	Lakeshore Ballroom (1)
11:00 AM – 12:15 PM	WG Requirements for Instrument Transformers PC57.13	Instr TR	D. Wallace	I	Milwaukee (2)
11:00 AM – 12:15 PM	WG Guide for Loading Dry Type Transformers C57.96	Dry Type	A. Narawane	I	Gilpatrick (1)
11:00 AM – 12:15 PM	TF Standard Requirements for Arc Furnace Transf. C57.17	Power	D. Corsi	N	Regency B (2)
11:00 AM – 12:15 PM	TF Guide for the Reclamation of Mineral Oil C57.637	IF	S. Denzer	N	Regency A (2)
12:15 PM – 1:30 PM	Awards Luncheon All meeting attendees are encouraged to attend to show appreciation and recognize accomplishments. Doors open ~12:00 pm. Come early, get a good seat and start eating. Advance on-line registration is required.				Regency CD (2)
1:45 PM – 3:00 PM	WG Consolidation Insulating Fluid Guides PC57.166	IF	T. Prevost	I	Lakeshore Ballroom (1)
1:45 PM – 3:00 PM	WG Bar Coding for Distr Transf. C57.12.35	Distr	R. Chrysler	I	Executive Ballroom (2)
1:45 PM – 3:00 PM	TF Cont. Revision to Low Frequency Tests C57.12.90	DiTests	A. Varghese	I	Milwaukee (2)
1:45 PM – 3:00 PM	WG Guide for Mitigating Corrosion on Sub Trfs C57.12.53	STNP	W. Elliott	I	Regency A (2)
1:45 PM – 3:00 PM	WG Volts per Hertz C57.107	Power	J. Watson	I	Regency B (2)
1:45 PM – 3:00 PM	OPEN				
3:00 PM – 3:15 PM	*Break (beverages and pretzels): Central Moloney, Inc.*				*Atrium (2)*
3:15 PM – 4:30 PM	WG Recommend Practice for Routine Impulse Tests C57.138	DiTests	H. Sahin	N	Milwaukee (2)
3:15 PM – 4:30 PM	TF Guide for Install & Maintenance of Power Trf C57.93	Power	S. Reed	I	Lakeshore Ballroom (1)
3:15 PM – 4:30 PM	WG Dry Type PD Detection PC57.124	Dry Type	T. Prevost	I	Gilpatrick (1)
3:15 PM – 4:30 PM	WG Geomagnetic Disturbances PC57.163	Stds	D. Blaydon	I	Executive Ballroom (2)
3:15 PM – 4:30 PM	TF Continuous Rev Clause 11 Temp Rise Tests C57.12.90	Ins Life	D. Sankarakurup	I	Regency B (2)
3:15 PM – 4:30 PM	WG Guide DGA in Ester-Immersed Transformers PC57.155	IF	A. Sbravati	N	Regency A (2)
4:30 PM – 4:45 PM	*Break (beverages only): Central Moloney, Inc.*				*Atrium (2)*
4:45 PM – 6:00 PM	WG Guide for PD Measure HV Bushings & Inst Trf C57.160	DiTests	T. Hochanh	NC	Gilpatrick (1)
4:45 PM – 6:00 PM	TF Reverse Power Flow Effects on Trans	Stds	D.Blaydon	N	Lakeshore Ballroom (2)
4:45 PM – 6:00 PM	WG Guide for DGA in LTCs C57.139	IF	R. Frotscher	I	Milwaukee (2)
4:45 PM – 6:00 PM	WG Neutral Grounding Devices C57.32	PCS	S. Kennedy	N	Executive Ballroom (2)
4:45 PM – 6:00 PM	TF Guide for Paralleling Transformers C57.153	Power	M. Tostrud	N	Regency B (2)
4:45 PM – 6:00 PM	WG Dry Type Test Code C57.12.91	Dry Type	D. Walker	N	Regency A (2)
6:15 PM – 10:30 PM	Technical Tour: Eaton Advance registration required—space is limited to two buses! Admission confirmed with badge at bus. Start loading buses for Eaton's Badger Drive facility in Waukesha at the hotel's Martin Luther King Drive entrance at ~6:15 PM and depart promptly at 6:30 PM. Dinner provided on-site at the Eaton facility. Return at ~10:30 PM. See website/flyer for more information.	Tech Tour			

IEEE PES TRANSFORMERS COMMITTEE

SPRING 2023 MEETING: MARCH 19 TO MARCH 23

Hyatt Regency; Milwaukee, WI USA

WEDNESDAY, MARCH 22 Breaks Sponsored by Virginia & Georgia Transformer*

No Meeting Registration, Technical Tours, Spouse/Companion Tours, or Social Events Planned

TIME	ACTIVITY	TRACK	MTG CHAIR	STATUS	ROOM (FLOOR)
7:00 AM – 8:00 AM	Breakfast - Attendees (no spouses/companions please)				Regency CD (2)
7:00 AM – 8:00 AM	SC Meetings Planning - Arrive early and grab breakfast from Regency AB - All interested individuals welcome	Mtgs	T. Behrens	–	Crystal (2)
7:00 AM – 8:30 AM	IEC TC-14 Technical Advisory Group - Breakfast Meeting - arrive early - All interested individuals welcome		P. Hopkinson	–	Lakeshore Ballroom (1)
8:00 AM – 9:30 AM	Breakfast - Spouses/Companions (no meeting attendees please)				Vue (21)
8:00 AM – 9:15 AM	SC Instrument Transformers	Instr TR	T. Sizemore	–	Executive Ballroom (2)
8:00 AM – 9:15 AM	SC Insulation Life	Ins Life	S. Sharpless	–	Regency AB (2)
9:15 AM – 9:30 AM	*Break (beverages only): Virginia & Georgia Transformer*				*Atrium (2)*
9:30 AM – 10:45 AM	SC Distribution Transformers	Distr	E. Smith	–	Executive Ballroom (2)
9:30 AM – 10:45 AM	SC Bushings	Bush	E. Weatherbee	–	Regency AB (2)
10:45 AM – 11:00 AM	*Break (beverages only): Virginia & Georgia Transformer*				*Atrium (2)*
11:00 AM – 12:15 PM	SC Submersible Transf. & Network Protectors	STNP	G.Payerle	–	Executive Ballroom (2)
11:00 AM – 12:15 PM	SC Dielectric Test	DiTests	P. Patel	–	Regency AB (2)
12:15 PM – 1:30 PM	*Lunch Break*				
1:30 PM – 2:45 PM	SC Dry Type Transformers	Dry Type	C. Ballard	–	Executive Ballroom (2)
1:30 PM – 2:45 PM	SC Power Transformers	Power	R. Musgrove	–	Regency AB (2)
2:45 PM – 3:00 PM	*Break (beverages and treats): Virginia & Georgia Transformer*				*Atrium (2)*
3:00 PM – 4:15 PM	SC Insulating Fluids	IF	S. Reed	–	Executive Ballroom (2)
3:00 PM – 4:15 PM	SC Performance Characteristics	PCS	R. Verdolin	–	Regency AB (2)
4:15 PM – 4:30 PM	*Break (beverages only): Virginia & Georgia Transformer*				*Atrium (2)*
4:30 PM – 5:45 PM	SC Standards	Stds	D. Sauer	–	Regency AB (2)
6:00 PM – 10:00 PM	Harley-Davidson Museum - Advance on-line registration required; admission confirmed with name badge at location - Transportation will be available with first run departing hotel at 5:45 PM and running every 15 minutes until 7:30 PM; first return shuttle departs H-D Museum at 8:30 PM and will run approximately every 15 minutes, with last run at 10:00 PM - Enjoy museum exhibits and gift shop before and/or after dinner at your own pace — with or without headset/audio tour; NO FOOD OR BEVERAGES ARE ALLOWED IN THE MUSEUM - Appetizers, buffet dinner and cash bars (credit cards accepted) in the Rumble Room, which is connected to the museum by an enclosed walkway; see flyer for details	Social			

THURSDAY, MARCH 23

No Meeting Registration, Technical Tours, Spouse/Companion Tours, or Social Events Planned

TIME	ACTIVITY	TRACK	MTG CHAIR	STATUS	ROOM (FLOOR)
7:00 AM – 8:00 AM	Breakfast - Attendees (no spouses/companions please)				Atrium (2)
8:00 AM – 9:30 AM	Breakfast - Spouses/Companions (no meeting attendees please)				Vue (21)
8:00 AM – 9:15 AM	Technical Presentation 1 Tutorial on the DOE NOPR for Distribution Transformers Efficiency Requirements and its Implications by Phil Hopkinson, Colby Lovins, Bryan Marquardt, Aaron Meyers, Dan Mulkey, Joe Tedesco and Alan Traut - See flyer on website for details **	Tutorial			Regency Ballroom (2)
9:15 AM – 9:30 AM	*Break (beverages only)*				
9:30 AM – 10:45 AM	Technical Presentation 2 Tutorial on Innovative Solutions to Increase Overload Capability for Oil and Dry-Type Transformer Bushings by Kurt Kaineder and Alfons Schrammel - See flyer on website for details **	Tutorial			Regency Ballroom (2)
10:45 AM – 11:00 AM	*Break (beverages only)*				
11:00 AM – 12:00 PM	Closing Session - All attendees are encouraged to attend - See separate document on website for meeting agenda		E. teNyenhuis		Regency Ballroom (2)
12:00 PM	*Lunch (on your own)*				
12:15 PM – 3:30 PM	Technical Tour: Dynamic Ratings Advance registration required. Space is limited to 25 attendees! Admission confirmed with badge at bus. Start loading bus at ~12:15 PM at the hotel's Martin Luther King Drive entrance and depart promptly at 12:30 PM. Lunch served at the Dynamic Ratings facility upon arrival. Return at ~3:30 PM. See website/flyer for more information.	Tech Tour			

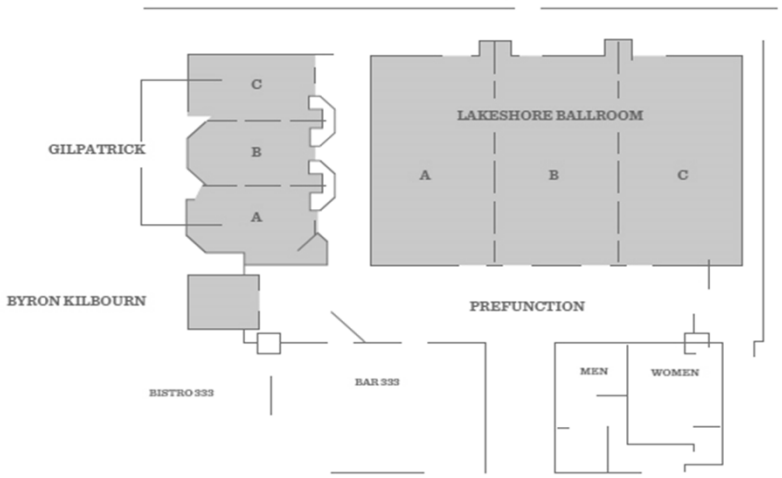
*** Contact Ed Smith (edsmith@ieee.org) if you are interested in sponsoring a day of coffee breaks at a future meeting.**

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

FUTURE COMMITTEE MEETINGS

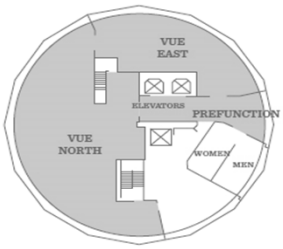
Fall 2023: Kansas City, Missouri USA, October 22 – 26, 2023
Spring 2024: Vancouver, BC Canada, March 10 – 14, 2024
Fall 2024: St. Louis, Missouri, October 27 – 31, 2024
Spring 2025: Denver, Colorado USA, March 23 – 27, 2025

FIRST FLOOR

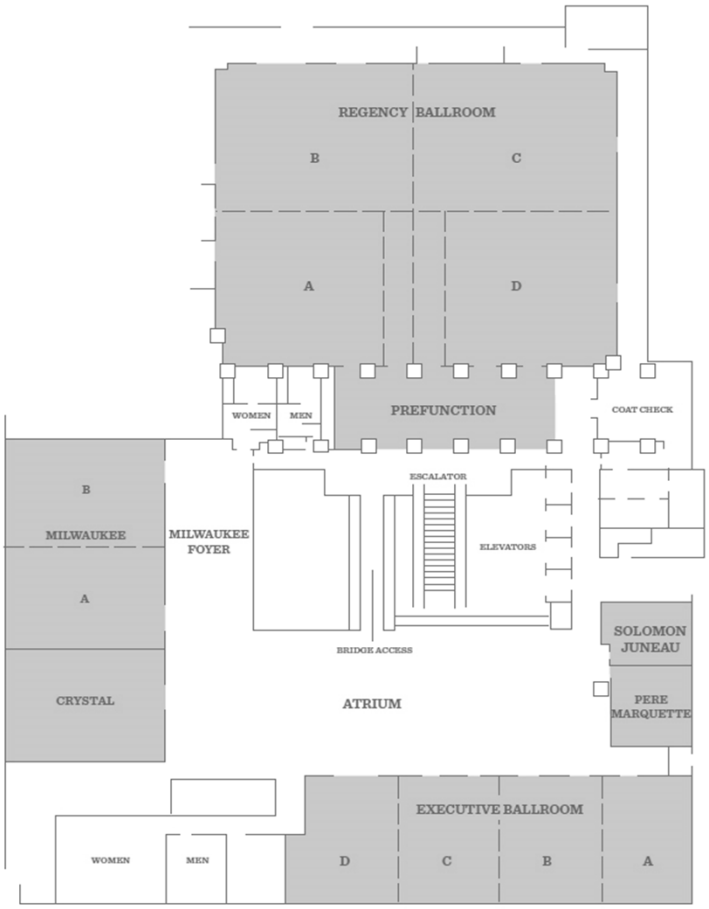


VUE-21ST FLOOR

Rooftop



SECOND FLOOR



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IEEE PES TRANSFORMERS COMMITTEE

SUBCOMMITTEE MEETING LIST

SPRING 2023 MEETING: MARCH 19 TO MARCH 23
Hyatt Regency; Milwaukee, WI USA

Date	Time Start	Time End	Session Title	Track	Chair	Room/Location
3/19/2023	2:00 PM	5:00 PM	Administrative Subcommittee - Closed meeting, by invitation only	Admin	E. teNyenhuis	Milwaukee (2)
3/20/2023	3:15 PM	4:30 PM	WG Bushing Applicat. Guide C57.19.100	Bush	T. Spitzer	Regency A (2)
3/21/2023	9:30 AM	10:45 AM	WG Bushings IEC/IEEE 65700.19.03 Dual Logo	Bush	E. Weatherbee	Milwaukee (2)
3/22/2023	9:30 AM	10:45 AM	SC Bushings	Bush	E. Weatherbee	Regency AB (2)
3/20/2023	9:30 AM	10:45 AM	TF Transf Efficiency & Loss Evaluation (DOE Activity)	Distr	P. Hopkinson	Regency B (2)
3/20/2023	11:00 AM	12:15 PM	WG Overhead Distr. Transf. C57.12.20	Distr	A. Traut	Lakeshore Ballroom (1)
3/20/2023	1:45 PM	3:00 PM	WG 1-ph Padmount Dist Transf. C57.12.38	Distr	A. Ghafourian	Executive Ballroom (2)
3/20/2023	3:15 PM	4:30 PM	WG 3-ph Padmount Dist Transf. C57.12.34	Distr	S. Shull	Milwaukee (2)
3/20/2023	4:45 PM	6:00 PM	TF Tank Touch Temperatures	Distr	B. Webb	Regency A (2)
3/21/2023	8:00 AM	9:15 AM	WG Encl Int C57.12.28, C57.12.29, C57.12.31, C57.12.32	Distr	D. Mulkey	Regency B (2)
3/21/2023	1:45 PM	3:00 PM	WG Bar Coding for Distr Transf. C57.12.35	Distr	R. Chrysler	Executive Ballroom (2)
3/22/2023	9:30 AM	10:45 AM	SC Distribution Transformers	Distr	E. Smith	Executive Ballroom (2)
3/20/2023	11:00 AM	12:15 PM	TF Partial Discharge Tests for Class I Trfs	DiTests	D. Ayers	Regency B (2)
3/20/2023	3:15 PM	4:30 PM	WG Transformer Impulse Test Guide PC57.98	DiTests	T. Hochanh	Executive Ballroom (2)
3/20/2023	4:45 PM	6:00 PM	TF Core Ground & Winding Insul. Resistance - Perf & Int.	DiTests	D. Robalino	Gilpatrick (1)
3/21/2023	8:00 AM	9:15 AM	TF on Revision of Impulse Tests C57.12.00 & C57.12.90	DiTests	S. Plante	Executive Ballroom (2)
3/21/2023	9:30 AM	10:45 AM	WG Low Frequency Test Guide PC57.168	DiTests	D. Sauer	Lakeshore Ballroom (1)
3/21/2023	1:45 PM	3:00 PM	TF Cont. Revision to Low Frequency Tests C57.12.90	DiTests	A. Varghese	Milwaukee (2)
3/21/2023	3:15 PM	4:30 PM	WG Recommend Practice for Routine Impulse Tests C57.138	DiTests	H. Sahin	Milwaukee (2)
3/21/2023	4:45 PM	6:00 PM	WG Guide for PD Measure HV Bushings & Inst Trf C57.160	DiTests	T. Hochanh	Gilpatrick (1)
3/22/2023	11:00 AM	12:15 PM	SC Dielectric Test	DiTests	P. Patel	Regency AB (2)
3/20/2023	1:45 PM	3:00 PM	WG Dry Type Gen. Requirements C57.12.01	Dry Type	C. Ballard	Milwaukee (2)
3/20/2023	3:15 PM	4:30 PM	TF Test for Eval of Insulation for Dry-Type Transfs IEEE 259	Dry Type	D. Stankes	Gilpatrick (1)
3/21/2023	8:00 AM	9:15 AM	WG Practice for Install & Operation of Dry Type PC57.94	Dry Type	K. Klein	Regency A (2)
3/21/2023	11:00 AM	12:15 PM	WG Guide for Loading Dry Type Transformers C57.96	Dry Type	A. Narawane	Gilpatrick (1)
3/21/2023	3:15 PM	4:30 PM	WG Dry Type PD Detection PC57.124	Dry Type	T. Prevost	Gilpatrick (1)
3/21/2023	4:45 PM	6:00 PM	WG Dry Type Test Code C57.12.91	Dry Type	D. Walker	Regency A (2)
3/22/2023	1:30 PM	2:45 PM	SC Dry Type Transformers	Dry Type	C. Ballard	Executive Ballroom (2)
3/20/2023	4:45 PM	6:00 PM	SC HVDC Converter Transfs & Smoothing Reactors	HVDC	U. Radbrandt	Lakeshore Ballroom (1)
3/20/2023	11:00 AM	12:15 PM	WG Guide for DGA in Silicone PC57.146	IF	P. Boman	Gilpatrick (1)
3/21/2023	9:30 AM	10:45 AM	WG Guide for DGA Applied to Factory Temp Rise Test C57.130	IF	B. Forsyth	Regency A (2)
3/21/2023	11:00 AM	12:15 PM	TF Guide for the Reclamation of Mineral Oil C57.637	IF	S. Denzer	Regency A (2)
3/21/2023	1:45 PM	3:00 PM	WG Consolidation Insulating Fluid Guides PC57.166	IF	T. Prevost	Lakeshore Ballroom (1)
3/21/2023	3:15 PM	4:30 PM	WG Guide DGA in Ester-Immersed Transformers PC57.155	IF	A. Sbravati	Regency A (2)
3/21/2023	4:45 PM	6:00 PM	WG Guide for DGA in LTCs C57.139	IF	R. Frotscher	Milwaukee (2)
3/22/2023	3:00 PM	4:15 PM	SC Insulating Fluids	IF	S. Reed	Executive Ballroom (2)
3/20/2023	11:00 AM	12:15 PM	WG Loading Guide PC57.91	Ins Life	D. Wallach	Executive Ballroom (2)
3/20/2023	1:45 PM	3:00 PM	WG App of High-Temp Insulation Matrs IEEE 1276 Annex B	Ins Life	K. Biggie	Gilpatrick (1)
3/21/2023	3:15 PM	4:30 PM	TF Continuous Rev Clause 11 Temp Rise Tests C57.12.90	Ins Life	D. Sankarakurup	Regency B (2)
3/22/2023	8:00 AM	9:15 AM	SC Insulation Life	Ins Life	S. Sharpless	Regency AB (2)
3/21/2023	8:00 AM	9:15 AM	WG Power-Line Carrier Coupling Cap & Volt Transf. C57.13.9	Instr TR	Z. Roman	Milwaukee (2)
3/21/2023	9:30 AM	10:45 AM	TF Instrument Transf. Accuracy	Instr TR	I. Ziger	Gilpatrick (1)
3/21/2023	11:00 AM	12:15 PM	WG Requirements for Instrument Transformers PC57.13	Instr TR	D. Wallace	Milwaukee (2)
3/22/2023	8:00 AM	9:15 AM	SC Instrument Transformers	Instr TR	T. Sizemore	Executive Ballroom (2)
3/22/2023	7:00 AM	8:00 AM	SC Meetings Planning - Arrive early and grab breakfast from Regency AB - All interested individuals welcome	Mtgs	T. Behrens	Crystal (2)

IEEE PES TRANSFORMERS COMMITTEE

SUBCOMMITTEE MEETING LIST

SPRING 2023 MEETING: MARCH 19 TO MARCH 23
Hyatt Regency; Milwaukee, WI USA

Date	Time Start	Time End	Session Title	Track	Chair	Room/Location
3/20/2023	9:30 AM	10:45 AM	WG Guide of FRA for Liquid Filled Transf. C57.149	PCS	C. Sweetser	Lakeshore Ballroom (1)
3/20/2023	1:45 PM	3:00 PM	TF Audible Sound Revs & WG Sound Guide C57.136 (S. Antosz)	PCS	R. Girgis	Regency B (2)
3/20/2023	3:15 PM	4:30 PM	TF PCS Cont. Revisions to C57.12.00	PCS	T. Ansari	Regency B (2)
3/20/2023	4:45 PM	6:00 PM	TF Inverter Transf Precautions on Ground Shields C57.159	PCS	P. Hopkinson	Executive Ballroom (2)
3/21/2023	9:30 AM	10:45 AM	TF PCS Cont. Rev. to Test Code C57.12.90	PCS	H. Sahin	Regency B (2)
3/21/2023	11:00 AM	12:15 PM	WG Sw Transients Ind by TR/Bkr Interaction PC57.142	PCS	J. McBride	Executive Ballroom (2)
3/21/2023	4:45 PM	6:00 PM	WG Neutral Grounding Devices C57.32	PCS	S. Kennedy	Executive Ballroom (2)
3/22/2023	3:00 PM	4:15 PM	SC Performance Characteristics	PCS	R. Verdolin	Regency AB (2)
3/20/2023	9:30 AM	10:45 AM	TF Guide for Tank Rupture Mitigation C57.156	Power	P. Zhao	Regency A (2)
3/20/2023	9:30 AM	10:45 AM	WG Standard Requirements for Tap Changers - C57.131	Power	C. Colopy	Milwaukee (2)
3/20/2023	11:00 AM	12:15 PM	WG Class 1E Transf.for Nuclear Power Gen Std. 638	Power	C. Swinderman	Regency A (2)
3/20/2023	1:45 PM	3:00 PM	WG Guide for Phase Shifting Transf C57.135	Power	E. Schweiger	Regency A (2)
3/20/2023	3:15 PM	4:30 PM	WG Transformer Monitoring C57.143	Power	M. Spurlock	Lakeshore Ballroom (1)
3/20/2023	4:45 PM	6:00 PM	WG Failure Investigation & Reporting PC57.125	Power	H. Sahin	Regency B (2)
3/21/2023	8:00 AM	9:15 AM	TF Guide for Life Tests of Switch Contacts C57.157	Power	A. Sewell	Gilpatrick (1)
3/21/2023	8:00 AM	9:15 AM	WG Condition Assessment Guide PC57.170	Power	K. Mani	Lakeshore Ballroom (1)
3/21/2023	9:30 AM	10:45 AM	WG Transportation Issues C57.150	Power	G. Anderson	Executive Ballroom (2)
3/21/2023	11:00 AM	12:15 PM	TF Standard Requirements for Arc Furnace Transf. C57.17	Power	D. Corsi	Regency B (2)
3/21/2023	1:45 PM	3:00 PM	WG Volts per Hertz C57.107	Power	J. Watson	Regency B (2)
3/21/2023	3:15 PM	4:30 PM	TF Guide for Install & Maintenance of Power Trf C57.93	Power	S. Reed	Lakeshore Ballroom (1)
3/21/2023	4:45 PM	6:00 PM	TF Guide for Paralleling Transformers C57.153	Power	M. Tostrud	Regency B (2)
3/22/2023	1:30 PM	2:45 PM	SC Power Transformers	Power	R. Musgrove	Regency AB (2)
3/20/2023	9:30 AM	10:45 AM	TF IEEE-IEC Cross Reference	Stds	A. Washburn	Gilpatrick (1)
3/20/2023	9:30 AM	10:45 AM	WG Std Transf. Terminology C57.12.80	Stds	D. Sauer	Executive Ballroom (2)
3/20/2023	11:00 AM	12:15 PM	WG Guide for Field Testing PC57.152	Stds	M. Ferreira	Milwaukee (2)
3/21/2023	3:15 PM	4:30 PM	WG Geomagnetic Disturbances PC57.163	Stds	D. Blaydon	Executive Ballroom (2)
3/21/2023	4:45 PM	6:00 PM	TF Reverse Power Flow Effects on Trans	Stds	D.Blaydon	Lakeshore Ballroom (2)
3/22/2023	4:30 PM	5:45 PM	SC Standards	Stds	D. Sauer	Regency AB (2)
3/20/2023	1:45 PM	3:00 PM	WG Sec. Network Protectors C57.12.44	STNP	M. Faulkner	Lakeshore Ballroom (1)
3/20/2023	4:45 PM	6:00 PM	WG Submersible Transf. C57.12.24	STNP	B. Garcia	Milwaukee (2)
3/21/2023	11:00 AM	12:15 PM	WG Liquid-immersed Sec. Network TRs C57.12.40	STNP	J. Vartanian	Lakeshore Ballroom (1)
3/21/2023	1:45 PM	3:00 PM	WG Guide for Mitigating Corrosion on Sub Trfs C57.12.53	STNP	W. Elliott	Regency A (2)
3/22/2023	11:00 AM	12:15 PM	SC Submersible Transf. & Network Protectors	STNP	G.Payerle	Executive Ballroom (2)

SPOUSE/COMPANION TOUR
Monday, March 20, 2023
Progressive Ethnic Food Tour

It's a progressive meal with a side of history designed to show off Milwaukee's neighborhoods in a delicious way.

As a special tour not available to the general public, Milwaukee's premier, original and award-winning tour company, Milwaukee Food & City Tours, created a Progressive Ethnic Meal Tour as an option for private tour groups that is designed to show off the city while talking about Milwaukee's ethnic past. Accompanied by a professional guide that is passionate about Milwaukee, we will begin the day with a stop at a woman-owned Latino bakery for pastries, followed by a self-guided audio tour of Milwaukee's jaw-dropping Basilica of St. Josaphat. Standing as a testimony to the perservance of the Polish immigrant population that created it, St. Josaphat's Basilica remains a monument to the faith of the generations that have followed. www.thebasilica.org

Next up is a classic Milwaukee-style sit-down lunch at historic On the Clock bar and grill. After lunch, visit a local cheese shop for German-inspired cheese and sausage. Finally, dessert at Sciortino's and some time for shopping on historic Brady Street, including Glorioso's Deli.

Lunch Entrée Choices*

Please advise of any special dietary needs at registration.

Fish Fry: Hand-breaded cod, hand-cut fries, tartar sauce, coleslaw and rye bread

Reuben: Corn beef on marble rye, sauerkraut and Swiss cheese with restaurant's own special sauce, grilled

Pork Chop: Grilled with Swiss cheese and fried onions

Hot Ham and Cheese: Ham and cheddar cheese grilled with fries

Day Salad: Grilled chicken breast and shredded fresh lettuce, tomato and onion with choice of homemade dressing, including ranch, Italian, raspberry vinaigrette, thousand island or French

// all entrees served with choice of soup and beverage //

*Entrée choices will be collected during morning bus ride.

Itinerary (times are approximate)

~ Bottled water provided on bus ~

9:15 am:	Board mini-bus
9:30 am:	Depart Hyatt Regency
9:45 am:	Enjoy pastries at La Flor de Trigo
10:15 am:	Self-guided audio tour of St. Josaphat Basilica
11:45 am:	Lunch at historic On the Clock bar and grill
1:30 pm:	Visit West Allis Cheese & Sausage Shoppe
2:30 pm:	Dessert at Peter Sciortino Bakery followed by shopping on historic Brady Street
3:30 pm:	Arrive back at Hyatt Regency

WEAR COMFORTABLE WALKING SHOES!

Attendance is limited to one mini-bus…
REGISTER EARLY!

Meeting hosted by waukesha a prolec ge company

SPOUSE/COMPANION TOUR

Tuesday, March 21, 2023

Hands-on Cooking Class

Milwaukee Public Market's culinary program gives people the ability to gather, together sharing the universal experience of cooking, learning and, of course, eating!

Located on the Market's second level is a state-of-the-art demonstration kitchen where our group's hands-on cooking class will take place followed by a sit-down lunch to enjoy the fruits of your efforts. Learn how to make authentic Mexican dishes – including molten dolce de leches cakes for dessert! – while enjoying Wisconsin Charcuterie and margaritas. Take some time before or after class to explore the Market's high-quality selections of artisan and ethnic products and freshly-made foods. From beginner to seasoned veteran, this class is sure to appeal to students of all levels!

www.milwaukeepublicmarket.org

Chef Jenny Lee is the owner of Perilla Kitchen. Jenny cooked for Top Chef Judge Tom Colicchio in New York City. She also worked at Sanford in Milwaukee. Jenny teaches cooking classes in the greater Milwaukee area. For more info, go to www.perillakitchen.com.

MENU

Please advise of any special dietary needs at registration.

Wisconsin Charcuterie Cheese and Fruit Platter
(Served Upon Arrival)

Dallas Fajitas – Steak & Chicken, Flour and Corn Tortillas

Guacamole and Pico de Gallo with Chips

Elotes
(Mexican Street Corn with Cheese, Lime and Chiles)

Mexican Quinoa Salad

Molten Dolce de Leches Cakes

Iced Tea, Coffee, Hot Tea

Margaritas (non-alcoholic option available)

Beer and soda available for purchase.

Itinerary (times are approximate)

10:00 am:	Sprinter van will make two trips to Milwaukee Public Market, with first run leaving at 10 am and the second at 10:15 am; enjoy some browsing/shopping time on the Market's first level
11:00 am:	Class begins upstairs
1:30 pm:	Departure from Milwaukee Public Market to Hyatt Regency Milwaukee (two trips)
2:00 pm:	Everyone back at Hyatt Regency

WEAR COMFORTABLE SHOES!

Attendance is limited to 20 people...

REGISTER EARLY!

Meeting hosted by

waukesha
a prolec ge company

DINNER SOCIAL
Wednesday, March 22, 2023
Harley-Davidson Museum

Ride along on an epic trip through time at the Harley-Davidson Museum, following the company's journey from outsider to icon.

This is your chance to explore the famous Harley-Davidson Museum after hours at your own pace. Discover culture and history through stories and interactive exhibits that celebrate expression, camaraderie and love for the sport. With an unrivaled collection of Harley-Davidson® motorcycles and memorabilia on two floors of exhibits, the Harley-Davidson Museum is one of Milwaukee's top tourist destinations for visitors from around the globe.
www.harley-davidson.com/us/en/museum.html

Enjoy a buffet dinner and cash bar at your leisure in the H-D complex's modern Rumble Room, which is connected to the Museum by a covered and heated walkway. Get a picture of yourself on a classic Harley-Davidson motorcycle before heading back to the Museum or to the gift shop for something unique to take home. Headsets for an audio tour will be available on a first-come, first-served basis, and professional tour guides located in different areas of the Museum will give presentations as groups pass through. You do not want to miss this evening event!

Buffet Dinner Menu

Please advise of any special dietary needs at registration.

- Wisconsin cheese board
- Hickory house-smoked beef brisket
- House-smoked BBQ chicken
- Vegetarian entrée upon request
- Black bean, corn & cilantro salad
- Loaded baked potato bar
- Charred seasonal vegetables
- Dessert
- Iced tea and water
- Freshly brewed regular coffee, decaffeinated coffee & assorted hot teas

Itinerary (times are approximate)

5:45 pm: Shuttle buses begin boarding at hotel for H-D Museum; running every 15 minutes until 7:30 PM

6:00 pm: H-D Museum and gift shop open, cash bars and souvenir photos in the Rumble Room — credit cards accepted; enjoy museum exhibits at your own pace, with or without headset/audio tour; gift shop closes at 7:30 pm

6:30 pm: Dinner buffet open in the Rumble Room until 8:30 pm, desserts until 9:00 pm; NO FOOD OR BEVERAGES ALLOWED IN THE MUSEUM

8:30 pm: First shuttle bus departs for the Hyatt Regency Milwaukee; shuttle runs every 15 minutes until 10:00 pm

10:00 pm: Exhibits and bars close and last shuttle departs H-D Museum for Hyatt Regency

Meeting hosted by

waukesha
a prolec ge company

Attendance is limited... REGISTER EARLY!

IEEE PES Transformers Committee
Spring 2023 Meeting
Milwaukee, Wisconsin

U.S. Department of Energy NOPR for Distribution Transformers

— Technical Presentation —

Thursday, March 23, 2023

By Phil Hopkinson, Colby Lovins, Bryan Marquardt, Aaron Meyers, Dan Mulkey, Joe Tedesco and Alan Traut

1. Abstract

On December 29, 2022, the U.S. Department of Energy (DOE) issued a Notice of Proposed Rulemaking (NOPR) for Energy Efficiency for Distribution Transformers intended for 2027 implementation. The proposed rules would mandate that all distribution transformers within the proposed scope reduce total losses at 35% load for low voltage dry-type transformers and 50% load for both liquid-filled and dry-type medium voltage transformers. The proposed scope would cover the range from 10 kVA to 1500 kVA for single-phase units and from 15 kVA to 5000 kVA for three-phase units

This presentation examines the impacts on materials, designs and users. You will see that significant changes will need to be made if this is implemented.

2. Learning Objectives

This tutorial provides opportunities to gain an understanding of the following:

- DOE NOPR
- Design implications
- Materials impacts, including core steel and conductors
- Impact on manufacturers and users
- Shortcomings of DOE analysis
- How to submit comments to the DOE

4. Presenters' Biographies

Philip J Hopkinson is an IEEE Life Fellow and transformer engineer, leader, technologist, Professional Engineer (PE) in North Carolina and technical advisor to the U.S. National Committee for IEC TC 14 Power Transformers since 1996. From 1966 to 1992, Phil held numerous design, development and engineering management positions with GE, Cooper and Schneider in liquid-filled, dry-type and cast resin systems at all power and voltage classes. He holds 15 U.S. patents. Phil earned his BSEE from Worcester Polytechnical Institute in Worcester, Massachusetts. He is a graduate of the General Electric Company's four-year A-B-C Course and received his MS in System Science from Brooklyn Polytechnical Institute in Brooklyn, New York.

Colby Lovins is an electrical engineer with over 20 years of experience and 17 years in the design, development, manufacture and application of dry-type distribution transformers and medium voltage switchgear. Colby has held various positions in design engineering, project management and engineering management with Federal Pacific, General Electric and others. He is an active member of the IEEE Transformers Committee and is presently working group chair for Determination of Hottest-Spot Temperature in Dry-Type Distribution and Power Transformers. Colby received his degree in electrical engineering from Old Dominion University.

Bryan Marquardt is an engineer with 11 years of experience in electrical steel research and applications. He has worked in various positions in applications engineering and steel product research management for Cleveland-Cliffs and its predecessor company where he works with transformer manufacturers globally. Bryan received his BS in Electrical and Computer Engineering from Ohio State.

Aaron Meyers has worked in the three-phase liquid-immersed distribution transformer business of Cooper Power Systems and Eaton Corporation for the past 15 years. Aaron has a long history of involvement with the DOE's distribution transformer efficiency standards. He led the effort to bring Cooper into compliance with the initial DOE regulations, served as a member of the negotiated rulemaking committee in 2011 and 2012, supervised and guided the project manager responsible for Eaton's compliance with the 2016 standard and is actively helping to guide Eaton through the current regulatory amendment efforts. Aaron also led Eaton's product development effort to launch three-phase, amorphous core transformers in 2016 and, shortly thereafter, consulted on the effort to launch single-phase amorphous core transformers. Aaron earned his BSEE from the University of Illinois Urbana-Champaign.

Dan Mulkey has over 43 years of experience in utility distribution and transmission system design and operation, including over 30 years as Pacific Gas & Electric's (PG&E) system expert for various types of electrical equipment, including distribution transformers. Retired from PG&E since 2015, he now does consultation and provides expert witness testimony as the Vice President of Mulkey Engineering, Inc. Dan is an IEEE Life Senior Member and has been active in the IEEE Transformers Committee since 1990, currently serving as Chair of the Enclosure Integrity Working Group. He received his BSEE from Fresno State University, California, and is a registered Professional Engineer in California.

Alan Traut is a transformer engineer with over 40 years of experience in the design, development, manufacture and application of liquid-filled distribution transformers. Al has held numerous positions in engineering and engineering management with Cooper Power Systems, General Electric, Kuhlman Electric, Power Partners and Howard Industries. He is an active member of the IEEE Transformers Committee and is presently working group Chair for Overhead Pole-Mounted Transformers. Al received his BS in Electrical Engineering from Northwestern University and is a registered Professional Engineer in Wisconsin.

Joe Tedesco has over 10 years of experience in the dry-type transformer industry. Prior to joining ABB (now Hitachi Energy) in 2013, he held positions at the U.S. Naval Research Laboratory and National Institute of Standards and Technology. Within Hitachi, Joe has held roles involving product development and third-party certification, and he is the dry-type standards engineer for North America as well as being a member of Hitachi's global standards team. Joe is an active member of the IEEE Transformers Committee and Dry-Type Transformers Subcommittee, and he is currently the working group Chair for Sealed Dry-Type Distribution and Power Transformers. He received his BS in Physics from the University of Virginia and his MS and PhD in Physics from North Carolina State University.

IEEE PES Transformers Committee
Spring 2023 Meeting
Milwaukee, Wisconsin

Transformer Bushing Overloads: Innovative Solutions to Increase Overload Capability for Oil and Dry Types

— Technical Presentation —
Thursday, March 23, 2023

By Kurt Kaineder and Alfons Schrammel

1. Abstract

The growing energy demand, driven by EV-charging, electrification of many industrial processes in combination with the increasing decentralized energy generation by solar and wind, leads to significantly more fluctuation of power flow and possible overloads of transformers in all areas of the transmission and distribution network.

This technical presentation will demonstrate the effect of overloads on transformers and the equipment first, focusing on possible countermeasures to cop the overloads for the transformer and affected accessories.

Bushings, as the connecting elements between the transformer and the other parts of the network infrastructure, are key components to ensure adequate overload capability. A detailed examination of the thermal behavior of oil-type and dry-type bushings is the starting point of describing measures to manage overloads. For oil-type bushings, the focus is on material change and the positive effects on the thermal properties and ratings. For dry-type bushings, on the other hand, material changes, but also the application of the well-known heat pipe principle (used for years in highly loaded HVDC bushings) lead to higher overload capabilities.

The overloads of the bushings can thus be managed by increasing the bushing rating or by applying innovative solutions.

2. Learning Objectives

This tutorial provides opportunities to learn about the following:

- Transformer overloads and related components and accessories
- Oil impregnated bushing technology (OIP) and overload behavior
- Ester fluids in liquid-filled bushings and overload behavior
- Dry-type bushing technology (AC and DC application)
- Heat pipe technology application for dry-type bushings and overload behavior

3. Learning Outcomes

By attending this tutorial, attendees will gain an understanding of the following:

- Possible related transformer components and accessories in case of overloads
- Overload behavior of oil impregnated bushings and design concepts
- Overload behavior of ester impregnated bushings
- Overload behavior of dry-type bushings and design concepts
- Function and benefit of overload capability optimization for dry-type bushings with heat pipes

4. Presenters' Biographies

Kurt Kaineder is head of research and development for bushings, instrument transformers and coils at Siemens Energy. He started in the transformer business more than 20 years ago and held several positions in engineering. Kurt was head of the engineering department at Siemens Austria, Transformers in Linz and led the electrical design activities within the global technology group for medium power transformers. In this function, he was responsible for the electrical and mechanical design of transformers and reactors and special transformers. Kurt is an active member of the IEEE PES Transformers Committee, including several working groups and subcommittees. Additionally, he is participating in IEC and CENELEC standards development. He received a Dipl.-Ing. Degree in power engineering from the Vienna University of Technology, Austria and an MBA degree.

Alfons Schrammel is a senior manager in the engineering department of the Siemens Energy large power transformer plant in Weiz, Austria. He is in charge of electrical design of large power transformers, including shunt reactors and phase shifting transformers. Alfons 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. From 1996 onwards, he managed the electrical design department. From 2012 through today, Alfons is responsible for engineering in the business function Global Technology Center for Large Power Transformers at Siemens. He graduated from the Graz University of Technology.

waukesha
a prolec ge company

YOU'RE INVITED!

Prolec GE Waukesha cordially invites you to tour our power transformer manufacturing facility in Waukesha, Wisconsin.

ATTENDANCE LIMITED TO ONE BUS

WHO: IEEE Transformers Committee Meeting Attendees and Spouses/Companions*
LIMITED TO THE FIRST 50 PEOPLE TO RESPOND

WHAT: Power Transformer Technical Plant Tour
In addition to touring our facility, you will have the opportunity to speak with transformer experts to discuss any questions/concerns you may have about the equipment on your system; please note that photos are not allowed inside the facility.

WHEN: Monday, March 20, 2023

WHERE: Prolec GE Waukesha, 400 South Prairie Avenue, Waukesha, WI

HOW: Sign up for this tour when you register for the spring meeting; small fee applies to cover a portion of the bus transportation cost

TOUR SCHEDULE	
6:15 pm	Board Bus at Hyatt Regency
6:30 pm	Bus departs Hyatt Regency
7:00 pm	Facility arrival and enjoy catered meal
7:30 pm	Tour the manufacturing areas of Prolec GE Waukesha
9:30 pm	Board bus for departure
10:00 pm	Arrive back at Hyatt Regency

Transport times to/from the hotel are estimated — actual arrival times will depend on traffic, etc. and are not guaranteed.

A buffet style dinner will be provided.
Please note any special dietary restrictions/requests when you register.

Your safety is our number one concern! During the bus ride, a transformer plant layout sheet will be given to you for review before arriving at the facility.
Safety glasses will be provided, but please note that only closed toed/closed heel footwear is allowed on the plant floor (regular business shoes with non-slip bottoms or running/hiking shoes are fine).

* Prolec GE Waukesha reserves the right to approve guests prior to the event date, with any required adjustments communicated in advance of the visit.

Eaton Corporation
Technical Tour - Tuesday, March 21, 2023

Eaton is honored to welcome the IEEE C57 transformer standards committee members on a plant tour of its Power Systems Division Headquarters in Waukesha, Wisconsin. Come and see first-hand the 233,000 sq. ft. office and manufacturing expansion that was completed in 2021.

Eaton has built three phase transformers and voltage regulators at the Badger Drive facility for over 30 years. Just as the market and products we build have changed over the years, so has our facility. We are excited to share with you our recent updates and invite you to explore the expansive manufacturing areas that include fabrication, coil winding, and final assembly.

To sign-up for this tour, please indicate your interest when registering online for the meeting. The tour is open to all, but limited to 100 attendees; spouses/companions are welcome. Eaton will provide dinner as part of the tour; within registration, please indicate any dietary restrictions.

Eaton reserves the right to approve guests prior to the event date; any necessary adjustments will be communicated in advance of the visit. Tour participants must bring a valid government-issued ID (passports for non-U.S. citizens) and wear long-sleeved shirts, pants, and flat/hard-soled/closed-toed shoes. Regular business flats or running/hiking shoes are fine. Eaton will provide safety glasses, hearing protection, and reflective vests for use during the tour. Please note: There will be extensive walking and stair usage throughout the tour.

2300 Badger Drive | Waukesha, WI 53188

Powering Business Worldwide

Technical Tour
March 21, 2023

Time	Action
6:30 PM	Bus Departs Hyatt Regency Milwaukee
7:15 PM	Arrive - Eaton; Check-in & Dinner
8:00 PM	Manufacturing Area Plant Tour
9:00 PM	Networking & Wrap-up
10:00 PM	Bus Departs Eaton
10:30 PM	Arrive - Hyatt Regency Milwaukee

2300 Badger Drive
Waukesha, WI 53188

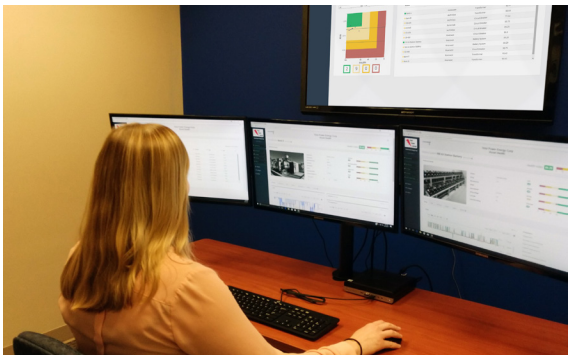
EATON
Powering Business Worldwide

IEEE Technical Tour

March 23, 2023

Dynamic Ratings is pleased to offer a Technical Tour of our facilities to guests from the Milwaukee IEEE Transformers Committee Meeting.

Dynamic Ratings provides condition-based monitoring products and services to the utility industry. Real time data provides better awareness of high voltage electrical equipment, such as transformers, circuit breakers, switchgear, and more. Our top priority is to help utilities successfully deploy and manage their condition monitoring programs to improve the safety and reliability of their assets across the grid. Our purpose is to improve business performance through asset management, provide an exceptional experience with out LIFESTREAM™ support services, and share knowledge, training and resources throughout the monitoring process.



At Dynamic Ratings, you will

1. Understand how Asset Monitoring Systems can be integrated into a new transformer or circuit breaker control cabinet for OEM delivery or easily retrofitted to existing equipment in the field.
2. See the transformer simulator used to train commissioning engineers on installation of asset monitors, dissolved gas analyzers (DGA) and other integrated equipment in the field.
3. Tour the Asset Health Center and see how 24/7 operational support is achieved for utility customers.

Tour is limited to 25 attendees*

Please sign up online during meeting registration.

Itinerary

12:15pm	Board bus at the Hyatt Regency Downtown
12:30	Bus departs
1:00	A true Wisconsin Lunch**
1:30 – 3:00	Facility Tour
3:00	Board the bus
3:30pm	Arrive at Hyatt Regency Downtown

Enjoy a **complimentary** lunch of Saz's Wisconsin Sausage Sampler: grilled bratwursts, andouille and italian sausages, pretzel roll, loaded baked potato salad, fresh fruit, and more.

**Dynamic Ratings reserves the right to approve guests prior to the event date, and any required adjustments will be communicated in advance of the visit.*
***Please indicate any special dietary needs during your registration.*

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ASSET HEALTH SOLUTIONS