

January 26, 2024

Dear Committee Members and Guests:

You and your spouse/companion are cordially invited to Vancouver, British Columbia, Canada, to attend the spring 2024 meeting of the IEEE PES Transformers Committee on March 10-14, 2024.

You will be welcomed to the Great White North with stunning scenic views of the mountains and oceans, mild climate, and friendly people (we are Canadian after all!). Vancouver is known world-wide as a popular tourist attraction for its natural beauty and outdoor lifestyle. Visitors and residents alike experience a diverse culture through performing arts, numerous galleries, and a breadth of indigenous experiences. Enjoy the city's culinary scene of cutting-edge chefs, Michelin star restaurants and over 50 craft breweries, cideries and distilleries. We look forward to welcoming you to beautiful British Columbia!

HOTEL INFORMATION: Our meeting will be held at the Hyatt Regency Vancouver at 655 Burrard Street, Vancouver. Guests enjoy gorgeous city and mountain views, plus easy access to exciting attractions like the unique shops of Robson Street and Stanley Park. From the moment you arrive at this downtown Vancouver hotel near the Cruise Port, Rogers Arena and the Vancouver Convention Centre, you will feel right at home.

Our discounted guestroom rates start at CA\$274 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. Cutoff date for the group rate is Friday, February 16, but we expect the hotel to sell out sooner.

GETTING THERE: The Hyatt Regency Vancouver is located approximately 9 miles/15 km north of Vancouver International Airport (YVR). The hotel does NOT provide shuttle services to/from YVR. Taxi fare is approximately CA\$40 one way from the airport to the hotel. UBER and Lyft are authorized providers of Ride App services at YVR (approximately ~CA\$40).

MEETING REGISTRATION: Register on-line for the meeting, Saturday early bird event, Sunday night reception, Monday and Tuesday lunches, Wednesday Women in Power lunch, spouse/companion tours, technical tours, and Wednesday night event: <https://cvent.me/IM9qYa?locale=en>. This link can also be found on the Committee website Next Meeting page. Register by Friday, February 16, to receive a US\$50 early registration discount (depending on your registration type). The on-line registration system will be disabled on Wednesday, March 6 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: Vancouver enjoys mild winters, and snow is rare in the city. In fact, blossoms start covering trees as early as February. Bikers, hikers, and outdoor enthusiasts need not hibernate here, and with mountain slopes just 20 minutes from downtown, winter is the perfect time to visit for those looking to ski or snowboard. While the weather outside might be rainy, there is plenty to do indoors with the city's arts and culture seasons in full swing. Dress for the meeting is business casual.

SATURDAY EARLY BIRD EVENT: Embark on a full-day trip to Victoria on Vancouver Island, famous for its stunning northwest coast scenery and British charm. Sail across the Salish Sea, choose between Butchart Gardens or the Royal BC Museum (make your selection at time of registration), enjoy a group lunch, and return to Vancouver in the evening. *This is a day you will never forget!* See flyer for details and register early.

SUNDAY EVENING WELCOME RECEPTION: The reception will be held on the top floor of the Hyatt Regency with incredible views of downtown Vancouver, the North Shore mountains, and the Pacific Ocean. Featuring live music by a local group, 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: On Monday, start the day with a guided tour of Vancouver's finest collection of contemporary indigenous northwest coast art. Next, embark on a culinary adventure at Granville Island's Public Market — Canada's second most visited attraction. Enjoy exclusive behind-the-scenes tastings with top market vendors while surrounded by the vibrant atmosphere and history of this transformed industrial-hub-turned-cultural-and-culinary haven.

Tuesday is geared towards photography lovers. Capture the essence of Vancouver's natural beauty in Stanley Park, a lush urban oasis famous for its forests, gardens, beaches, and views of the modern skyline — all just 10 minutes from downtown Vancouver. Learn professional photography techniques from a local expert and enjoy a gourmet group lunch in the Stanley Park Tea Room. This will be an unforgettable way to celebrate artistic expression and create cherished memories in Vancouver.

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

TECHNICAL TOURS: Tours of IFD Technologies, Harbour Air's ePlane hangar, Powertech Labs and General Fusion are planned for Monday evening, Tuesday evening, Thursday afternoon and Thursday early evening, respectively. Register online for all tours. Attendance is limited — see flyers for details.

WEDNESDAY DINNER SOCIAL: *This will be the highlight of your week!* Experience an enchanting group dinner at Grouse Mountain, the peak of Vancouver. After a short gondola ride, explore the cozy yet modern chalet fit with all the amenities (and a gift shop!), surrounded by a winter wonderland. With panoramic views of the city lights below and snow-capped mountains all around, savor an unforgettable meal while embracing the magic of the mountain. See flyer for 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 Vancouver has to offer and look forward to seeing you at the spring 2024 meeting!

Best regards,

Paul Chisholm and the IFD team
Spring 2024 Meeting Hosts



IEEE PES TRANSFORMERS COMMITTEE

Spring 2024 Meeting

Vancouver, British Columbia, Canada

~ 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/2024-spring-vancouver/>; 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 is received by Wednesday, March 6, 2024, 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		On or Before February 16	After Feb 16, on or before March 6	On-site
– all fees shown in US dollars – all fees stated are per person				
MEETING REGISTRATION				
Attendee — IEEE member (will be verified when registering)		\$495	\$545	\$645
Attendee — non-IEEE member		\$595	\$655	\$775
Attendee — IEEE Life or Committee Emeritus (will be verified)		\$220	\$270	\$370
Spouse/Companion or guest* and children aged 12 and over		\$235	\$285	\$385
– 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 (aged 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)		\$35	\$35	\$35
Tuesday Awards Luncheon – Meal selection required - indicate beef, chicken, or vegetarian		\$45	\$45	\$45
Wednesday Women in Power Lunch		\$25	\$25	\$25
SOCIAL EVENTS & TOURS (see flyers for details)				
Sunday Night Welcome Reception: 34 th Floor/Perspectives Level – Hyatt Regency		included in registration fee; <i>please register in advance for headcount purposes</i>		
Wednesday Evening Dinner Social: Grouse Mountain Chalet* – Admire panoramic views of Vancouver's lights and snow-capped mountains – Enjoy hors d'oeuvres, buffet dinner, cash bars, a Celtic musical trio, roving comedic Mountie duo, high-definition Theatre in the Sky, and gift shop		\$225	\$225	\$225
Saturday Early Bird Tour: Experience Majestic Victoria (Full Day)*		\$245	\$245	\$245
Monday Spouse/Companion Tour: Granville Island Food & Culture*		\$199	\$199	\$199
Tuesday Spouse/Companion Tour: Photography Lesson in Stanley Park*		\$199	\$199	\$199
TECHNICAL TOURS				
Monday Evening: IFD Technologies* <i>LIMITED TO 30 ATTENDEES</i>		\$30	\$30	\$30
Tuesday Evening: Harbour Air* <i>LIMITED TO 25 ATTENDEES</i>		\$45	\$45	\$45
Thursday Afternoon: Powertech Labs OR General Fusion* <i>LIMITED TO 40 AND 30 ATTENDEES RESPECTIVELY</i>		\$30	\$30	\$30
* Attendance will be limited for Saturday early bird tour, Wednesday evening social event, spouse/companion tours and technical tours due to space constraints, so register early! <i>On-site registration for these events only available if space allows.</i>				

IEEE PES TRANSFORMERS COMMITTEE

Spring 2024 Meeting: Vancouver, BC, Canada

Agenda - General Sessions

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

Opening Session

Monday, March 11, 2024: 8:00 am - 9:15 am PST (UTC-08:00)

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

1. Welcome and Announcements David Wallach
2. Meeting Minute Tammy Behrens
3. Approval of Agenda David Wallach
4. Approval of Minutes from Fall 2023 Meeting David Wallach
5. Chair's Report & Administrative Subcommittee Report David Wallach
6. Vice Chair's Report Bill Griesacker
7. Secretary's Report Scott Reed
8. Treasurer's Report Troy Tanaka
9. Standards Report Steve Shull
10. Liaison Representative Reports
 - 10.1. CIGRE Craig Swinderman
 - 10.2. IEC TC Report(s)..... Christoph Ploetner et al
 - 10.3. Standards Coordinating Committee, SCC4 (Electrical Insulation) Evanne Wang
 - 10.4. ASTM Ed Casserly
 - 10.5. 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 David Wallach

Closing Session

Thursday, March 14, 2024: 11:00 am - 12:00 pm PST (UTC-08:00)

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

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 9

No Registration and no Meetings, Technical Tours, or Spouse/Companion Tours Planned

TIME	ACTIVITY	TRACK	MTG CHAIR	STATUS	ROOM (FLOOR)
7:30 AM – 7:30 PM	EARLY BIRD TOUR – MAJESTIC VICTORIA FULL DAY TOUR				
	Embark on a full day trip to Victoria on Vancouver Island, famous for its stunning northwest coast scenery and British charm. Sail across the Salish Sea, choose between Butchart Gardens or the Royal BC Museum, enjoy a group lunch, and return to Vancouver in the evening.				
	- See flyer for details				

SUNDAY, MARCH 10

TIME	ACTIVITY	TRACK	MTG CHAIR	STATUS	ROOM (FLOOR)
1:00 PM – 5:30 PM	Meeting Registration				Regency Foyer (3)
2:00 PM – 5:00 PM	Administrative Subcommittee	Admin	D. Wallach	–	Oxford/Prince of Wales (3)
	- Closed meeting, by invitation only				
2:00 PM – 5:00 PM	NEMA Transformers	++	P. Orr	–	Balmoral (3)
	- Closed meeting, by invitation only				
6:00 PM – 8:00 PM	Welcome Reception				Perspectives Level (34)
	Renew old friendships and form new ones! This reception will be held inside the rooms at the top of the Hyatt, 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.				

MONDAY, MARCH 11 Breaks Sponsored by Siemens Energy*

TIME	ACTIVITY	TRACK	MTG CHAIR	STATUS	ROOM (FLOOR)
7:00 AM – 5:00 PM	Meeting Registration				Regency Foyer (3)
7:00 AM – 7:50 AM	Newcomers Orientation - Arrive early, grab breakfast from Plaza Ballroom and get a good seat - Newcomers and guests are encouraged to attend		B. Griesacker	—	Georgia A/B (2)
7:00 AM – 8:00 AM	Breakfast - Attendees (no spouses/companions please)				Plaza Ballroom (2)
8:00 AM – 9:30 AM	Breakfast - Spouses/Companions (no meeting attendees please)				Seymour (34)
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		D. Wallach	—	Regency C/D (3)
9:30 AM – 3:30 PM	Spouses/Companions Tour: Granville Island Food & Culture Tour - Start the day with a private tour of the Bill Reid Gallery of Northwest Coast Art and a stop in Gastown - Enjoy a progressive meal from at least 12 vendors inside Granville Island market - See website/flyer for details				
9:15 AM – 9:30 AM	<i>Break (beverages only): Siemens Energy</i>				Regency Foyer (3)
9:30 AM – 10:45 AM	TF IEEE-IEC Cross Reference	Stds	A. Washburn	I	Balmoral (3)
9:30 AM – 10:45 AM	TF PAR Study Group Temp Rise Test beyond NP C57.119	Ins Life	E. Schweiger	N	Regency A (3)
9:30 AM – 10:45 AM	WG Guide for Tank Rupture Mitigation C57.156	Power	P. Zhao	I	Regency B (3)
9:30 AM – 10:45 AM	TF Transf Efficiency & Loss Evaluation (DOE Activity)	Distr	P. Hopkinson	I	Regency C/D (3)
9:30 AM – 10:45 AM	TF PD Testing of DTR, Wind & Solar Transf	DiTests	A. Larison	N	Regency E/F (3)
9:30 AM – 10:45 AM	WG Guide DGA in Ester-Immersed Transformers PC57.155	IF	A. Sbravati	I	Oxford/Prince of Wales (3)
10:45 AM – 11:00 AM	<i>Break (beverages only): Siemens Energy</i>				Regency Foyer (3)
11:00 AM – 12:15 PM	TF CO2 Emissions in the Construction of Transformers	PCS	J. Kazmierczak	I	Balmoral (3)
11:00 AM – 12:15 PM	WG Guide for DGA in Silicone PC57.146	IF	P. Boman	I	Regency A (3)
11:00 AM – 12:15 PM	WG Class 1E Transf. for Nuclear Power Gen Std. 638	Power	C. Swinderman	I	Regency B (3)
11:00 AM – 12:15 PM	WG App of High-Temp Insulation Matrs IEEE 1276 Annex B	Ins Life	K. Biggie	I	Regency C/D (3)
11:00 AM – 12:15 PM	TF PAR Study Group Guide for TVA Dry-Type Coil C57.12.58	Dry Type	K. Klein	N	Regency E/F (3)
11:00 AM – 12:15 PM	WG 1ph Submersible Transformers PC57.12.23	STNP	A. Traut	N	Oxford/Prince of Wales (3)
11:00 AM – 12:15 PM	TF Core Ground & Winding Insul. Resistance - Perf & Int.	DiTests	D. Robalino	N	Georgia A/B (2)
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.				Plaza Ballroom (2)
1:45 PM – 3:00 PM	TF - Test Degredation of Cellulose in Liquid Type Transfs	Ins Life	L. Lewand	I	Balmoral (3)
1:45 PM – 3:00 PM	WG Dry Type Gen. Requirements C57.12.01	Dry Type	C. Ballard	I	Regency A (3)
1:45 PM – 3:00 PM	WG Guide for Phase Shifting Transf C57.135	Power	E. Schweiger	I	Regency B (3)
1:45 PM – 3:00 PM	TF Audible Sound Revision to Test Code	PCS	R. Girgis	I	Regency C/D (3)
1:45 PM – 3:00 PM	TF DFR Test Guide C57.161	DiTests	E. Ermakov	I	Regency E/F (3)
1:45 PM – 3:00 PM	WG 1-ph Padmount Dist Transf. C57.12.38	Distr	A. Ghafourian	I	Oxford/Prince of Wales (3)
3:00 PM – 3:15 PM	<i>Break (beverages and treats): Siemens Energy</i>				Regency Foyer (3)
3:15 PM – 4:30 PM	WG Transformer Impulse Test Guide PC57.98	DiTests	T. Hochanh	I	Balmoral (3)
3:15 PM – 4:30 PM	TF Test for Eval of Insulation for Dry-Type Transfs IEEE 259	Dry Type	D. Stankes	I	Regency A (3)
3:15 PM – 4:30 PM	TF Std Reqs for Liquid-Immersed Power Trans C57.12.10	Power	S. Digby	N	Regency B (3)
3:15 PM – 4:30 PM	TF PCS Cont. Revisions to C57.12.00	PCS	T. Ansari	I	Regency C/D (3)
3:15 PM – 4:30 PM	WG Bushing Application Guide C57.19.100	Bush	T. Spitzer	I	Regency E/F (3)
3:15 PM – 4:30 PM	WG 3-ph Padmount Dist Transf. C57.12.34	Distr	S. Shull	I	Oxford/Prince of Wales (3)
3:15 PM – 4:30 PM	TF Guide Eval & Recon of Liquid Immerse Transf C57.12.140	Power	S. Som	N	Georgia A/B (2)
4:30 PM – 4:45 PM	<i>Break (beverages only): Siemens Energy</i>				Regency Foyer (3)
4:45 PM – 6:00 PM	WG Sec. Network Protectors C57.12.44	STNP	M. Faulkner	I	Balmoral (3)
4:45 PM – 6:00 PM	TF PAR Study Group Unit Substation Transf C57.12.55	Dry Type	S. Nunn	N	Regency A (3)
4:45 PM – 6:00 PM	WG Failure Investigation & Reporting PC57.125	Power	H. Sahin	I	Regency B (3)
4:45 PM – 6:00 PM	TF Inverter Transf Precautions on Ground Shields C57.159	PCS	H. Shertukde	I	Regency C/D (3)
4:45 PM – 6:00 PM	SC HVDC Converter Transfs & Smoothing Reactors	HVDC	U. Radbrandt	-	Regency E/F (3)
4:45 PM – 6:00 PM	WG Guide for Field Testing PC57.152	Stds	M. Ferreira	I	Oxford/Prince of Wales (3)
6:30 PM – 9:30 PM	Technical Tour: IFD Technologies Advance registration required—space is limited! Admission confirmed with badge at bus. Start loading bus departs at 6:30PM, 6:45PM arrival at IFD. Bus departure at 9:15PM, 9:30PM arrival at hotel. Catered dinner is provided. See website/flyer for more information.	Tech Tour			

TUESDAY, MARCH 12 Breaks Sponsored by Delta-X Research*

TIME	ACTIVITY	TRACK	MTG CHAIR	STATUS	ROOM (FLOOR)
7:00 AM – 11:30 AM	Meeting Registration				Regency Foyer (3)
7:00 AM – 7:50 AM	EL&P Delegation (End-users only please) - Arrive early and grab breakfast from Plaza Ballroom		J. Murphy	–	Georgia A/B (2)
7:00 AM – 8:00 AM	Breakfast - Attendees (no spouses/companions please)				Plaza Ballroom (2)
8:00 AM – 9:30 AM	Breakfast - Spouses/Companions (no meeting attendees please)				Seymour (34)
9:30 AM – 3:30 PM	Spouses/Companions: Photography Lesson in Stanley Park - Top local photographer will guide you in capturing stunning images using just your smartphone - Enjoy a beautiful lunch in the Stanley Park Tea Room - See website/flyer for details	Tour			
8:00 AM – 9:15 AM	WG Guide for Life Tests of Switch Contacts C57.157	Power	A. Sewell	I	Balmoral (3)
8:00 AM – 9:15 AM	WG Practice for Install & Operation of Dry Type PC57.94	Dry Type	K. Klein	I	Regency A (3)
8:00 AM – 9:15 AM	WG Power-Line Carrier Coupling Cap & Volt Transf. C57.13.9	Instr TR	Z. Roman	I	Regency B (3)
8:00 AM – 9:15 AM	WG Guide DGA Applied to Factory Temp Rise Test C57.130	IF	B. Forsyth	I	Regency C/D (3)
8:00 AM – 9:15 AM	TF on Revision of Impulse Tests C57.12.00 & C57.12.90	DiTests	S. Plante	I	Regency E/F (3)
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	Oxford/Prince of Wales (3)
9:15 AM – 9:30 AM	<i>Break (beverages only): Delta-X Research</i>				Regency Foyer (3)
9:30 AM – 10:45 AM	TF Detection of Acoustic Emissions from PD C57.127	DiTests	D. Gross	I	Balmoral (3)
9:30 AM – 10:45 AM	TF Std Require for Bushings C57.19.01	Bush	S. Zhang	I	Regency A (3)
9:30 AM – 10:45 AM	TF Instrument Transf. Accuracy	Instr TR	I. Ziger	I	Regency B (3)
9:30 AM – 10:45 AM	WG Condition Assessment Guide PC57.170	Power	K. Mani	I	Regency C/D (3)
9:30 AM – 10:45 AM	TF PCS Cont. Rev. to Test Code C57.12.90	PCS	H. Sahin	I	Regency E/F (3)
9:30 AM – 10:45 AM	WG Distr Substation Transf PC57.12.36	Distr	J. Murphy	I	Oxford/Prince of Wales (3)
10:45 AM – 11:00 AM	<i>Break (beverages only): Delta-X Research</i>				Regency Foyer (3)
11:00 AM – 12:15 PM	WG Sw Transients Ind by TR/Bkr Interaction PC57.142	PCS	J. McBride	I	Balmoral (3)
11:00 AM – 12:15 PM	WG Liquid-immersed Sec. Network TRs C57.12.40	STNP	J. Vartanian	I	Regency A (3)
11:00 AM – 12:15 PM	WG Standard Requirements for Arc Furnace Transf. C57.17	Power	D. Corsi	I	Regency B (3)
11:00 AM – 12:15 PM	WG Requirements for Instrument Transformers PC57.13	Instr TR	D. Wallace	I	Regency C/D (3)
11:00 AM – 12:15 PM	WG Guide for the Reclamation of Mineral Oil C57.637	IF	S. Mabrey	I	Regency E/F (3)
11:00 AM – 12:15 PM	WG Guide for Loading Dry Type Transformers C57.96	Dry Type	A. Narawane	I	Oxford/Prince of Wales (3)
11:00 AM – 12:15 PM	WG Electronic Test Data PC57.12.37	Distr	A. Traut	N	Georgia A/B (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.				Plaza Ballroom (2)
1:45 PM – 3:00 PM	TF Std Require Bushings above 5kA in Bus Encl. C57.19.04	Bush	S. Digby	N	Balmoral (3)
1:45 PM – 3:00 PM	TF Cont. Revision to Low Frequency Tests C57.12.90	DiTests	A. Varghese	I	Regency A (3)
1:45 PM – 3:00 PM	TF Liquid Immersed Phase- Shifting Transf 60076-57-1202	Power	E. Schweiger	N	Regency B (3)
1:45 PM – 3:00 PM	TF PAR Study Group DGA in Mineral Oil Transf C57.104	IF	E. teNyenhuis	N	Regency C/D (3)
1:45 PM – 3:00 PM	TF to Merge C57.13.5 into C57.13	Instr TR	T. Sizemore	N	Regency E/F (3)
1:45 PM – 3:00 PM	WG Bar Coding for Distr Transf. C57.12.35	Distr	R. Chrysler	B	Oxford/Prince of Wales (3)
3:00 PM – 3:15 PM	<i>Break (beverages and pretzels): Delta-X Research</i>				Regency Foyer (3)
3:15 PM – 4:30 PM	WG Recommend Practice Routine Impulse Tests C57.138	DiTests	H. Sahin	I	Balmoral (3)
3:15 PM – 4:30 PM	TF Test Method for Max Cont Temp of Ins Liquids	IF	A. Gamil	N	Regency A (3)
3:15 PM – 4:30 PM	TF Guide for Install & Maintenance of Power Trf C57.93	Power	S. Reed	I	Regency B (3)
3:15 PM – 4:30 PM	TF Continuous Rev Clause 11 Temp Rise Tests C57.12.90	Ins Life	D. Sankarakurup	I	Regency C/D (3)
3:15 PM – 4:30 PM	TF Reverse Power Flow Effects on Trans	Stds	R. Hogg	I	Regency E/F (3)
3:15 PM – 4:30 PM	WG Req for Dist Trf Tank Pressure Coordination C57.12.39	Distr	C. Gayton	N	Oxford/Prince of Wales (3)
4:30 PM – 4:45 PM	<i>Break (beverages only): Delta-X Research</i>				Regency Foyer (3)
4:45 PM – 6:00 PM	Guide for App of Tertiary & Stabilizing Windings C57.158	PCS	E. Bentancourt	I	Balmoral (3)
4:45 PM – 6:00 PM	WG Guide for Mitigating Corrosion on Sub Trfs C57.12.53	STNP	W. Elliott	I	Regency A (3)
4:45 PM – 6:00 PM	WG Guide for DGA in LTCs C57.139	IF	R. Frotscher	I	Regency B (3)
4:45 PM – 6:00 PM	WG Guide for Paralleling Transformers C57.153	Power	M. Tostrud	I	Regency C/D (3)
4:45 PM – 6:00 PM	WG Dry Type Test Code C57.12.91	Dry Type	D. Walker	I	Regency E/F (3)
4:45 PM – 6:00 PM	WG Neutral Grounding Devices C57.32	PCS	S. Kennedy	I	Oxford/Prince of Wales (3)
6:20 PM – 8:30 PM	Technical Tour: Harbor Air E-Plane Advance registration required—space is limited to 25. Admission confirmed with badge at bus. Depart on bus at 6:20 PM, 7:00 PM arrival at Harbour Air ePlane hangar. Depart at 8:00 PM, 8:30 PM arrival at hotel. Box dinner will be provided while boarding bus. See website/flyer for more information	Tech Tour			

IEEE PES TRANSFORMERS COMMITTEE
SPRING 2024 MEETING: MARCH 10 TO MARCH 14
Hyatt Regency Vancouver; Vancouver, British Columbia, Canada

1/25/2024

WEDNESDAY, MARCH 13 Breaks Sponsored by Cargill*

No Registration and no Technical Tours or Spouse/Companion Events Planned						
TIME	ACTIVITY	TRACK	MTG CHAIR	STATUS	ROOM (FLOOR)	
7:00 AM – 8:00 AM	Breakfast - Attendees (no spouses/companions please)				Plaza Ballroom (2)	
7:00 AM – 8:00 AM	SC Meetings Planning - Arrive early and grab breakfast from buffet - All interested individuals welcome	Mtgs	T. Behrens	–	Oxford/Prince of Wales (3)	
7:00 AM – 8:00 AM	IEC TC-14 Technical Advisory Group - Breakfast Meeting - arrive early and grab breakfast from Plaza Ballroom - All interested individuals welcome		T. Prevost	–	Georgia A/B (2)	
8:00 AM – 9:30 AM	Breakfast - Spouses/Companions (no meeting attendees please)				Seymour (34)	
8:00 AM – 9:15 AM	SC Instrument Transformers	Instr TR	T. Sizemore	–	Regency E/F (3)	
8:00 AM – 9:15 AM	SC Insulation Life	Ins Life	S. Sharpless	–	Regency C/D (3)	
9:15 AM – 9:30 AM	Break (beverages only): Cargill				Regency Foyer (3)	
9:30 AM – 10:45 AM	SC Distribution Transformers	Distr	J. Murphy	–	Regency C/D (3)	
9:30 AM – 10:45 AM	SC Bushings	Bush	E. Weatherbee	–	Regency E/F (3)	
10:45 AM – 11:00 AM	Break (beverages only): Cargill				Regency Foyer (3)	
11:00 AM – 12:15 PM	SC Submersible Transf. & Network Protectors	STNP	G. Payerle	–	Regency E/F (3)	
11:00 AM – 12:15 PM	SC Dielectric Test	DiTests	P. Patel	–	Regency C/D (3)	
12:15 PM – 1:30 PM	Lunch Break					
12:15 PM – 1:30 PM	Women in Power Luncheon				Regency A (3)	
1:30 PM – 2:45 PM	SC Dry Type Transformers	Dry Type	C. Ballard	–	Regency E/F (3)	
1:30 PM – 2:45 PM	SC Power Transformers	Power	R. Musgrove	–	Regency C/D (3)	
3:45 PM – 4:00 PM	Break (beverages and treats): Cargill				Regency Foyer (3)	
3:00 PM – 4:15 PM	SC Insulating Fluids	IF	S. Mabrey	–	Regency E/F (3)	
3:00 PM – 4:15 PM	SC Performance Characteristics	PCS	R. Verdolin	-	Regency C/D (3)	
4:15 PM – 4:30 PM	Break (beverages only): Cargill				Regency Foyer (3)	
4:30 PM – 5:45 PM	SC Standards	Stds	D. Sauer	–	Regency E/F (3)	
6:00 PM – 10:00 PM	Dinner Social - Grouse Mountain Chalet - Advance on-line registration required; admission confirmed with name badge at bus loading - Arrive at the bottom of the mountain by shuttle bus and experience a short gondola ride up to the chalet; buses will run between the mountain base and hotel throughout the evening - Admire panoramic views of Vancouver's city lights and snow-capped mountains - Enjoy hors d'oeuvres, buffet dinner, cash bars, a Celtic musical trio, roving comedic Mountie duo, high-definition Theatre in the Sky, and gift shop - See flyer for details	Social				

THURSDAY, MARCH 14

No Meeting Registration, 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)				Plaza Ballroom (2)	
8:00 AM – 9:30 AM	Breakfast - Spouses/Companions (no meeting attendees please)				Seymour (34)	
8:00 AM – 9:15 AM	Technical Presentation 1 Tutorial on Revision of IEEE C57.163 GIC Guide & Recommended GIC Specification Requirements by Dan Blaydon and Ramsis Girgis - See flyer on website for details **	Tutorial			Regency C/D (3)	
9:15 AM – 9:30 AM	Break (beverages only)					
9:30 AM – 10:45 AM	Technical Presentation 2 Tutorial on Dry-type pole-mounted transformer. An innovative solution to increase safety in overhead distribution networks by Andre Moreno, Tim-Felix Mai – Siemens Energy & Cassandra Wadsten – Consumers Energy - See flyer on website for details **	Tutorial			Regency C/D (3)	
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		D. Wallach		Regency C/D (3)	
12:00 PM	Lunch (on your own)					
12:15 PM – 5:00 PM	Technical Tour: Powertech Labs Advance registration required. Space is limited to 40 attendees! Admission confirmed with badge at bus. Depart promptly at 12:15 PM. Return at ~5:00 PM. Catered lunch provided on-site at Powertech. See website/flyer for more information.	Tech Tour				
1:00 PM – 5:00 PM	WG PC57.15 Std Req Terms & Test Code for V Step Regs	Distr	D. Sauer	N	Oxford/Prince of Wales (3)	
4:15 PM – 7:30 PM	Technical Tour: General Fusion Advance registration required. Space is limited to 35 attendees! Admission confirmed with badge at bus. Depart on bus at 4:15 PM for a 5:00 PM arrival at General Fusion. Return at ~7:30 PM. NO meal provided; however, water and snacks will be available on the bus. 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.

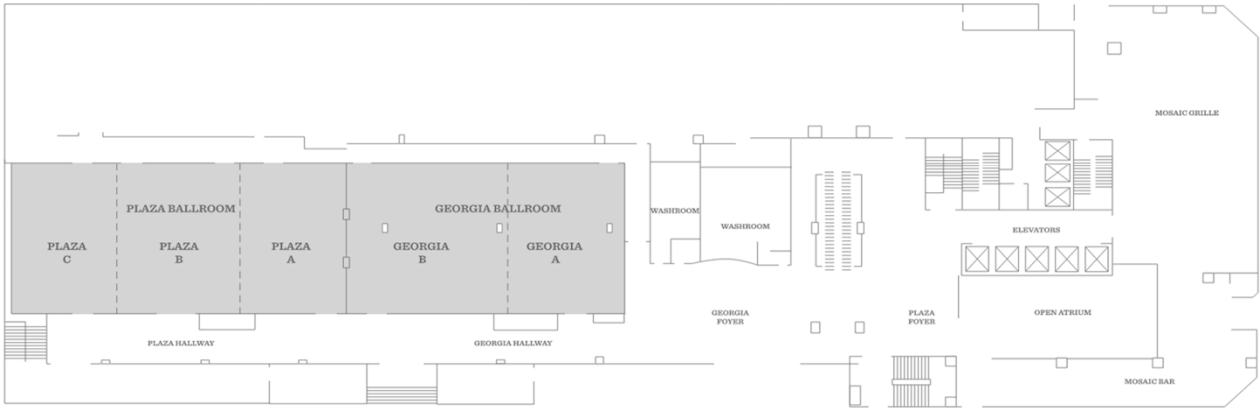
FRIDAY, MARCH 15

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

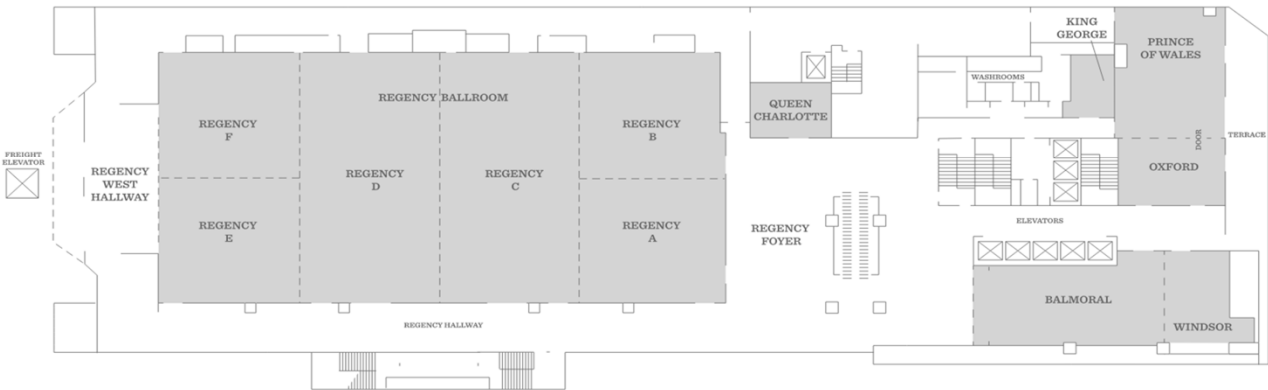
TIME	ACTIVITY	TRACK	MTG CHAIR	STATUS	ROOM (FLOOR)
8:00 AM – 4:00 PM	WG PC57.15 Std Req Terms & Test Code for V Step Regs	Distr	D. Sauer	N	Oxford/Prince of Wales (3)

- FUTURE COMMITTEE MEETINGS**
- Fall 2024: St. Louis, Missouri, October 27 – 31, 2024
 - Spring 2025: Denver, Colorado USA, March 23 – 27, 2025
 - Fall 2025: TBD USA, October , 2025
 - Spring 2026: TBD USA, March , 2026

Plaza Level (Second Floor)



Convention Level (Third Floor)



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SUBCOMMITTEE MEETING LIST

SPRING 2024 MEETING: MARCH 10 TO MARCH 14

Hyatt Regency Vancouver; Vancouver, British Columbia, Canada

Date	Time Start	Time End	Session Title	Track	Chair	Room/Location
3/10/2024	2:00 PM	5:00 PM	Administrative Subcommittee - Closed meeting, by invitation only	Admin	D. Wallach	Oxford/Prince of Wales (3)
3/11/2024	3:15 PM	4:30 PM	WG Bushing Application Guide C57.19.100	Bush	T. Spitzer	Regency E/F (3)
3/12/2024	9:30 AM	10:45 AM	TF Std Require for Bushings C57.19.01	Bush	S. Zhang	Regency A (3)
3/12/2024	1:45 PM	3:00 PM	TF Std Require Bushings above 5kA in Bus Encl. C57.19.04	Bush	S. Digby	Balmoral (3)
3/13/2024	9:30 AM	10:45 AM	SC Bushings	Bush	E. Weatherbee	Regency E/F (3)
3/11/2024	9:30 AM	10:45 AM	TF Transf Efficiency & Loss Evaluation (DOE Activity)	Distr	P. Hopkinson	Regency C/D (3)
3/11/2024	1:45 PM	3:00 PM	WG 1-ph Padmount Dist Transf. C57.12.38	Distr	A. Ghafourian	Oxford/Prince of Wales (3)
3/11/2024	3:15 PM	4:30 PM	WG 3-ph Padmount Dist Transf. C57.12.34	Distr	S. Shull	Oxford/Prince of Wales (3)
3/12/2024	8:00 AM	9:15 AM	WG Encl Int C57.12.28, C57.12.29, C57.12.31, C57.12.32	Distr	D. Mulkey	Oxford/Prince of Wales (3)
3/12/2024	9:30 AM	10:45 AM	WG Distr Substation Transf PC57.12.36	Distr	J. Murphy	Oxford/Prince of Wales (3)
3/12/2024	11:00 AM	12:15 PM	WG Electronic Test Data PC57.12.37	Distr	A. Traut	Georgia A/B (2)
3/12/2024	1:45 PM	3:00 PM	WG Bar Coding for Distr Transf. C57.12.35	Distr	R. Chrysler	Oxford/Prince of Wales (3)
3/12/2024	3:15 PM	4:30 PM	WG Req for Dist Trf Tank Pressure Coordination C57.12.39	Distr	C. Gayton	Oxford/Prince of Wales (3)
3/13/2024	9:30 AM	10:45 AM	SC Distribution Transformers	Distr	J. Murphy	Regency C/D (3)
3/14/2024	1:00 PM	5:00 PM	WG PC57.15 Std Req Terms & Test Code for V Step Regs	Distr	D. Sauer	Oxford/Prince of Wales (3)
3/15/2024	8:00 AM	4:00 PM	WG PC57.15 Std Req Terms & Test Code for V Step Regs	Distr	D. Sauer	Oxford/Prince of Wales (3)
3/11/2024	9:30 AM	10:45 AM	TF PD Testing of DTR, Wind & Solar Transf	DiTests	A. Larison	Regency E/F (3)
3/11/2024	11:00 AM	12:15 PM	TF Core Ground & Winding Insul. Resistance - Perf & Int.	DiTests	D. Robalino	Georgia A/B (2)
3/11/2024	1:45 PM	3:00 PM	TF DFR Test Guide C57.161	DiTests	E. Ermakov	Regency E/F (3)
3/11/2024	3:15 PM	4:30 PM	WG Transformer Impulse Test Guide PC57.98	DiTests	T. Hochanh	Balmoral (3)
3/12/2024	8:00 AM	9:15 AM	TF on Revision of Impulse Tests C57.12.00 & C57.12.90	DiTests	S. Plante	Regency E/F (3)
3/12/2024	9:30 AM	10:45 AM	TF Detection of Acoustic Emissions from PD C57.127	DiTests	D. Gross	Balmoral (3)
3/12/2024	1:45 PM	3:00 PM	TF Cont. Revision to Low Frequency Tests C57.12.90	DiTests	A. Varghese	Regency A (3)
3/12/2024	3:15 PM	4:30 PM	WG Recommend Practice Routine Impulse Tests C57.138	DiTests	H. Sahin	Balmoral (3)
3/13/2024	11:00 AM	12:15 PM	SC Dielectric Test	DiTests	P. Patel	Regency C/D (3)
3/11/2024	11:00 AM	12:15 PM	TF PAR Study Group Guide for TVA Dry-Type Coil C57.12.58	Dry Type	K. Klein	Regency E/F (3)
3/11/2024	1:45 PM	3:00 PM	WG Dry Type Gen. Requirements C57.12.01	Dry Type	C. Ballard	Regency A (3)
3/11/2024	3:15 PM	4:30 PM	TF Test for Eval of Insulation for Dry-Type Transfs IEEE 259	Dry Type	D. Stankes	Regency A (3)
3/11/2024	4:45 PM	6:00 PM	TF PAR Study Group Unit Substation Transf C57.12.55	Dry Type	S. Nunn	Regency A (3)
3/12/2024	8:00 AM	9:15 AM	WG Practice for Install & Operation of Dry Type PC57.94	Dry Type	K. Klein	Regency A (3)
3/12/2024	11:00 AM	12:15 PM	WG Guide for Loading Dry Type Transformers C57.96	Dry Type	A. Narawane	Oxford/Prince of Wales (3)
3/12/2024	4:45 PM	6:00 PM	WG Dry Type Test Code C57.12.91	Dry Type	D. Walker	Regency E/F (3)
3/13/2024	1:30 PM	2:45 PM	SC Dry Type Transformers	Dry Type	C. Ballard	Regency E/F (3)
3/11/2024	4:45 PM	6:00 PM	SC HVDC Converter Transfs & Smoothing Reactors	HVDC	U. Radbrandt	Regency E/F (3)
3/11/2024	9:30 AM	10:45 AM	WG Guide DGA in Ester-Immersed Transformers PC57.155	IF	A. Sbravati	Oxford/Prince of Wales (3)
3/11/2024	11:00 AM	12:15 PM	WG Guide for DGA in Silicone PC57.146	IF	P. Boman	Regency A (3)
3/12/2024	8:00 AM	9:15 AM	WG Guide DGA Applied to Factory Temp Rise Test C57.130	IF	B. Forsyth	Regency C/D (3)
3/12/2024	11:00 AM	12:15 PM	WG Guide for the Reclamation of Mineral Oil C57.637	IF	S. Mabrey	Regency E/F (3)
3/12/2024	1:45 PM	3:00 PM	TF PAR Study Group DGA in Mineral Oil Transf C57.104	IF	E. teNyenhuis	Regency C/D (3)
3/12/2024	3:15 PM	4:30 PM	TF Test Method for Max Cont Temp of Ins Liquids	IF	A. Gamil	Regency A (3)
3/12/2024	4:45 PM	6:00 PM	WG Guide for DGA in LTCs C57.139	IF	R. Frotscher	Regency B (3)
3/13/2024	3:00 PM	4:15 PM	SC Insulating Fluids	IF	S. Mabrey	Regency E/F (3)
3/11/2024	9:30 AM	10:45 AM	TF PAR Study Group Temp Rise Test beyond NP C57.119	Ins Life	E. Schweiger	Regency A (3)
3/11/2024	11:00 AM	12:15 PM	WG App of High-Temp Insulation Mats IEEE 1276 Annex B	Ins Life	K. Biggie	Regency C/D (3)
3/11/2024	1:45 PM	3:00 PM	TF - Test Degredation of Cellulose in Liquid Type Transfs	Ins Life	L. Lewand	Balmoral (3)
3/12/2024	3:15 PM	4:30 PM	TF Continuous Rev Clause 11 Temp Rise Tests C57.12.90	Ins Life	D. Sankarakurup	Regency C/D (3)
3/13/2024	8:00 AM	9:15 AM	SC Insulation Life	Ins Life	S. Sharpless	Regency C/D (3)
3/12/2024	8:00 AM	9:15 AM	WG Power-Line Carrier Coupling Cap & Volt Transf. C57.13.9	Instr TR	Z. Roman	Regency B (3)
3/12/2024	9:30 AM	10:45 AM	TF Instrument Transf. Accuracy	Instr TR	I. Ziger	Regency B (3)
3/12/2024	11:00 AM	12:15 PM	WG Requirements for Instrument Transformers PC57.13	Instr TR	D. Wallace	Regency C/D (3)
3/12/2024	1:45 PM	3:00 PM	TF to Merge C57.13.5 into C57.13	Instr TR	T. Sizemore	Regency E/F (3)
3/13/2024	8:00 AM	9:15 AM	SC Instrument Transformers	Instr TR	T. Sizemore	Regency E/F (3)
3/13/2024	7:00 AM	8:00 AM	SC Meetings Planning - Arrive early and grab breakfast from buffet - All interested individuals welcome	Mtgs	T. Behrens	Oxford/Prince of Wales (3)

SUBCOMMITTEE MEETING LIST

SPRING 2024 MEETING: MARCH 10 TO MARCH 14

Hyatt Regency Vancouver; Vancouver, British Columbia, Canada

Date	Time Start	Time End	Session Title	Track	Chair	Room/Location
3/11/2024	11:00 AM	12:15 PM	TF CO2 Emissions in the Construction of Transformers	PCS	J. Kazmierczak	Balmoral (3)
3/11/2024	1:45 PM	3:00 PM	TF Audible Sound Revision to Test Code	PCS	R. Girgis	Regency C/D (3)
3/11/2024	3:15 PM	4:30 PM	TF PCS Cont. Revisions to C57.12.00	PCS	T. Ansari	Regency C/D (3)
3/11/2024	4:45 PM	6:00 PM	TF Inverter Transf Precautions on Ground Shields C57.159	PCS	H. Shertukde	Regency C/D (3)
3/12/2024	9:30 AM	10:45 AM	TF PCS Cont. Rev. to Test Code C57.12.90	PCS	H. Sahin	Regency E/F (3)
3/12/2024	11:00 AM	12:15 PM	WG Sw Transients Ind by TR/Bkr Interaction PC57.142	PCS	J. McBride	Balmoral (3)
3/12/2024	4:45 PM	6:00 PM	Guide for App of Tertiary & Stabilizing Windings C57.158	PCS	E. Bentancourt	Balmoral (3)
3/12/2024	4:45 PM	6:00 PM	WG Neutral Grounding Devices C57.32	PCS	S. Kennedy	Oxford/Prince of Wales (3)
3/11/2024	9:30 AM	10:45 AM	WG Guide for Tank Rupture Mitigation C57.156	Power	P. Zhao	Regency B (3)
3/11/2024	11:00 AM	12:15 PM	WG Class 1E Transf.for Nuclear Power Gen Std. 638	Power	C. Swinderman	Regency B (3)
3/11/2024	1:45 PM	3:00 PM	WG Guide for Phase Shifting Transf C57.135	Power	E. Schweiger	Regency B (3)
3/11/2024	3:15 PM	4:30 PM	TF Guide Eval & Recon of Liquid Immerse Transf C57.12.140	Power	S. Som	Georgia A/B (2)
3/11/2024	3:15 PM	4:30 PM	TF Std Reqs for Liquid-imerse Power Trans C57.12.10	Power	S. Digby	Regency B (3)
3/11/2024	4:45 PM	6:00 PM	WG Failure Investigation & Reporting PC57.125	Power	H. Sahin	Regency B (3)
3/12/2024	8:00 AM	9:15 AM	WG Guide for Life Tests of Switch Contacts C57.157	Power	A. Sewell	Balmoral (3)
3/12/2024	9:30 AM	10:45 AM	WG Condition Assessment Guide PC57.170	Power	K. Mani	Regency C/D (3)
3/12/2024	11:00 AM	12:15 PM	WG Standard Requirements for Arc Furnace Transf. C57.17	Power	D. Corsi	Regency B (3)
3/12/2024	1:45 PM	3:00 PM	TF Liquid Immersed Phase- Shifting Transf 60076-57-1202	Power	E. Schweiger	Regency B (3)
3/12/2024	3:15 PM	4:30 PM	TF Guide for Install & Maintenance of Power Trf C57.93	Power	S. Reed	Regency B (3)
3/12/2024	4:45 PM	6:00 PM	WG Guide for Paralleling Transformers C57.153	Power	M. Tostrud	Regency C/D (3)
3/13/2024	1:30 PM	2:45 PM	SC Power Transformers	Power	R. Musgrove	Regency C/D (3)
3/11/2024	9:30 AM	10:45 AM	TF IEEE-IEC Cross Reference	Stds	A. Washburn	Balmoral (3)
3/11/2024	4:45 PM	6:00 PM	WG Guide for Field Testing PC57.152	Stds	M. Ferreira	Oxford/Prince of Wales (3)
3/12/2024	3:15 PM	4:30 PM	TF Reverse Power Flow Effects on Trans	Stds	R. Hogg	Regency E/F (3)
3/13/2024	4:30 PM	5:45 PM	SC Standards	Stds	D. Sauer	Regency E/F (3)
3/11/2024	11:00 AM	12:15 PM	WG 1ph Submersible Transformers PC57.12.23	STNP	A. Traut	Oxford/Prince of Wales (3)
3/11/2024	4:45 PM	6:00 PM	WG Sec. Network Protectors C57.12.44	STNP	M. Faulkner	Balmoral (3)
3/12/2024	11:00 AM	12:15 PM	WG Liquid-immersed Sec. Network TRs C57.12.40	STNP	J. Vartanian	Regency A (3)
3/12/2024	4:45 PM	6:00 PM	WG Guide for Mitigating Corrosion on Sub Trfs C57.12.53	STNP	W. Elliott	Regency A (3)
3/13/2024	11:00 AM	12:15 PM	SC Submersible Transf. & Network Protectors	STNP	G. Payerle	Regency E/F (3)

New Revision of IEEE C57.163 GIC Guide and Recommended GIC Specification Requirements

— Technical Presentation —
Thursday, March 14, 2024

By Dan Blaydon and Ramsis Girgis

1. Background

Geomagnetically induced currents (GIC) can cause part-cycle core saturation depending on the GIC magnitude and the transformer design. This core saturation leads to additional VAR demand and injects current harmonics into the grid. When large enough, a geomagnetic disturbance (GMD) can result in voltage instabilities and subsequent blackouts. Another consequence of part-cycle core saturation is additional heating of transformer windings and structural parts.

In 2015, the Transformers Committee produced the first GIC Guide, IEEE C57.163-2015. Since then, new information on the characteristics of GIC and its impact on transformers has emerged. For this reason, a working group was formed to produce a revision of this guide, incorporating emerging knowledge. Revision of the IEEE C57.163 GIC Guide is complete and approved for publication.

2. Learning Objectives

This tutorial provides opportunities to learn about the following:

- Details of revisions made to IEEE C57.163-2015.
- Recommended GIC requirements in customer specifications.

3. Learning Outcomes

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

- Main updates made to the GIC guide:
 - Replaced original simplified GIC signature with reference GIC signature per NERC TPL-007 Standard to be used for performing GIC thermal assessment of power transformers.
 - Relocated simplified GIC signature from the main text to Annex A for historical reference.
 - Updated guide's GIC thermal assessment sections based on NERC reference GIC signature.
 - Thermal impact of GIC on shell form transformers.
 - GIC thermal capability of different power transformer types and designs.
 - GIC thermal impact on tertiary windings in autotransformers.
 - More details on magnetic response of transformers to GIC.
 - Opportunities for on-line monitoring of GIC and its thermal impact on a transformer in real time.
- Appropriate GIC requirements to be incorporated in customer specifications for performing GIC magnetic and thermal assessment of a transformer.

4. Presenters' Biographies

Daniel Blaydon, P.E. is a principal engineer in substation engineering, design and standards at Baltimore Gas & Electric, where his primary responsibilities are the specification and purchase of power transformers. He has been an IEEE PES Transformers Committee member since 2010 and served as chair of the working group for the Revision of C57.163-2015. He received his Bachelor of Science Degree in Electrical Engineering from Penn State University and is a licensed professional engineer in Maryland.

Dr. Ramsis Girgis is an IEEE Life Fellow Member and the leader of Hitachi Energy's global R&D activities in the areas of transformer core performance, GIC, and low noise transformers. He led Westinghouse's, ABB's, and now Hitachi Energy's investigations in the area of magnetic and thermal effects of GIC on power transformers since the 1989 GMD event. Over the past 15 years, he has contributed to the activities of the NERC GMD task force, was a main contributor to the original IEEE GIC guide and, until recently, was the vice chair of the working group updating the IEEE GIC guide with latest information on the subject.

Dry-Type Pole-Mounted Transformers: Innovative Solution to Increase Safety in Overhead Distribution Networks

— Technical Presentation —
Thursday, March 14, 2024

By André Moreno, Tim-Felix Mai and Cassandra Wadsten

1. Abstract

For a long time, pole-mounted liquid-immersed transformers have been the preferred solution for supplying appropriate voltage levels for electricity consumption by endusers in distribution systems around the world. However, despite being an established product, manufacturers and utilities are confronted with environmental, personal safety and maintenance challenges. These challenges arise from liquid fluids used as an insulation medium in the transformers.

This technical presentation will demonstrate a new type of single-phase dry-type pole-mounted transformer. This product, commercially known as CAREPOLE, has been developed by Siemens Energy. It utilizes a self-extinguishing cycloaliphatic epoxy resin system which not only insulates the windings, but also provides outdoor protection for the cast coils.

Due to the absence of oil, dry-type pole-mounted transformers are an option for eliminating explosion risks, reducing fire hazards, and preventing contamination from insulation liquids, especially when safety is paramount. Additionally, the goal is to enhance the performance of the distribution network and reduce costs associated with installation and maintenance.

Being at the forefront in search of technological solutions, Consumers Energy will share its experience and expectations about this new technology.

2. Learning Objectives

This tutorial offers opportunities to gain experience in the following areas:

- Evaluating the technical viability between oil-immersed and dry-type transformers.
- Defining the insulation system for pole-mounted dry-type transformers.
- Conducting design and validation tests.
- Experience on field tests.

3. Learning Outcomes

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

- Primary challenges involved in transitioning from pole-mounted oil-immersed to dry-type transformers.
- How to implement the insulation system to optimize distances in dry-type transformers.
- Benefits and drawbacks of using dry-type transformers.
- Evaluation and proposals for adaptations to the standards for pole-mounted dry-type transformers.
- Use case and technology evaluation.

4. Presenters' Biographies

André Moreno is the global head of research and development for dry-type transformers of Siemens Energy's Distribution Transformer group. He started in the transformer business more than 20 years ago and held several positions in the electrical and mechanical design engineering departments.

Tim-Felix Mai is the head of research and development for dry-type transformers at Siemens Energy's factory in Kirchheim unter Teck, Germany. He holds a bachelor's degree in electrical engineering and has over 15 years of experience in the field of dry-type transformers.

Cassandra Wadsten is the manager of standards for Consumers Energy in Jackson, Michigan. She holds a bachelor's degree in electrical engineering and has over 20 years of experience in the standards department with Consumers Energy.

IFD Technologies

Technical Tour

Monday, March 11, 2024



IFD Technologies invented the IFD sensor with a group of innovative utility engineers, becoming an industry benchmark for safety. Now, IFD is implementing a new technology vision, partnering once again with their customers. From Essential Sensors to a Digital Platform, the company's OpsAware distribution intelligence system gives utilities a strategy for managing and monitoring the network of today and tomorrow.

The IFD team is excited to welcome IEEE delegates to our Vancouver headquarters to learn about transformer faults and failures, our R&D process, and manufacturing.

Itinerary (times are approximate)

- 6:30 PM Depart Hyatt Regency
- 6:45 PM Start of tour
Dinner* served at IFD
- 9:30 PM Return to Hyatt Regency

* Please communicate any dietary restrictions at registration.



REGISTER EARLY – LIMITED SPOTS



IEEE PES Transformers Committee
Spring 2024 Meeting
Vancouver, BC, Canada

Meeting
hosted by



Harbour Air

Technical Tour

Tuesday, March 12, 2024



Join us for a tour of Harbour Air's ePlane hangar, featuring a photo opportunity with the company's electric plane and a presentation from a member of the ePlane team.

In early 2019, Harbour Air announced a partnership with Washington state based magniX, the company powering the electric aviation revolution, with a commitment to build the world's first all-electric commercial airline. On December 10, 2019, the world's first fully electric commercial aircraft took flight in Richmond, BC. Since then, the aircraft has performed additional flight tests to measure and collect data on cruise performance and take-off thrust efficiency, electro-magnetic interference (EMI), battery management software logic, noise levels, and more.

Itinerary (times are approximate)

- 6:20 PM Depart Hyatt Regency
- 7:00 PM Start of tour
Box dinner* served on bus
- 8:30 PM Return to Hyatt Regency

* Please communicate any dietary restrictions at registration.



REGISTER EARLY – LIMITED SPOTS



IEEE PES Transformers Committee
Spring 2024 Meeting
Vancouver, BC

Meeting
hosted by



Powertech Labs

Technical Tour

Thursday, March 14, 2024



Join us for a tour of Powertech Labs, a wholly owned subsidiary of BC Hydro and one of the largest testing, research, and development facilities in North America, supporting the industry with specialized testing, qualification, standard, and custom testing for North American and Global markets. Recognized for technical expertise related to the power utility industry, Powertech offers performance and type testing, asset management solutions, engineering studies, power system modeling and analysis to its electric utilities energy clients, including BC Hydro, and other sectors globally. Powertech is also a global leader in hydrogen technologies.

For over 30 years, the company's engineers, technologists, and scientists have provided clients with a qualified, diversified and value added, one-stop solution to electrical, mechanical, materials, civil, chemistry, non-destructive testing, and inspection services.

Itinerary (times are approximate)

12:15 PM Depart Hyatt Regency

1:15 PM Start of tour
Lunch served at
Powertech*

5:00 PM Return to Hyatt Regency

* Please communicate any dietary restrictions at registration.

Powertech

REGISTER EARLY – LIMITED SPOTS



IEEE PES Transformers Committee
Spring 2024 Meeting
Vancouver, BC

Meeting
hosted by



General Fusion

Technical Tour

Thursday, March 14, 2024



Fusion energy promises to fundamentally transform the energy landscape as we know it. General Fusion's mission is to pursue the fastest, most practical path to bringing fusion energy to market using its MTF technology.

The company's approach enables it to unlock significant milestones in the near term while effectively reducing the technical leap between its next near commercial machine and a fully operational commercial pilot plant. This approach brings the company closer to its ultimate goal of providing clean and sustainable fusion power to the world.

Itinerary (times are approximate)

- 4:15 PM Depart Hyatt Regency
Water and snacks served on bus; no meal served
- 5:00 PM Start of tour
- 7:30 PM Return to Hyatt Regency

generalfusion

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Majestic Victoria Full-Day Tour

Early Bird Event

Saturday, March 9, 2024



Embark on a full day trip to Victoria on Vancouver Island, famous for its stunning northwest coast scenery and British charm. This full day tour starts with a 90-minute sail across the Salish Sea through the scenic Gulf Islands. After arriving in Victoria, ample time will be allowed to admire the floral splendors and ancient trees of Butchart Gardens OR the unique artifacts, documents, and specimens of British Columbia's natural and human history at the Royal BC Museum.

After visiting the Gardens or the Museum, meet back up with the group to enjoy a tantalizing lunch at Canada's Castle on the Coast, the historic and award-winning Fairmont Empress Hotel, with unparalleled views of the Inner Harbour. After lunch, take time to explore the area's attractions before departing on the ferry adventure back to Vancouver. Attractions within the Inner Harbour include British import shops, Parliament buildings and Miniature World.

Buffet Lunch Menu

Marble Potato Salad	Beer-Battered Cod	Tea and Coffee
Butter Lettuce Salad	Roasted Baron of Beef	
Yukon Gold French Fries	Warm Yorkshire Puddings	

Itinerary (times are approximate)

7:30 AM	Depart Hyatt to Tsawwassen Ferry Terminal
8:30 AM	Load ferry to Victoria
9:00 AM	Ferry departs, free time for breakfast on own
10:35 AM	Arrive at Swartz Bay Ferry Terminal
11:00 AM	Choose to explore either Butchart Gardens or Royal BC Museum (one bus each – make your selection AT TIME OF REGISTRATION)
1:00 PM	Buffet lunch* at Fairmont Empress Hotel
3:00 PM	Free time to enjoy and explore Victoria harbour
3:30 PM	Transfer to ferry terminal
4:15 PM	Arrive at ferry terminal
5:00 PM	Ferry departs to Vancouver
6:35 PM	Arrive at ferry terminal
7:30 PM	Arrive at Hyatt

* Communicate any dietary restrictions at registration.

REGISTER EARLY – LIMITED SPOTS

Granville Island Food & Culture Tour

Spouse/Companion Tour

Monday, March 11, 2024



Join this immersive group experience, beginning with a guided tour of Vancouver's finest collection of contemporary indigenous northwest coast art followed by a cultural city tour of Vancouver's landmark neighborhoods, including Canada Place, Chinatown and Gastown. After a historical walking tour of Gastown, spend some time shopping in this fashion hot-spot which is also the epicenter for Vancouver interior design and one of the top ten places to shop in the city.

Next, embark on a culinary adventure while surrounded by the vibrant atmosphere and history of Granville Island's Public Market, home to more than 50 independent food purveyors and contributor to the Island's appeal as a renowned culinary destination. Enjoy a progressive meal from savory to sweet, including exclusive behind-the-scenes tastings with at least 12 top market vendors, after which you'll have time to visit with various artists and shop your choice of more than 300 businesses in this transformed industrial-hub-turned-cultural-and-culinary haven.

Dress in warm layers and waterproof shell if rain is in the forecast, wear comfortable walking shoes and bring your sense of adventure!

Itinerary (times are approximate)

- | | |
|----------|--|
| 9:30 AM | Depart Hyatt for a 2-minute walk to Bill Reid Gallery of Northwest Coast Art |
| 9:45 AM | Private gallery tour |
| 10:30 AM | Cultural city tour on bus, including Canada Place, Chinatown, Gastown |
| 11:00 AM | Historical walking tour of Gastown and shopping |
| 11:45 PM | City tour continues on bus through downtown to Granville Island |
| 12:00 PM | Granville Island Market tasting tour* |
| 2:00 PM | Artist encounters and shopping on Granville Island |
| 3:00 PM | Leave Granville Island on bus |
| 3:30 PM | Arrive back at Hyatt |

* Please communicate any dietary restrictions at registration.

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Photography Lesson in Stanley Park

Spouse/Companion Tour

Tuesday, March 12, 2024



Discover the splendor of Vancouver with a photography workshop in picturesque Stanley Park. Your journey begins at the historic Stanley Park Pavilion, where a top local photographer will guide you in capturing stunning images using just your smartphone. After grasping the basics, you'll embark on an exploratory mission through the lush gardens and enchanting forested trails surrounding the pavilion. Your quest: To capture the essence of nature through your unique lens. Delve into the park's enchanting gardens and forested trails, honing your skills in the art of photography. Next, we'll reconvene inside to edit and share your creations.

After a break for a gourmet lunch in the elegant Tea Room, you'll tackle two additional exciting photography projects. First, you'll capture Vancouver's skyline, a dance of modern glass and water reflections. Then, experiment with perspectives on the beach, contrasting driftwood foregrounds against the ocean and mountain backdrop. The day concludes back at the Pavilion with a final review and further image refinement. Choose your favorite photo to be framed, a personalized keepsake to remember this unique Vancouver experience, delivered to you the next day.

- Dress appropriately with warm layers and waterproof shell if rain is in the forecast; wear flat, comfortable shoes that can get a bit dirty.
- Bring a fully charged smartphone and charger in case you need to power up.
- No technical skills required.

Itinerary (times are approximate)

9:30 AM	Depart Hyatt
9:45 AM	Stop at Totem Poles
10:00 AM	Stop at Prospect Point
10:30 AM	Arrive at Stanley Park pavilion for photography workshop
12:30 PM	Buffet lunch
1:30 PM	Photography workshop resumes
3:00 PM	Bus ride through downtown Vancouver with sightseeing commentary
3:30 PM	Arrive at Hyatt

Buffet Lunch*

Butter lettuce with lemon herb vinaigrette
Pasta salad
Sautéed prawns
Beef bourguignon
Heirloom carrots
Roasted fingerling potatoes
Desserts
Iced Tea, Coffee, Hot Tea

* Please communicate any dietary restrictions at registration.

REGISTER EARLY – LIMITED SPOTS

Grouse Mountain Chalet

Dinner Social

Wednesday, March 13, 2024



Experience a magical evening at Grouse Mountain, the peak of Vancouver. Your journey begins with a cozy gondola ride, swiftly transforming your surroundings into a breathtaking winter wonderland. Upon arrival, step into the modern yet inviting chalet, where you'll be warmly welcomed by a humorous Mountie duo embodying the spirit of Canada. The chalet, a marvel of cedar beams and expansive glass, offers an awe-inspiring view: the evening sun setting into the ocean, surrounded by tranquil mountain snowscapes and the sparkling city lights below, creating an unforgettable ambiance.

Take the opportunity to explore the chalet's delights, including a visit to the impressive gift shop and an educational journey through mountain culture at the high-definition Theatre-in-the-Sky. The dinner itself is a culinary celebration, featuring a sumptuous Canadian buffet that showcases local specialties. Accompanied by the soothing tunes of a West Coast acoustic folk band, the evening is more than just a meal—it's a fusion of fine dining, connection, and Canadian elegance. This event promises to not just be a highlight, but a defining moment of your week!

Recommended attire is evening casual. Bring a warm jacket for the gondola ride and covered walk to the chalet, but no need for snow gear.

Itinerary

6:15 PM Event Begins with
Hors d'oeuvres, Cash Bars, Live
Entertainment

7:15 PM Buffet Dinner

9:45 PM Event Ends

Shuttle buses will run between the hotel and the bottom of the mountain starting at 5:30 PM until 7:00 PM and then back starting at 8:45 PM until 9:45 PM.

Buffet Dinner*

Caesar Salad

Grilled Vegetables

Short Ribs

Salmon

Mediterranean Pasta

Mashed Potatoes

Broccolini

Jasmine Rice

Freshly Baked Bread & Butter

Assorted Cakes and Tortes

Iced Tea, Coffee, Hot Tea

* Please communicate any dietary restrictions at registration.

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