TRANSFORMERS COMMITTEE

September 14, 2010

Dear Committee Members and Guests:

You and your companion are cordially invited to attend the Fall 2010 meeting of the IEEE/PES Transformers Committee to be held **October 24-28** in Toronto, Ontario, Canada. It is my pleasure, and the pleasure of Trench Limited to be your host for this event.

Our meeting will be at the **Hilton Downtown Toronto Hotel** (145 Richmond Street West). This hotel is located in the heart of Downtown Toronto and is central to many activities including shopping, restaurants, sporting & music venues, theatre and museums. For this reason only a few planned activities have been added to the schedule as it will be in your best interest to focus on those local venues that are of particular interest to you. Some suggestions are listed on a page at the end of this letter, and links are provided on the Committee's web site. Trench host personnel and hotel staff will also be available at the meeting to provide assistance and suggestions.

Group rate for standard guest rooms at the Hilton is CAD$159 (single/double occupancy). Rooms are reserved under the group name "IEEE Transformers" and can be reserved from a link at the Committee's website, or by calling +416.869.3456, or toll-free at 1-800-HILTONS from the US and Canada. The room-block cut-off date is September 29. On that date, remaining guest rooms will be released to the public, but it is expected that the hotel will sell-out before that date, so make your reservation soon! Parking in the hotel garage is $30/day (with unlimited in-out privileges, via a pass provided at the front desk). Internet is complimentary in the guest rooms for our group.

GETTING TO/FROM THE HOTEL

Toronto is accessible by air from the **Lester B. Pearson International Airport** (airport code "YYZ"). For some attendees, it will be very feasible to drive to Toronto. Late October can be a beautiful drive as many colourful leaves will still be on the trees.

Airport Transportation: Transportation to/from Pearson International Airport can be by:

- Bus: Toronto Airport Express, ~$22 one-way; ~$36 round-trip. www.torontoairportexpress.com
- Taxi: ~$55 one way
- Limo: ~$60 one way
- Shuttle: Airport Express Shuttle. Departs every 40 minutes, from 4:15 am to 11:10 pm. Advance reservations are not necessary.

The Hilton Hotel is located approximately 26 km (~17 miles) from the airport. Travel time for all above options is ~40 minutes; possibly longer during rush hour.

ON-LINE REGISTRATION

Use the on-line registration system to register for tours and social events. The on-line registration system can be accessed at www.transformerscommittee.org. Register by September 29 to receive the US$50 early registration discount. The on-line registration system will be disabled on October 20 to print name badges and to finalize counts. Note that the cost for walk-up registration for the meetings at the hotel is substantially higher than for registering on-line in advance.

TORONTO WEATHER

In late October, the autumn foliage in most of Ontario has passed its peak, but in Toronto, due to "lake effect", many colourful leaves will still be on the trees. Normal daytime highs average 12°C (52°F) and night time lows are 2°C (35°F). You will need medium weight clothing and possibly some rain gear. Dress at the meeting is business casual.

SPECIAL EVENTS

Tour of Canadian Air & Space Museum and Bombardier Downsview Facility (Sunday, Oct 24)

Our day will include a tour of both **Bombardier Aerospace** and the **Canadian Air & Space Museum**. Bombardier is a world leader in the design and manufacture of innovative aviation products. The Canadian Air & Space Museum celebrates the aerospace accomplishments of Canadians, and the long association of Canada with aeronautical innovation, aircraft manufacturing, military aviation, air transport and the pure joy of flight. Space is limited to one bus-load so register early!

Sunday Evening Reception, Hilton Hotel Ballroom

Trench is proud to host this renewal of friendships and formation of new acquaintances. A cash-bar and complimentary hors d'oeuvres will be provided. Please indicate your intention to attend this event during the on-line registration process.

Tuesday Speaker Luncheon

Ontario's electricity system is being transformed over the next several years. **Mr. Amir Shalaby** is Vice President of Power System Planning for the Ontario Power Authority (OPA). His speech will highlight major changes/opportunities/challenges associated with this transformation to renewable power.

Wednesday Evening Social

Explore the exhibition halls of the **Ontario Science Centre** to see its marvels. Explore nine exhibition halls, with more than 600 interactive exhibits and demonstrations, including the new Weston Family Innovation Centre. During our visit, we will enjoy a sit-down dinner and an exclusive viewing in the IMAX® theater. The feature film at the IMAX for our evening is entitled "**Legends of Flight**". See the flyer posted on the web for further details on this event.

SPOUSE/COMPANION TOURS

Monday, October 25

Join us for a guided bus tour of **Downtown Toronto** in the morning, followed by lunch on your own at **Black Creek Pioneer Village**. After lunch, meet interpreters and trades people in period clothing who demonstrate, and explain, how people lived, worked and played in mid-19th Century rural Ontario. For more details, refer to the flyer.

Tuesday, October 26

Come take a bus ride with us to **Niagara Falls**. We will stop at Table Rock, which is located right next to the Canadian Horseshoe Falls. Once there you will be given the opportunity to stroll around at Table Rock, and perhaps experience either "Niagara's Fury" (a 4D experience) or "Journey Behind the Falls". We ask that you return to the bus by no later than 12 noon to enjoy the scenic Niagara Parkway en route to **Hillebrand Estate Winery** for lunch. Following lunch, you will be treated to a guided tour of an award winning winery before returning to Toronto in the late afternoon. For more details, refer to the flyer.

TECHNICAL PRESENTATIONS

Monday Afternoon: "TAPs in Autotransformers". Our own V. Sankar will provide us with an educational tutorial on tap changers.
Tuesday Afternoon: "Panel Q&A Session". A panel of industry experts will answer your questions about controversial issues and new technologies. Stay tuned for more information on this unique opportunity.

TECHNICAL TOURS

Monday Evening, Oct 25: Trench Coil & Instrument Transformer Facilities
Tuesday Evening, Oct 26: Moloney Electric Toronto Facility
Thursday Afternoon, Oct 28: Trench Bushing Facility

Due to the commercial content of the above tours, attendance is restricted (by invitation only). Invitations will be mailed separately by each company. See the Meeting Schedule for additional information.

ADDITIONAL INFORMATION

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

1. Meeting Registration Form. This document is primarily used for those who do not have access to the Internet or need to pay by paper check or money order. It also makes a good guide to review the fees before you begin the on-line registration process. On-line registration is strongly encouraged.

2. Detailed Meeting Schedule & General Session Agenda. An updated schedule will be posted on the Committee's web site approximately one week prior to the meeting.

3. Information Flyers:
   - Sunday Tour of Canadian Air & Space Museum and Bombardier Facility
   - Spouse/Companion Tours
   - Tuesday Speaker Luncheon
   - Wednesday Evening Dinner Social
   - Presentation Flyers

The entire Trench Host Team and I are committed to making your visit to Toronto a memorable one.
We look forward to seeing you in TO!

Sincerely,

Richard & Mary Jane Dudley
and the Trench Host Team

TRENCH

TRENCH LIMITED

Highlights of Toronto and Southern Ontario

There is a lot to do in the Greater Toronto and the Southern Ontario Areas. Tourism/activity links are available on the Committee's web site. Below are some additional suggestions, including some personal favourites. Note that many are within walking distance of the hotel or a subway/streetcar/bus ride.

Downtown:

- NHL Hockey at the Air Canada Center (Toronto Maple Leafs). www.theaircanadacenter.com
- NBA Basketball at the Air Canada Center (Toronto Raptors)
- NHL Hockey Hall of Fame
- Toronto Symphony Orchestra (Roy Thompson Hall). www.tso.ca
- Tafelmusik Baroque Orchestra (Saint Paul's Center). www.tafelmusik.org (Note this is a world famous and world class baroque orchestra)
- Royal Ontario Museum
- Art Gallery of Ontario
- Casa Loma
- Canadian Opera Company; 6th largest company in North America, at the Four Seasons Center; state of the art and just opened in 2006. "Aida" is playing during our meeting www.tickets@coc.ca

Suburbs or Out of town:

- Metro Toronto Zoo
- St Jacobs. This is an historic town and the area is largely populated by Mennonites. It features a great farmers market on Saturday. www.stjacobs.com
- Stratford Festival. Playing until November 6 are Evita and Kiss Me Kate. Dangerous Liaisons is playing until October 30. Stratford is an historic town with many great B&Bs and excellent restaurants. www.stratfordfestival.ca
- Shaw Festival. This theatre festival is located in historic Niagara-on-the-Lake; many historic homes and very beautiful. It is located in the heart of Niagara wine country; an added bonus of a trip to the festival. Playing at the festival to Nov 14 is Harvey; rave reviews. www.shawfest.com
- McMichael Collection. This art gallery in Kleinberg has the definitive collection of art by the Group of Seven (Canada's most famous group of artists). Also at the gallery is art by other famous Canadian painters such as Emily Carr. The gallery is also located in a beautiful setting with many nice walking trails.

Restaurants: The number of excellent restaurants near the hotel, all budget ranges, are too numerous to mention. Chat up the concierge at the hotel or see the Trench host team. One suggestion is to have dinner at the top of the CN Tower; enjoy the view and the good food.

Theatre: Toronto is home to one of the largest theatre venues next to New York's Broadway. Some current hits that will still be playing at the time of our meeting are as follows.

- "Rock of Ages" at the Royal Alexandra Theatre (fully restored vaudeville era theatre). www.mirvish.com
- "Priscilla" at the Prince of Wales Theatre. www.mirvish.com

Register on-line for the meeting using a credit card at: www.transformerscommittee.org (preferred method).
Use this form only if you do not have access to the Internet, or need to pay by check or money order.

IEEE/PES TRANSFORMERS COMMITTEE
Fall 2010 Meeting; October 24-28
Toronto, Ontario CANADA

Name of Attendee _____

Company / Institution _____

Street Address _____

City _____ State / Prov. _____ Postal Code _____ Country _____

Telephone _____ Email _____

PES Member? ☐Yes ☐No IEEE Standards Association Member? ☐Yes ☐No IEEE Membership #: _____

Will a companion accompany you? ☐Yes ☐No Full name of companion (for nametag) _____

Indicate if vegetarian meal(s) are required for: Attendee: ☐Yes ☐No Companion: ☐Yes ☐No

Other special requirements (special diets, wheelchair, etc.): _____

Attendee Registration Fee Includes: Entry into Meeting Area, Sunday Reception, coffee breaks, and 4 breakfasts (M, T, W, Th)
Spouse/Companion Registration Fee Includes: Sunday Reception and 4 breakfasts (M, T, W, Th)

-- Refund provided **ONLY** if the request is received **by October 20** (by confirmed email, see below) --

-- There is a US$25.00 service charge for a refund of the entire registration (US$10 for a partial refund) --

NOTE: Complete meeting registration (with fees) is necessary to attend ANY social event or tour

Meeting Registration Fees (all fees in US$ funds)	**On or Before September 29**	**After Sept 29, on or before Oct 20**	**On-site, at the Meeting**	**Total**
Attendee - IEEE Member (will be verified with IEEE)	$200	$250	$350	_____
Attendee - not IEEE member	$225	$275	$375	_____
Attendee - IEEE Life or Committee Emeritus (will be verified)	$50	$100	$200	_____
Spouse or Companion, and children age 10 and over	$75	$125	$225	_____

Note: A Companion is a "significant other", boy/girl friend, attending for non-commercial reasons (not attending technical meetings, etc.). Spouses/companions & children must be registered for the meeting (with above fees) to attend any tour or social event.

Sunday Evening Reception (event included in above fee) Attendee: ☐Yes ☐No; Companion: ☐Yes ☐No **-0-**

Monday Standards Luncheon: all SC/WG/TF leaders are encouraged to attend # ____ @ $20 _____

Tuesday Luncheon: Speaker - Mr. Amir Shalaby, Ontario Power Authority # ____ @ $30 _____

Indicate selection for Tuesday Luncheon: Beef ____, Chicken ____, Vegetarian ____

Spouse/Companion Tours: Monday - Downtown Toronto & Black Creek Village, lunch on your own # ____ @ $55 _____

Tuesday - Niagara Falls & Niagara on the Lake, lunch provided # ____ @ $85 _____

Social Events: Sunday - Canadian Air & Space Museum and Bombardier Downsview Facility # ____ @ $30 _____

Wednesday Evening Dinner Social at Ontario Science Centre with IMAX® # ____ @ $85 _____

Technical Tours: Technical tours are by invitation only. Trench and Moloney Electric will send invitations separately. Contact these companies directly if you do not receive an invitation (see Meeting Schedule for contact info).

Note: Meeting Minutes in paper format is no longer available. The primary source for Meeting Minutes is downloads from the Committee's web-site.

TOTAL REMITTED -- US$ _____
(all fees quoted in US funds)

METHODS OF PAYMENT: 1. Register on-line with a credit card (preferred). 2. Mail paper form with check or money order to:
IEEE Transformers Committee; 13110 Birch Drive, Suite 148, PMB 330; Omaha, Nebraska 68164 USA
email: transformers@ieee.org. Cancellation by email is not considered accepted unless confirmed by return email.

Check or money order - Make payable to: **"IEEE Transformers Committee"**
Funds not from a US Bank must add US$25.00 for processing fee.

Mailed registrations without proper payment will not be accepted.

US Tax ID No. 13-1656633, Canadian Business No. 12563 4188, Euro Tax Registration No. EU826000081

IEEE/PES TRANSFORMERS COMMITTEE

www.transformerscommittee.org
Fall 2010 Meeting; October 24-28
Hosted by Richard Dudley and Trench Limited
Hilton Downtown Toronto Hotel; Toronto, Ontario CANADA

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

DATE/TIME	ACTIVITY	SUB-COM	ACTIVITY CHAIR	ROOM CAP/ARR/AV	MEETING ROOM
Thursday to Saturday, October 21-23	IEEE HV Testing Techniques (Standard 4) Subcommittee -- Not a Transformers Committee meeting. -- Contact Jeff Britton for information (jeff@phenixtech.com).			12 US	Richmond
Saturday, October 23					
	No Meeting Registration, No Transformers Committee Meetings, No Social Events or Tours				
Sunday, October 24					
8:00 am - 1:00 pm	Special Tour: Canadian Air & Space Museum and Bombardier Downsview Facility -- Indicate your desire to attend while registering on-line for the Committee Meeting (small fee to attend). -- Bus departs at 8:00 am; returns before 1:00 pm. Eat breakfast before boarding bus. Lunch not included.				
1:00 pm - 5:30 pm	Meeting Registration				Convention Level
2:00 pm - 5:30 pm	Administrative SC -- Closed meeting, by invitation only	Admin.	E. Smith	26 US (w/snack buffet)	Jackson/ Carmichael
2:00 pm - 5:30 pm	NEMA Transformers -- Closed meeting, by invitation only	++	C. Drexler	20 US (w/beverages)	Tom Thomson
6:00 pm - 8:00 pm	Welcome Reception			375 Reception	Toronto I / II
Monday, October 25 -- Monday Breaks Sponsored by Megger ***					
7:00 am - 4:00 pm	Meeting Registration				Convention Level
7:00 am - 6:00 pm	Internet Cafe'			12 CONF	Casson
7:00 am - 7:50 am	Newcomers Orientation Breakfast Mtg (arrive early!) -- Newcomers & Guests are encouraged to attend! -- Breakfast will be served in the room		B. Chiu	60 CL S3 (with buffet, no TH chairs)	Jackson/Carmich.
7:00 am - 7:45 am	Distribution SC Leaders Coordination -- Closed meeting, by invitation only		S. Shull	12 CONF	Richmond
7:00 am - 8:00 am	Breakfast - Attendees (no spouses/companions please)			216 RT (8/tbl)	Toronto I
8:00 am - 9:00 am	Breakfast - Spouses/Companions (no meeting attendees please)			72 RT (8/tbl)	Governor General (2nd floor)
9:15 am - 4:30 pm	Spouses/Companions Tour: "Downtown Toronto District & Black Creek Pioneer Village". Lunch on your own. -- Advance registration required. Bus departs the Hilton at 9:15 am and returns around 4:30 pm.				
8:00 am - 9:15 am	WG Dry-Type Reactors C57.16	Dry	R. Dudley	35 MX	Johnston
8:00 am - 9:15 am	WG 3-ph Underground Distribution Transformers C57.12.24	UTNP	G. Termini	50 MX	Varley
8:00 am - 9:15 am	WG Distribution Substation Transformers C57.12.36	Dist	J. Murphy/ C. Gaytan	70 MX	Tom Thomson
8:15 am - 10:45 am	IEC TC-14 Technical Advisory Group (all interested individuals welcome)	++	P. Hopkinson	80 MX S3 (add 20 chairs)	Jackson/Carmich.
8:00 am - 9:15 am	TF Tertiary/Stabilization Windings	PCS	E. Betancourt	120 MX S3	Toronto II
8:00 am - 9:15 am	TF DPV Grid Transformers	Power	H. Shertukde	150 MX S3	Toronto III
9:15 am - 9:30 am	*Break (beverages only)*			Toronto Foyer	

*** Contact Joe Watson (joe_watson@ieee.org) if you are interested in sponsoring a coffee-break at a future meeting.

DATE/TIME	ACTIVITY	SUB-COM	ACTIVITY CHAIR	ROOM CAP/ARR/AV	MEETING ROOM
Monday, October 25 (continued)					
	~~TF PD Measurements Guide C57.113~~	Will not meet. Document has been published.			
9:30 am - 10:45 am	WG Sealed Dry-Type Power Transformers C57.12.52	Dry	S. Kennedy	35 MX	Johnston
9:30 am - 10:45 am	WG Liquid-immersed Secondary Network Transformers C57.12.40	UTNP	B. Klaponski	50 MX	Varley
9:30 am - 10:45 am	WG Overhead Distribution Transformers C57.12.20	Dist	A. Traut/ C. Simmons	70 MX	Tom Thomson
9:30 am - 10:45 am	TF Furan Tests	IL	S. Xu	80 MX S3	Jackson/Carmich.
9:30 am - 10:45 am	TF External Dielectric Clearances	DiTests	E. Davis	120 MX S3	Toronto II
9:30 am - 10:45 am	WG PCS Rev. to Test Code C57.12.90	PCS	M. Perkins	150 MX S3	Toronto III
10:45 am - 11:00 am	*Break (beverages only)*			Toronto Foyer	
11:00 am - 12:15 pm	WG Dry-Type Gen. Require. C57.12.01	Dry	T. Holdway	35 MX	Johnston
11:00 am - 12:15 pm	WG Standard Requires for Secondary Network Protectors C57.12.44	UTNP	B. Wimmers	50 MX	Varley
11:00 am - 12:15 pm	WG 1-ph Padmount Distribution Transformers C57.12.38 (12.21 & 12.25)	Dist	A. Ghafourian/ M. Faulkenberry	70 MX	Tom Thomson
11:00 am - 12:15 pm	TF Transform. Tank Rupture & Mitigation	Power	P. Zhao	80 MX S3	Jackson/Carmich.
11:00 am - 12:15 pm	TF IEEE-IEC Cross Reference	Stds	J. Sim	120 MX S3	Toronto II
11:00 am - 12:15 pm	WG Thermal Evaluation C57.100	IL	R. Wicks	150 MX S3	Toronto III
12:15 pm - 1:30 pm	Lunch Meeting: Standards Development Review -- Presentation/Discussion: "Ballot Resolution" -- All SC/WG/TF leaders are encouraged to attend. -- Advance reservation required ($20 for box lunch). -- No paper tickets. Admission verified at the door.		B. Bartley	120 (8/tbl)	Toronto I
	TF Special Dielectric Test Issues	Will not meet. Assignment is complete.			
1:45 pm - 3:00 pm	**SC HVDC Converter Transformers and Smoothing Reactors**	HVDC	R. Dudley	35 MX	Johnston
1:45 pm - 3:00 pm	WG Tap Changer Performance C57.131	Power	W. Henning	50 MX	Varley
1:45 pm - 3:00 pm	WG 3-ph Padmount Distribution Transformers C57.12.34	Dist	R. Stahara/ S. Shull	70 MX	Tom Thomson
1:45 pm - 3:00 pm	WG High Temp. Transformers PC57.154	IL	R. Marek	80 MX S3	Jackson/Carmich.
1:45 pm - 3:00 pm	TF Particle Count	IF	M. Scarborough	120 MX S3	Toronto II
1:45 pm - 3:00 pm	WG Frequency Response Analysis (FRA) Guide PC57.149	PCS	C. Sweetser	150 MX S3	Toronto III
3:00 pm - 3:15 pm	*Break (beverages and treats)*			Toronto Foyer	
3:15 pm - 4:30 pm	WG Dry-Type Test Code C57.12.91	Dry	D. Foster	35 MX	Johnston
3:15 pm - 4:30 pm	WG Harmonizing IEEE & IEC Standards	Stds	J. Puri	50 MX	Varley
3:15 pm - 4:30 pm	TF Tank Pressure Coordination	Dist	C. Gaytan	70 MX	Tom Thomson
3:15 pm - 4:30 pm	TF PD in Bushings and PTs/CTs	DiTests	T. Hochanh	80 MX S3	Jackson/Carmich.
3:15 pm - 4:30 pm	TF Moisture in Oil	IF	B. Rasor	120 MX S3	Toronto II
3:15 pm - 4:30 pm	WG PCS Revisions to C57.12.00	PCS	S. Snyder	150 MX S3	Toronto III
4:30 pm - 4:45 pm	*Break (beverages only)*			Toronto Foyer	
4:45 pm - 6:00 pm	Presentation: "TAPS in Autotransformers", by T. Kalicki and V. Sankar. -- Sponsored by Performance Characteristics SC **			270 MX S3	Toronto II / III
6:30 pm - 11:00 pm	Technical Tour: Trench Coil & Instrument Transformer Facilities. -- Restricted attendance; by invitation only (Trench will send invitations separately). -- Buses depart the Hilton at 6:30 pm and return before 11:00 pm. Box dinner provided on the buses. -- For more details, contact Doris Elovaara at +416.298.4477 x232 or <doris.elovaara@trench-group.com>.				

** Contact Greg Anderson (gwanderson@ieee.org) if you are interested in making a technical presentation at a future meeting.

DATE/TIME	ACTIVITY	SUB-COM	ACTIVITY CHAIR	ROOM CAP/ARR/AV	MEETING ROOM
Tuesday, October 26 -- Tuesday Breaks Sponsored by XD Group and XD Transformer ***					
7:00 am - 12:00 pm	Meeting Registration				Convention Level
7:00 am - 6:00 pm	Internet Cafe'			12 CONF	Casson
7:00 am - 8:00 am	Breakfast - Attendees (no spouses/companions please)			216 RT (8/tbl)	Toronto I
8:00 am - 9:00 am	Breakfast - Spouses/Companions (no meeting attendees please)			72 RT (8/tbl)	Governor General (2nd floor)
9:15 am - 4:30 pm	Spouses/Companions Tour: "Niagara Falls and Niagara on the Lake". Lunch at Hillebrand Winery included. -- Advance registration required. Bus departs the Hilton at 9:15 am and returns around 4:30 pm.				
	~~WG Switching Transients PC57.142~~	Document is complete; will meet in the spring.			
8:00 am - 9:15 am	TF Milli-ampere Current Transformers	IT	Alton/Nguyen	35 MX	Johnston
8:00 am - 9:15 am	WG Enclosure Integrity C57.12.28, C57.12.29, C57.12.31, C57.12.32	Dist	R. Olen/ D. Mulkey	50 MX	Varley
8:00 am - 9:15 am	WG Oil Reclamation Guide PC57.637	IF	J. Thompson	70 MX	Tom Thomson
8:00 am - 9:15 am	TF Temperature Limits for Non-current Carrying Metallic Surfaces	IL	J. Ray	80 MX S3	Jackson/Carmich.
8:00 am - 9:15 am	WG PC57.152 Field Test Guide	Stds	J. Verner	120 MX S3	Toronto II
8:00 am - 9:15 am	TF Wind Power Transformers	Power	D. Buckmaster	150 MX S3	Toronto III
9:15 am - 9:30 am	*Break (beverages only)*			Toronto Foyer	
9:30 am - 10:45 am	WG Neutral Ground. Devices PC57.32	PCS	S. Schappell	35 MX	Johnston
9:30 am - 10:45 am	TF Functional Life Tests, De-energized Tap Changers (DETC)	Power	P. Hopkinson	50 MX	Varley
9:30 am - 10:45 am	WG Step-Voltage Regulators C57.15	Dist	C. Colopy	70 MX	Tom Thomson
9:30 am - 10:45 am	WG Impulse Test Guide C57.98/138	DiTests	A. Molden	80 MX S3	Jackson/Carmich.
9:30 am - 10:45 am	TF DGA Natural Ester Fluids	IF	P. Boman	120 MX S3	Toronto II
9:30 am - 10:45 am	WG Revision to Loading Guide C57.91	IL	D. Duckett	150 MX S3	Toronto III
10:45 am - 11:00 am	*Break (beverages only)*			Toronto Foyer	
11:00 am - 12:15 pm	WG Revision to IEEE 638	Power	C. Swinderman	35 MX	Johnston
11:00 am - 12:15 pm	WG Bushing Applicat. Guide C57.19.100	Bush	T. Spitzer	50 MX	Varley
11:00 am - 12:15 pm	TF Audible Sound & Vibration Revision to Test Code C57.12.90	ASV	R. Girgis	70 MX	Tom Thomson
11:00 am - 12:15 pm	WG Guide for DGA in LTCs C57.139	IF	F. Jakob	80 MX S3	Jackson/Carmich.
11:00 am - 12:15 pm	WG Loss Evaluation Guide C57.120	PCS	A. Traut/ D. Duckett	120 MX S3	Toronto II
11:00 am - 12:15 pm	WG Temperature Rise Test Procedures in Section 11 of C57.12.90	IL	P. Powell	150 MX S3	Toronto III
12:15 pm - 1:30 pm	Speaker Luncheon: Mr. Amir Shalaby, Ontario Power Authority (OPA) -- Topic: "Ontario Energy Strategy Including Green Power". -- Advance registration is necessary. -- Paper tickets are not provided. Admission verified at the door.			216 (8/tbl) with elevated table for 5	Toronto I
1:45 pm - 3:00 pm	WG Phase-shift Transf. Guide C57.135	Power	J. Sim	35 MX	Johnston
1:45 pm - 3:00 pm	WG Dry-type Loading Guide PC57.96	Dry	R. Marek	50 MX	Varley
1:45 pm - 3:00 pm	WG Bar Coding for Distribution Transformers C57.12.35	Dist	L. Matthews/ G. Termini	70 MX	Tom Thomson
1:45 pm - 3:00 pm	TF GSU Bushing Standardization	Bush	C. Hurley	80 MX S3	Jackson/Carmich.
1:45 pm - 3:00 pm	WG DGA Factory Temperature Rise Tests PC57.130	IF	J. Thompson	120 MX S3	Toronto II
1:45 pm - 3:00 pm	WG Revision to Low Frequency Tests	DiTests	B. Poulin	150 MX S3	Toronto III
3:00 pm - 3:15 pm	*Break (beverages and treats)*			Toronto Foyer	

*** Contact Joe Watson (joe_watson@ieee.org) if you are interested in sponsoring a coffee-break at a future meeting.

DATE/TIME	ACTIVITY	SUB-COM	ACTIVITY CHAIR	ROOM CAP/ARR/AV	MEETING ROOM
Tuesday, October 26 (continued)			Work		
	~~TF Field Applicat. of Natural Ester Fluids~~	Has completed the assignment.			
	~~WG Test Data Reporting C57.12.37~~	Document in review/balloting. Will meet in the spring.			
	~~WG Transportation Issues Guide~~	Document in review/balloting. Will meet in the spring.			
3:15 pm - 4:30 pm	TF Semiconductor Rectifier Transformers C57.18.10	PCS	S. Kennedy	35 MX	Johnston
3:15 pm - 4:30 pm	WG Terminal Markings C57.12.70	Stds	S. Shull	50 MX	Varley
3:15 pm - 4:30 pm	TF Transformer Efficiency and Loss Evaluation (DOE Activity)	Dist	P. Hopkinson	70 MX	Tom Thomson
3:15 pm - 4:30 pm >	WG Transformer Paralleling Guide	Power	T. Jauch	80 MX S3	Jackson/Carmich.
3:15 pm - 4:30 pm	WG Revision to Gas Guide C57.104 (continues into Wednesday morning)	IF	R. Ladroga	120 MX S3	Toronto II
3:15 pm - 4:30 pm	WG Revisions to Impulse Test Sections of C57.12.00 and C57.12.90	DiTests	P. Riffon/ P. Heinzig	150 MX S3	Toronto III
4:30 pm - 4:45 pm	*Break (beverages only)*			Toronto Foyer	
4:45 pm - 6:00 pm	"Panel Q&A Session". Sponsored by Administrative SC. ** -- See session flyer for more information.			270 MX S3	Toronto II / III
6:30 pm - 10:30 pm	Technical Tour: Moloney Electric Toronto Facility (distribution pole & pa-mount, small power & submersibles) -- Restricted attendance; by invitation only (Moloney Electric will send invitations separately). -- Bus will depart the Hilton at 6:30 pm and return by 10:30 pm. Dinner will be served at the facility. -- For more details, contact Lyn Fernandes at +416.534.9226 x2342 or <lfernandes@moloneytx.com>.				

Wednesday, October 27 -- Wednesday Breaks Sponsored by Siemens ***

	No Meeting Registration, No Technical Tours, No Spouse/Companion Tour				
7:00 am - 6:00 pm	Internet Cafe'			12 CONF	Casson
7:00 am - 8:00 am	Breakfast - Attendees (no spouses/companions please)			200 RT (8/tbl)	Toronto I
8:00 am - 9:30 am	Breakfast - Spouses/Companions (no meeting attendees please)			72 RT (8/tbl)	Governor General
7:00 am - 7:45 am	**SC Meetings Planning** -- breakfast buffet in room	Meetings	G. Anderson	35 MX	Johnston
8:00 am - 9:15 am	EL&P Delegation (Users only meeting)	++	S. Shull	80 MX S3	Jackson/Carmich.
8:00 am - 10:45 am	**SC Instrument Transformers**	IT	J. Smith	35 MX	Johnston
8:00 am - 9:15 am	**SC Insulation Life**	IL	B. Forsyth	200 MX S3	Toronto II / III
9:15 am - 9:30 am	*Break (beverages only)*			Toronto Foyer	
> 9:30 am - 10:45 am	WG Revision to Gas Guide C57.104 (continued from Tuesday afternoon)	IF	R. Ladroga	70 MX	Tom Thomson
9:30 am - 10:45 am	**SC Audible Sound & Vibration**	ASV	J. Puri	50 MX	Varley
9:30 am - 10:45 am	**SC Bushings**	Bush	F. Elliott	80 MX S3	Jackson/Carmich.
9:30 am - 10:45 am	**SC Distribution Transformers**	Dist	S. Shull	200 MX S3	Toronto II / III
10:45 am - 11:00 am	*Break (beverages only)*			Toronto Foyer	
11:00 am - 12:15 pm	**SC UG Transf. & Network Protectors**	UTNP	C. Niemann	80 MX S3	Jackson/Carmich.
11:00 am - 12:15 pm	**SC Dielectric Tests**	DiTests	L. Wagenaar	200 MX S3	Toronto II / III
12:15 pm - 1:30 pm	Lunch (on your own)				

** Contact Greg Anderson (gwanderson@ieee.org) if you are interested in making a technical presentation at a future meeting.
*** Contact Joe Watson (joe_watson@ieee.org) if you are interested in sponsoring a coffee-break at a future meeting.

KEY

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

> -- activity continued into another session / from another session
++ -- not a Transformers Committee activity TBD = "To Be Determined"
FC = flip chart; S1 = sound (special set-up)
S2 = stand mic in front only; S3 = one stand mic in front & stand mic(s) at mid-room

CL -- classroom seating (w/head table for 2)
TH -- theater seating (with head table for 2)
RT -- multiple roundtables
US -- U-shape table
MX -- mixture classroom & theater (w/head table)

DATE/TIME	ACTIVITY	SUB-COM	ACTIVITY CHAIR	ROOM CAP/ARR/AV	MEETING ROOM
Wednesday, October 27 (continued)					
1:30 pm - 2:45 pm	**SC Dry Type**	Dry	C. Johnson	70 MX	Tom Thomson
1:30 pm - 2:45 pm	**SC Power Transformers**	Power	T. Lundquist	200 MX S3	Toronto II / III
2:45 pm - 3:00 pm	*Break (beverages and treats)*			Toronto Foyer	
3:00 pm - 4:15 pm	**SC Insulating Fluids**	IF	S. McNelly	80 MX S3	Jackson/Carmich.
3:00 pm - 4:15 pm	**SC Performance Characteristics**	PCS	S. Antosz	200 MX S3	Toronto II / III
4:15 pm - 4:30 pm	*Break (beverages only)*			Toronto Foyer	
4:30 pm - 5:30 pm	**SC Transformer Standards**	Stds	B. Bartley	200 MX S3	Toronto II / III
6:00 pm - 10:30 pm	Dinner Social: Ontario Science Centre with IMAX. Advance registration is necessary. -- Buses begin boarding at 5:30 pm. The last bus departs at 6:00 pm. All buses will return before 10:30 pm. -- Paper tickets will not be provided. Admission will be verified with a registration list as you board the bus.				
Thursday, October 28					
	No Meeting Registration, No Spouses/Companions Tours, No Internet Cafe', No EPRI Meeting				
7:00 am - 8:00 am	Breakfast - Attendees (no spouses/companions please)			200 RT (6/tbl)	Toronto I
8:00 am - 9:30 am	Breakfast - Spouses/Companions (no meeting attendees please)			64 RT(8/tbl)	Governor General
8:00 am - 9:45 am >	General Session, Transformers Committee -- All attendees are encouraged to attend. -- See separate document for meeting agenda.		E. Smith	250 CL S1 50 TH elevat. table for 4	Toronto II / III
9:45 am - 10:00 am	*Break (beverages only)*			Toronto Foyer	
> 10:00 am - 11:30 am	General Session, Transformers Committee		E. Smith	250 CL S1 50 TH	Toronto II / III
12:00 pm - 4:45 pm	Technical Tour: Trench Bushing Facility. -- Bus will depart the Hilton at 12:00 pm and return before 4:45 pm. Box dinner provided on the bus. -- Restricted attendance; by invitation only (Trench will send invitations separately). -- For more details, contact Doris Elovaara at +416.298.4477 x232 or <doris.elovaara@trench-group.com>.				
1:00 pm - 5:00 pm	Joint WG HVDC Bushings IEC/IEEE 65700-19-03	++	J. Graham/ L. Recksiedler	20 CL	Tom Thomson
Friday, October 29					
	No Transformer Committee Meetings, No Internet Cafe', No EPRI Meeting, No Social Events or Tours.				

FUTURE COMMITTEE MEETINGS

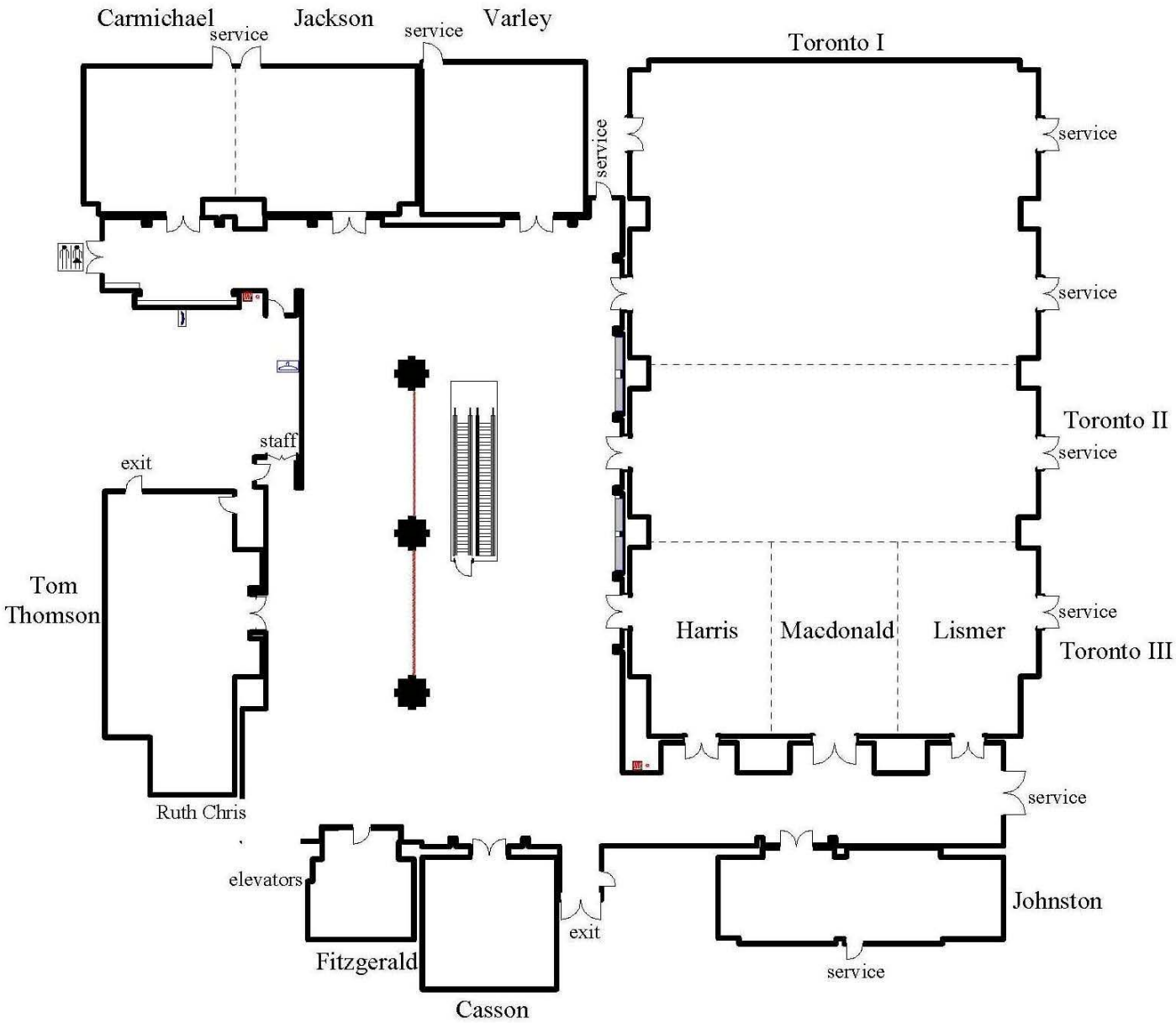
SPRING 2011 - April 10-14; San Diego, California USA. Hosted by Rob Mayer and San Diego Gas & Electric
Fall 2011 - date and location to be determined

Hilton Downtown Toronto Hotel

145 Richmond Street West; Toronto, Ontario M5H 2L2 CANADA
+416.869.3456

Note: All meetings will be on the Convention Level
(one level below the lobby by escalator; or the "C" button in the elevators)

CONVENTION LEVEL



IEEE/PES TRANSFORMERS COMMITTEE

General Session - Fall 2010 Meeting
Thursday, October 28

Chair: Ed Smith Vice Chair: Bill Chiu Secretary: Don Platts Treasurer: Greg Anderson

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1.	Chair's Remarks and Announcements	J. Edward Smith
2.	Approval of Minutes from Spring 2010 Meeting	J. Edward Smith
3.	Administrative Subcommittee	J. Edward Smith
4.	Vice Chair's Report	Bill Chiu
5.	Treasurer's Report	Gregory W. Anderson
6.	Transformer Standards	William H. Bartley
7.	Recognition and Awards	Thomas A. Prevost
8.	New Business (continued below)	J. Edward Smith
9.	Report of Technical Subcommittees	
	9.1. Underground Transformers & Network Protectors	Carl G. Niemann
	9.2. Audible Sound and Vibration	Jeewan L. Puri
	9.3. Bushings	Fred E. Elliott
	9.4. Dry Type Transformers	Charles W. Johnson
	9.5. Distribution Transformers	Stephen D. Shull
	9.6. Dielectric Tests	Loren B. Wagenaar
	9.7. HVDC Converter Transformers & Reactors	Richard F. Dudley
	9.8. Instrument Transformers	James E. Smith
	9.9. Insulating Fluids	Susan J. McNelly
	9.10. Insulation Life	Bruce I. Forsyth
	9.11. Performance Characteristics	Stephen Antosz
	9.12. Power Transformers	Thomas G. Lundquist
10.	Editor's Report	Edward G. teNyenhuis
11.	Meetings Subcommittee	Gregory W. Anderson
12.	Reports of Liaison Representatives	
	12.1. Standard Coordinating Committee No. 4	Paulette Payne Powell
	12.2. IEC TC-14 Technical Advisor to USNC	Philip J. Hopkinson
	12.3. CIGRE	Jean-Christophe Riboud
13.	Old Business	J. Edward Smith
14.	New Business (further discussion as needed)	J. Edward Smith

Speaker Luncheon
Tuesday, October 26

Guest Speaker

Amir Shalaby is the Vice President of Power System Planning for the Ontario Power Authority (OPA). He has specific responsibility for the long-term integrated plans for the development of Ontario's electricity system.

Mr. Shalaby is a Professional Engineer with undergraduate and graduate degrees in Electrical Engineering from the University of Waterloo and a Master of Business Administration degree from the Rotman School of Management at the University of Toronto.

Luncheon Topic

"Ontario Electricity Status and Outlook: 2005-2015"

Ontario's electricity system is being transformed over the period 2005-2015. Restoring reliability and keeping up the investment in infrastructure are priorities that will enable coal replacement and a doubling of renewable power by 2015.

Mr. Shalaby will highlight the major changes/opportunities/challenges associated with this transformation.

Registration

- To join us for the luncheon, register on-line at www.transformerscommittee.org
- Indicate your meal selection (beef, chicken or vegetarian).
- Paper tickets will not be provided. Admission to the event and meal selection will be verified with a registration list at the door.

Special Tour - Sunday, October 24
Canadian Air & Space Museum and Bombardier Facility

Join us for a tour of The Canadian Air & Space Museum and Bombardier Aerospace Downsview Facility. For this tour, we will split into two groups once we arrive; Team A and Team B. One team will be visiting Bombardier first, then they will be shuttled to the Canadian Air Space Museum while the other team will tour Bombardier followed by a tour of the Canadian Air Space Museum.

The Canadian Air & Space Museum celebrates Canada's accomplishments with aeronautical innovation (such as the Avro Arrow pictured above), aircraft manufacturing, military aviation, air transport and the pure joy of flight. The museum is located in a building which, among other things, was the original home of Canada's leading space technology company best known as SPAR ("Canada Arm").

The site contains the oldest surviving aircraft factory in Canada, and was the birthplace of the famous de Havilland Beaver and Otter bush planes which opened the Canadian North and were sold to customers in 65 countries. It's also where de Havilland engineers assembled and tested the first Canadian satellite, Alouette I, which established Canada as the third nation in space when launched in 1962. The Downsview site shares the distinction of being the home of one of the world's leading commercial aircraft factories, Bombardier, and was a Canadian Air Force base for 50 years.

Bombardier Aerospace is a world leader in the design and manufacture of innovative aviation products and related services for the regional, business and amphibious aircraft markets. With 22 years of experience in the aerospace business, and over 250 years of combined experience through acquisitions, this third largest civil aircraft manufacturer in the world employs over 28,000 people worldwide. It also offers Flexjet fractional ownership, Skyjet aircraft charter and management, technical services, aircraft maintenance and pilot training, as well as military aircrew training.

This tour is limited to the first 60 people who register on-line, so register soon!

<u>Itinerary</u>

8:00 am	Depart the Hilton Hotel
by 1:00 pm	Return to the Hilton Hotel

<u>Note</u>: Food is NOT included in this tour. Make sure to each breakfast before you board the bus. We will return to the Hilton by 1:00 pm.

Spouse/Companion Tour - Monday, October 25

Start your visit to Toronto by taking a two-hour guided bus tour through this fascinating city. Toronto is the fifth largest city in North America and the largest city in Canada, yet it still manages to give you a close knit neighborhood feeling. It is a vibrant urban centre made up of eclectic, lively neighborhoods. Few cities in the world bring so many diverse cultures, festivals and businesses together in a single place.

This bus tour will peek your interest by showing you some of the more popular city attractions of Toronto, such as the CN Tower, Casa Loma (castle), Rogers Centre, Trendy Yorkville, Chinatown, Queen's Park, Harbourfront, St. Lawrence Market, Eaton Centre Fashion District, as well as learn many other interesting facts about this city. Stops will be made at several spots for photos, etc.

Itinerary

9:15 am	Depart the Hilton Hotel Enjoy a professional guided tour of Toronto's sites
11:45 am	Arrive at Black Creek Pioneer Village Lunch is on your own (see suggestions below)
3:15 pm	Depart from Black Creek Pioneer Village
~4:30 pm	Return to the Hilton Hotel

Lunch is own your own. The "Half Way House Restaurant" offers the perfect, period-inspired dining experience, or for a quick snack; and the "Event Pavilion BBQ" is an excellent alternative.

Let your curiosity be your guide as you explore the landscapes, buildings and the lifestyles of 150 years ago. Many museums and other historical resources describe the past; Black Creek Pioneer Village brings it to life. Life in nineteenth century Ontario was predominantly rural: far more people were involved in farming and related trades than any other industry. Although the Steam Age had begun and was already changing the world, where we live the primary source of mechanical power was still water. Black Creek Pioneer Village spans more than 30 acres of pristine country landscapes, and includes 40 heritage buildings from communities across south central Ontario fully furnished from a collection of over 50,000 historic artifacts. In the buildings, surrounding gardens, and farmyards visitors meet interpreters and trades people in period clothing who demonstrate, and explain, how people lived, worked and played in mid 19th century rural Ontario.

Go shopping: From flour that has been stone-ground in Roblins Mill, to hand-crafted tin lanterns from the village Tinsmith, and CDs of period music, you'll find pioneer-related items to buy at Black Creek that are difficult to find anywhere else.

Wear comfortable walking shoes and appropriate outdoor clothes. You'll be in the city but you'll be visiting an authentic 19th century country village.

Spouse/Companion Tour - Tuesday, October 26

Today's bus tour will take you to Niagara Falls.

Each year, millions of people come to Table Rock for an up-close view of one of the world's most famous natural wonders - the incredible Niagara Falls. Table Rock is located right beside the Canadian Horseshoe Falls. No matter what the weather, the view is spectacular from Table Rock's two-level Grand Hall gallery.

While you are there, **you have the choice** of taking in some of the attractions such as **"Niagara's Fury"** which is located on the upper level, immediately above the main floor entrance, or visit "Journey Behind the Falls" at Table Rock.

Niagara Parks has recreated the amazing sights and sounds of the Creation of Niagara Falls. Incredible images developed with technology used previously only in satellites and medicine, will immerse you in a "4D", Universal Studios-style attraction.

Shows run daily every 30 minutes from 10:30 am to 4:00 pm. Admission price for adults is CAD$15.00.

Before entering the Attraction, an 8-minute animated show features characters who explain how the Ice Age formed Niagara Falls. Then, you enter a specially designed, 360-degree theatre for a 6-minute experience that will make you feel like you were actually there for the Creation of the Falls. The temperature will drop 20 degrees. Water will bubble and spray while snow falls all around. Standing on a massive platform you will feel the full wrath of Mother Nature as the floor tilts and trembles beneath you.

Please note: Kids of all ages are welcome to enter Niagara's Fury however some scenes might be scary. Persons with a history of heart disease or back/neck injuries are advised to use caution.

Or perhaps you would rather **Journey Behind the Falls**. Since 1899, this has been the only place where you can actually go behind and below the massive Canadian Horseshoe Falls. Explore these historic tunnels and observation decks to get a closer look at the Horseshoe Falls. Admission price is CAD$9.75 (not included in your tour registration fee).

Inside Table Rock you'll also find one-of-a-kind gifts and collectibles at a variety of unique shops.

Itinerary

9:15 am	Depart the Hilton Hotel
10:30 am	Arrive at Niagara Falls
12:00 pm	Depart Niagara Falls
12:30 pm	Light lunch at Hillebrand Winery & Tour
3:15 pm	Depart Hillebrand Winery
~4:30 pm	Return to the Hilton Hotel

Or perhaps you would rather take **"The White Water Walk"**, a boardwalk on the perimeter of the Niagara white waters where a photo gallery of history's thrill-seekers invites viewers to reflect on the derring-do of years gone by. For more on Niagara's daredevils, there's a museum dedicated to them - with historic barrels and all - at the Niagara Falls IMAX Theatre.

The choice is yours to make!

12:00 pm: The bus departs. Ensure you are on the bus on time to start the second part of this adventure.

12:30 pm: Arrive at **Hillebrand Winery** for a light lunch followed by a tour of their vineyard.

Hillebrand, has been crafting fine VQA wines from premium grapes grown in the four appellations of Niagara-on-the-Lake for more than 30 years.

In 1995, Hillebrand was the first Canadian winery to receive highest honors with the Pichon Longeuville Comtesse de Lalande Trophy (Best Red Wine in the World) at the International Wine & Spirit Competition.

Afterwards, enjoy time to browse in the Winery Boutique for wine and accessory products before boarding the bus, and returning to Toronto.

Hillebrand Winery

Wednesday Evening Dinner Social
Ontario Science Centre

Since it opened in 1969, the **Ontario Science Centre** has attracted over 40 million visitors from around the world and is one of Canada's most visited attractions.

You will enjoy a wonderful sit-down buffet dinner consisting of chicken, salmon, and beef steak. There is also a vegetarian option. You are ensured a tasty and substantial meal.

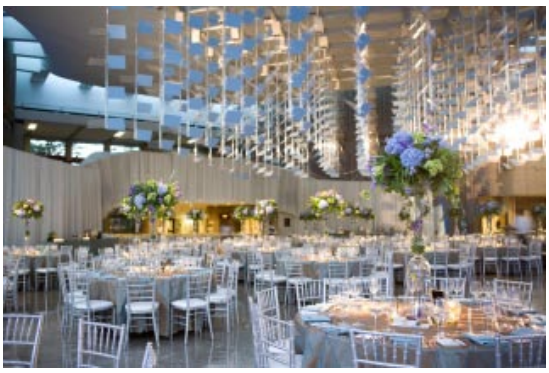
We will explore nine exhibition halls, with more than 600 interactive exhibits and demonstrations including the new **Weston Family Innovation Centre** and the **IMAX® Theatre**.

Opened in 2006, the **Weston Family Innovation Centre** will inspire visitors to take on and find practical solutions to current world problems; merge art with science; and work with a variety of materials. Visitors will be challenged to think differently about themselves and the world.

The **IMAX® Theatre** will feature "Legends of Flight". Explore the relationships between natural flight, advanced design, innovative assembly techniques and operational technologies that have brought us to the dawn of a new era in aircraft design.

You will also be able to see the Special Exhibit which is "Mythic Creatures: Dragons, Unicorns and Mermaids".

The fee for this event includes bus transportation, entry into the OSC, buffet dinner, IMAX film and the Special Exhibit. Board one of the first buses at the Hilton to ensure you have time to enjoy all the exhibits.



Itinerary

5:30 pm	Buses begin departing Hilton Hotel
6:00 pm	Last bus departs the Hilton
	Explore exhibition halls
7:30 pm	Buffet dinner
9:00 pm	IMAX® Theatre
10:00 pm	Buses begin departing from Ontario Science Centre
~10:30 pm	Buses return to the Hilton

Note: One bus will depart the OSC immediately after dinner for those who do not want to participate in the IMAX Theater.

IEEE/PES Transformers Committee
Fall 2010 Meeting
Toronto, Ontario CANADA

"Taps in Autotransformers"

-- Technical Presentation --
Monday, October 25, 2010

By Dr. Tomasz Kalicki and V. Sankar

1. Abstract

This tutorial will assist end-users to procure reliable and economical autotransformers. This tutorial will also assist manufacturers, consultants and others to familiarize with various aspects of taps in autotransformers.

Different types of taps, their electrical connection and physical location, and their effects on cost and design are discussed in depth. Differences in designs of two winding and autotransformers with taps are illustrated. How to specify the taps in autotransformer procurement specifications is highlighted. Methods to procure autotransformers that meet system needs are suggested. Influence of taps on maintenance and operation are explained. Role of the organizations like IEEE, IEC, CSA etc., to help transformer personnel are recommended.

2. Learning Objectives

This tutorial will help personnel associated with transformers to learn/familiarize the following:

- How to determine tap range and their electrical location.
- Influences of taps on autotransformer designs compared to those on two winding transformers.
- Effects of taps location on cost and reliability.
- Differences in constant flux taps and variable flux taps.
- Application of various types of de-energized taps (DETC) and on-load taps (LTC).
- Changes in impedance, flux density, sound level etc., over the tap range of constant flux taps and also over the tap range of variable flux taps.
- Salient points to be considered in design of tertiary (buried and brought-out) winding with different types of taps in the main windings.
- Role and limitations of standards in writing autotransformer procurement specifications.
- Write specifications that will help to procure autotransformers with least life costs.
- Ways users and manufacturers can work together for mutual benefit.

3. Learning Outcomes

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

- To procure economical autotransformers after knowing the differences of taps in two winding transformers and taps in autotransformers.
- To operate autotransformers trouble free after knowing the effects of taps during step-down and step-up operations.
- To write functional specifications that can promote innovation.

- Selection of type of taps and their location based on operational requirements and cost.
- To design reliable autotransformers from understanding the influences of taps on short-circuit forces and dielectric stresses.
- To determine correct tap range that can meet overloads and regulation.
- Constructive participation of users, consultants and manufacturers from understanding autotransformer design complications.
- Impartial evaluation of tenders from correctly understanding the tender designs.
- Active participation in committees of IEEE, IEC, CSA etc., for progress of transformer industry.

4. Presenters' Biographies

Dr. Tomasz Kalicki graduated from Poznan University of Technology in Poland, Faculty of Electrical Engineering with master's degree in 1993. In 1998, he graduated with Ph.D from Poznan University of Technology, Faculty of Power Systems Engineering, High Voltage Engineering. From 1993 until 1999, he worked as assistant and later as assistant professor at Poznan University of Technology.

He has worked as Equipment Engineer Specialist in Hydro One Inc for the past four years. Previously, he worked as a transformer designer at Pauwels Canada in Winnipeg (presently CG Power Systems Canada Inc.). At Winnipeg, he worked on many projects concerning large power transformers, autotransformers and HVDC converter transformers. Research experiences are with Ontario Hydro Technology, Department of Power System Technology at Stuttgart University, Institute of Power Transmission and High Voltage Technology.

V. Sankar has been a member of IEEE for 27 years and is a member of IEEE/PES Transformers Committee. His earlier tutorials at Committee meetings included "Standards, Specifications, Designs and Their Relationships", and "Taps". He also presented "Reliability of Transformers, Contribution by Users" at TRAFOTECH2006 in Mumbai.

Sankar's experience includes 24 years as a transformer design engineer at Pauwels (presently CG Power Systems), Westinghouse, Federal Pioneer in North America, and other transformer manufacturers in England and India. He has worked for 18 years at Hydro One (earlier Ontario Hydro) in Toronto as a transformer maintenance and equipment engineer. His has trained at Maschinenfabrik Reinhausen GmbH, Regensburg, Germany and at Bharat Heavy Electricals Limited, Bhopal, India. Sankar is a professional engineer in the province of Ontario, Canada.

IEEE/PES Transformers Committee
Fall 2010 Meeting
Toronto, Ontario CANADA

"Panel Q&A Session"

-- Technical Presentation --
Tuesday, October 26, 2010

By Various Industry Experts (to be determined)

Details about this unique session,
<u>and how to participate</u>, will be supplied soon.

Stay tuned!