



# TRANSFORMERS COMMITTEE



August 20, 2004

Dear Committee Members and Guests:

You and your companion are cordially invited to attend the Fall 2004 Meeting of the IEEE/PES Transformers Committee to be held October 24-28, 2004 at the Green Valley Ranch Resort & Casino in Las Vegas, Nevada. Don and Wilma Cash are the host and hostess of this meeting.

Committee meetings will be held at the Green Valley Ranch Resort ([www.greenvalleyranchresort.com](http://www.greenvalleyranchresort.com)). The Green Valley Ranch (GVR) is a three-year-old resort located just six miles from "The Strip". It is a spectacular place, with an extraordinary atmosphere. Along with its many spa-like amenities, the GVR is located adjacent to "The District", Vega's newest shopping experience.

As anticipated and forewarned in previous email messages, guest-rooms are no longer available at the GVR. Rooms are available at our overflow property, the Sunset Station Hotel & Casino ([www.sunsetstation.com](http://www.sunsetstation.com)). Shuttle service will be provided between the Sunset Station and the GVR (see the Meeting Schedule for shuttle schedule). Both the GVR and the Sunset Station will also provide complimentary bus service to and from the airport (see the bus schedules included in the invitation information).

The Sunset Station has graciously extended the date to reserve a room at the group rate until September 22. Rooms are US\$55 on Sunday night and weekdays, and US\$215 on Friday & Saturday nights. The Sunset Station can be reached at 702/221-6998. Mention you are with the "IEEE Transformers" group to receive the group rate.

October is a splendid time in Las Vegas although it can be cool in the evenings. The temperature ranges from an average high of 76°F (24C) to an average low of 52F (11C). Attire for the meetings is "business casual". Weather permitting, the outdoor swimming pool will be open at the GVR, so pack your swimsuit too!

## **ON-LINE REGISTRATION**

We again have a full agenda planned for this meeting. Use the on-line registration system to register for all tours and events. The on-line registration system can be accessed at [www.transformerscommittee.org](http://www.transformerscommittee.org). Register by September 22 to receive a US\$20 early-registration discount.

## **SPECIAL EVENTS**

The **Sunday Evening Reception** will be held poolside at the Green Valley Ranch. A local band will entertain us while a walking magician will amaze and amuse. Don't miss this event to mingle with some old friends around the hotel's unique "Hotel California style" pool.

The speaker for the **Tuesday Luncheon** will be Mr. John Futrell. John was the financial commentator for local ABC and FOX news in Las Vegas, and now owns and manages a financial services company in Vegas. In his presentation, "Engineers Have a Life, Too!", John shares the secrets of developing positive alliances at work and at home that result in a quality lifestyle. You will walk away with a feeling of inspiration, with new ideas and renewed vigor to challenge adversity and strengthen your passion for the life you live.

Our **Wednesday Evening Dinner Social** will be at Bonnie Springs Ranch ([www.bonniesprings.com](http://www.bonniesprings.com)). A replica of an 1880's mining town, this unique property is on location of the early town of "Old Nevada", which was a stopover for wagon trains going to California. We will have exclusive use of the town, while we enjoy a HUGE sit-down barbeque dinner and a 5-piece country band. Western wear is encouraged for this event.

### **COMPANION TOURS**

**Monday, October 25.** Guided bus tour of Las Vegas Strip and Downtown, with 1-hour stops at the Elvis-A-Rama Museum and the Tropicana Gamblers Museum. Also included is lunch at the Liberace Museum.

**Tuesday, October 26.** Private Tour of Bally's Jubilee Backstage, shopping and time for lunch at the renowned Fashion Show Mall. Also a relaxing stop at Ethel M's Chocolate Factory and Botanical Gardens.

### **TECHNICAL TOUR**

**Tour of Hoover Dam, Thursday Afternoon, October 28.** One of the Seven Modern Civil Engineering Wonders! Join us as we visit one of the world's most renowned structures. After a scenic 45-minute coach bus trip to the site, we will participate in the award-winning "Discovery Tour". But don't wait to register! The first 55 people to register on-line or by fax for the event will be allowed to participate in a special VIP Tour that will take us to places the general-public is no longer allowed. See the flyer on this event for more information.

### **OTHER INFORMATION**

The following additional information comprises this invitation package. This information can be found on the Committee's website ([www.transformerscommittee.org](http://www.transformerscommittee.org)).

1. Meeting Registration Form. You may mail or fax this form with payment to IEEE (must be received at IEEE by September 22 to be eligible for the US\$20 early registration discount) or register on-line using a major credit card. On-line registration is encouraged and is available at [www.transformerscommittee.org](http://www.transformerscommittee.org).
2. Detailed Meeting Schedule. An updated schedule will be posted on the Committee's web-site one week before the meeting.
3. Information flyers:
  - Companion Tours
  - Tuesday Speaker Luncheon
  - Wednesday Evening Social
  - Thursday Hoover Dam Tour
  - Technical Presentations
  - Hotel Shuttle Schedules

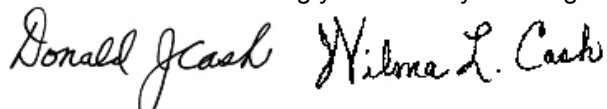
### **ASSOCIATION MANAGEMENT SYSTEM**

If you haven't already done so, please sign-up for our new Association Management System to receive future email messages about the meeting. This new system has replaced our old reflector e-mail system and will serve in the future as our committee membership database. A link to sign-up is found on the Committee's website.

### **A NOTE FROM OUR HOST & HOSTESS**

We are pleased to host this event and hope your visit will be enjoyable and memorable. Wilma and I hosted a Transformer Committee meeting in 1983 and we are thrilled to do it again. Las Vegas is a unique location; there is nothing like it in the USA. Whether it's sightseeing on the Strip or out in the desert or maybe even visiting nearby Death Valley (5 hours) and the Grand Canyon (5 hours), you will find something for every interest. If you require further information or assistance, please phone us at 702/498-1261 (cell phone) or e-mail us at [djcash@ieee.org](mailto:djcash@ieee.org).

We look forward to seeing you in Sunny Las Vegas!



Donald & Wilma Cash

**IEEE/PES TRANSFORMERS COMMITTEE  
FALL 2004 MEETING -- OCTOBER 24-28, 2004  
Las Vegas, Nevada, USA**

**Register for meeting and/or purchase Meeting Minutes using a credit card: [www.transformerscommittee.org](http://www.transformerscommittee.org)**

Attendee's Name \_\_\_\_\_  
Name to appear on your nametag (nickname, etc.) \_\_\_\_\_  
Company / Institution \_\_\_\_\_  
Street Address \_\_\_\_\_  
City \_\_\_\_\_ State / Prov. \_\_\_\_\_ Postal Code \_\_\_\_\_ Country \_\_\_\_\_  
Telephone \_\_\_\_\_ Fax \_\_\_\_\_ E-mail \_\_\_\_\_  
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:** Meeting Attendance, Sunday Evening Reception, and 4 breakfasts (M, T, W, Th)

**Companion Registration Fee Includes:** Sunday Evening Reception and 4 breakfasts (M, T, W, Th)

-- Refunds provided **ONLY** if request is received in writing at IEEE **by Tue, Oct. 19, 2004** (US\$25.00 service charge on all refunds) --

Registration Fees	On or Before Sept 22, 2004	After Sept 22, 2004	Total
Attendee - IEEE member ( <u>membership will be verified with IEEE</u> )	US\$145	US\$165	_____
Attendee - non-member	US\$170	US\$190	_____
Attendee - IEEE Life or Committee Emeritus Member (will be verified)	US\$20	US\$40	_____
Companion	US\$75	US\$95	_____

**Sunday Evening Reception** (cost included in registration fee) Attendee: ☐ Yes ☐ No Companion: ☐ Yes ☐ No -0- \_\_\_\_\_

**Monday Luncheon** - Stds Develop Process Review Mtg (WG & TF Chairs encouraged to attend) # \_\_\_\_ @ US\$20 \_\_\_\_\_

**Tuesday Luncheon** - Speaker: Mr. John Futrell, "Engineers Have a Life, Too!" # \_\_\_\_ @ US\$30 \_\_\_\_\_

Indicate selection for Tuesday Luncheon: Beef \_\_\_\_ Chicken \_\_\_\_ Vegetarian \_\_\_\_

**Wednesday Evening Dinner Social** - Barbeque Dinner at Bonnie Springs, Old Nevada # \_\_\_\_ @ US\$65 \_\_\_\_\_

**Companion Tours:** Monday - Vegas Tour, Elvis/Liberace/Gamblers Museums, includes lunch # \_\_\_\_ @ US\$50 \_\_\_\_\_

Tuesday - Bally's Jubilee, Ethel M's, Fashion Show Mall (lunch on your own) # \_\_\_\_ @ US\$35 \_\_\_\_\_

**Thursday Hoover Dam Tour:** (no companions, and only attendees at a past Committee meeting are allowed on VIP Tour)

General-public Discovery Tour Only Attendee: ☐ Yes ☐ No Companion: ☐ Yes ☐ No # \_\_\_\_ @ US\$40 \_\_\_\_\_

Discovery Tour and VIP Tour (registration by Sept 16). On-line or faxed registrations only! # \_\_\_\_ @ US\$55 \_\_\_\_\_

Please put my companion on the waiting list, in case there are openings for VIP Tour (first come, first serve): ☐ Yes ☐ No

**Meeting Minutes, Fall 2004 Meeting \*\*** (can be purchased with or without meeting registration) # \_\_\_\_ @ US\$15 \_\_\_\_\_

\*\* - The primary source for Meeting Minutes is the Committee's web-site. Printed minutes (in paper format) can be purchased and will be mailed to the above address at a later date.

**TOTAL Remitted -- US\$** \_\_\_\_\_

**Method of Payment** - All funds in US dollars only! (IEEE Tax ID No. 13-1656633)

**Money order or check** - Make check payable to: "IEEE/PES Transformers Committee"

- Checks not issued by a US Bank **MUST** add US\$20.00 for processing fee.

**Credit Card:** ☐ Visa ☐ MasterCard ☐ American Express ☐ Diners Club

Mailed or faxed registrations without proper payment will not be accepted!

Card Number \_\_\_\_\_ Expiration Date \_\_\_\_\_

Name as it appears on card \_\_\_\_\_ Signature (Important) \_\_\_\_\_

**Optional** - In case of an emergency, contact: Name \_\_\_\_\_ Phone \_\_\_\_\_

**Register on-line or mail completed form with payment to:** IEEE Conference Management Services, Attn: Ms. Jennifer Lambert  
445 Hoes Lane; Piscataway, NJ 08855-1331 USA; Phone: 732.562.3870, Fax: 732.465.6447, e-mail: [j.lambert@ieee.org](mailto:j.lambert@ieee.org)

**IEEE/PES TRANSFORMERS COMMITTEE**

www.transformerscommittee.org

Hosted by Don &amp; Wilma Cash

Green Valley Ranch Resort &amp; Spa; Las Vegas, Nevada, USA

Fall 2004 Meeting -- October 24-28, 2004

**NOTES:**

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

See Page 6 for schedule of shuttle service between Green Valley Ranch Resort (GVR) and Sunset Station Casino (SS).

<u>DATE/TIME</u>	<u>ACTIVITY</u>	<u>SUB-COM</u>	<u>ACTIVITY CHAIR</u>	<u>ROOM CAP/ARR/AV</u>	<u>MEETING ROOM</u>
<b>Saturday, October 23</b>					
	No Meetings or Technical Tours. No Meeting Registration.				
<b>Sunday, October 24</b>					
	No Technical Tours.				
1:00 pm - 7:00 pm	Meeting Registration			L-shaped table	Estancia Foyer
2:00 pm - 5:30 pm	Administrative SC -- Closed meeting, by invitation only	Admin.	K. Hanus	30 HS P (w/snack buffet)	Estancia BC
2:00 pm - 5:30 pm	ASC C57 NEMA Delegation -- Closed meeting, by invitation only	++	C. Drexler	20 HS P (w/beverages)	Estancia A
6:00 pm - 8:00 pm	Hospitality Reception -- All members, guests & companions are welcome -- Advance registration please			300 Recept.	Pool Cafe (Estancia DEFG backup)
<b>Monday, October 25 -- Monday Breaks Sponsored by <u>Hyundai Heavy Industries</u> **</b>					
7:00 am - 5:00 pm	Meeting Registration				Estancia Foyer
7:00 am - 8:00 am	Breakfast - Attendees (no companions please)			200 RT (flow)	El Viento AB (other side of casino near sports bar)
8:00 am - 9:00 am	Breakfast - Companions			75 RT	Whiskey Ck Porch (near hotel pool)
9:15 am - 3:00 pm	Companion Tour: <u>Vegas Tour, Elvis/Liberace/Gamblers Museums</u> . Advance registration required. -- Bus leaves SS at 8:30 am, and GVR (lobby entrance) at 9:15 pm. Return at 3:00 pm. Includes lunch.				
<u>7:05 am</u> - 7:50 am	<u>Newcomers Orientation</u> Breakfast Meeting -- All "Newcomers" & Guests are encouraged to attend. Get food in El Viento AB (across hallway) and bring into room. Be ready for a 7:05 am start.		D. Fallon	50 CL S3, P	El Viento C (other side of casino near sports bar)
7:05 am - 7:50 am	Distribution SC Coordination Meeting (closed mtg)		E. Smith	15 CONF	China Spice Restr.
	<del>WG Electronic Data Transmittal</del> <del>PC57.12.37</del>	<del>Dist</del>	<b>Cancelled. Will meet in Spring 2005</b>		
8:00 am - 9:15 am	WG 3-ph UG Distribut. Trans. C57.12.24	UTNP	J. Sullivan/ G. Termine	40 CL	Estancia A *
8:00 am - 9:15 am	TF Dry-Type Reactors	Dry	R. Dudley	40 CL O	Estancia E *
8:00 am - 9:15 am	TF Winding Temperature Indicators	IL	P. McClure	60 CL O	Estancia D *
8:00 am - 9:15 am	TF Arc Furnace Transformers C57.17	Power	D. Corsi	80 CL P	Estancia BC *
8:00 am - 9:15 am	WG Acoustic PD Measurements	DiTests	J. Harley	125 CL S3	Estancia F *
8:00 am - 9:15 am	TF Core Overexcitation Requirements	PCS	C. Stiegemeier	125 CL S3, P	Estancia G *
				* primarily CL, but add rows of theater seating in rear of room if necessary	
9:15 am - 9:30 am	<i>Break (beverages only)</i>			Estancia ABC and FG foyers	

\*\* Contact Joe Watson (joe\_watson@ieee.org) if you are interested in sponsoring a future coffee-break.

<u>DATE/TIME</u>	<u>ACTIVITY</u>	<u>SUB-COM</u>	<u>ACTIVITY CHAIR</u>	<u>ROOM CAP/ARR/AV</u>	<u>MEETING ROOM</u>
<b>Monday, October 25 (continued)</b>					
9:30 am - 10:45 am	WG Liquid-immersed Secondary Network Transformers C57.12.40	UTNP	B. Klaponski	40 CL	Estancia A
9:30 am - 10:45 am	WG Thermal Evaluation of Power and Distribution Trans. C57.100	IL	R. Wicks	40 CL P	Estancia E
9:30 am - 10:45 am	WG PCS Rev. to Test Code C57.12.90	PCS	B. Forsyth	60 CL P	Estancia D
9:30 am - 10:45 am	WG 1-ph OH Dist. Trans. C57.12.20	Dist	A. Wilks/ T. Cooper	80 CL O	Estancia BC
9:30 am - 10:45 am	TF Electrical Partial Discharge Measurements Guide C57.113	DiTests	E. Lemke	125 CL S3, P	Estancia F
9:30 am - 10:45 am	WG Transformer Monitoring C57.143	Power	D. Chu/A. Lux	125 CL S3, P	Estancia G
10:45 am - 11:00 am	<i>Break (beverages only)</i>			Estancia ABC and FG foyers	
11:00 am - 12:15 pm	WG Rev. Transf. for Non-sinusoidal Loads C57.110 <b>(new)</b>	PCS	R. Marek	40 CL P	Estancia A
11:00 am - 12:15 pm	WG Temp. Rise Test Procedures in Section 11 of C57.12.90	IL	P. Payne	40 CL	Estancia E
11:00 am - 12:15 pm	WG Shunt Reactors C57.21	Dry	R. Dudley	60 CL O	Estancia D
11:00 am - 12:15 pm	WG 1-ph Padmount Distribution Transformers C57.12.25	Dist	A. Ghafourian/ I. Ares	80 CL O	Estancia BC
11:00 am - 12:15 pm	WG Revision to Low Frequency Tests	DiTests	M. Perkins	125 CL S3, P	Estancia F
11:00 am - 12:15 pm	WG New Standard for Control Cabinets	Power	J. Watson	125 CL S3, P	Estancia G
12:15 pm - 1:30 pm	Lunch Mtg - Standards Develop. Process Review -- All WG & TF Chairs are encouraged to attend. -- Advance reservation necess. (\$20 for box lunch). -- <b>IMPORTANT:</b> Bring your ticket to the lunch.		B. Chiu	80 RT P (same set from bkfst, set food for guarantee)	El Viento AB (other side of casino near sports bar)
1:45 pm - 3:00 pm	WG Sec. Network Protectors C57.12.44	UTNP	D. Mulkey	40 CL	Estancia A
1:45 pm - 3:00 pm	WG Dry-Type Gen. Require. C57.12.01	Dry	J. Sullivan	40 CL	Estancia E
1:45 pm - 3:00 pm	<b>SC HVDC Converter Transformers and Smoothing Reactors</b>	HVDC	R. Dudley	60 CL O, P	Estancia D
1:45 pm - 3:00 pm	WG 3-ph Padmount Distribution Transformers C57.12.34	Dist	R. Stahara/ S. Shull	80 CL O	Estancia BC
1:45 pm - 3:00 pm	WG PCS Revisions to C57.12.00	PCS	S. Snyder	125 CL S3	Estancia F
1:45 pm - 3:00 pm	WG LTC Performance C57.131	Power	W. Henning/ C. Colopy	125 CL S3, P	Estancia G
3:00 pm - 3:15 pm	<i>Break (beverages and treats)</i>			Estancia ABC and FG foyers	
3:15 pm - 4:30 pm	WG 1-ph Submersible Distribution Transformers C57.12.23	UTNP	A. Traut/ B. Basu	40 CL O	Estancia A
3:15 pm - 4:30 pm	Joint WG Optical ITs C57.13/PSIM P1601	IT/PSIM	Rahmatian/ Gilleland	40 CL O, P	Estancia E
3:15 pm - 4:30 pm	WG Semiconductor Rectifier Transformers C57.18.10	PCS	S. Kennedy	60 CL P	Estancia D
3:15 pm - 4:30 pm	WG for Bar Coding Distribution Transformers C57.12.35	Dist	L. Matthews/ G. Termine	80 CL P	Estancia BC
3:15 pm - 4:30 pm	WG Revision of Impulse Guide C57.98	DiTests	A. Molden	125 CL S3, P	Estancia F
3:15 pm - 4:30 pm	WG Transf. Life Extension PC57.140	Power	R. James/ W. Bartley	125 CL S3, O	Estancia G
4:30 pm - 4:45 pm	<i>Break (beverages only)</i>			Estancia ABC and FG foyers	
4:45 pm - 6:00 pm	Presentation #1: "HVDC Converter Transformers Polarity Reversal Impact on Dielectric Design", by Ugo Piovan and others **		Sponsor: HVDC	200 TH S3, P (table for 5 on riser, w/podium and lapel mic)	Estancia CD (other side of casino near sports bar)
No Evening Activity Planned					

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

<u>DATE/TIME</u>	<u>ACTIVITY</u>	<u>SUB-COM</u>	<u>ACTIVITY CHAIR</u>	<u>ROOM CAP/ARR/AV</u>	<u>MEETING ROOM</u>
<b>Tuesday, October 26 -- Tuesday Breaks Sponsored by <u>GE PROLEC</u> **</b>					
7:00 am - <u>12:00 pm</u>	Meeting Registration			L-shaped table	Estancia AB Foyer
7:00 am - 8:00 am	Breakfast - Attendees (no companions please)			200 RT	El Viento ABCD
8:00 am - 9:00 am	Breakfast - Companions			75 RT	Whiskey Ck Porch
9:15 am - 3:00 pm	Companion Tour: <u>Bally's Jubilee, Ethel Ms Chocolate, Fashion Show Mall</u> . Advance registration required. -- Bus leaves SS at 8:30 am, and GVR at 9:15 pm. Return around 3:00 pm. <u>Lunch on your own at the Mall</u> .				
8:00 am - 9:15 am	WG Test Requirements for HV Instrument Transformers C57.13.5	IT	R. McTaggart/ P. Riffon	40 CL O	Estancia A
8:00 am - 9:15 am	WG Switching Transients Induced by Transformer/Breaker Interaction	PCS	R. Degeneff	40 CL P	Estancia E
8:00 am - 9:15 am	WG Guide for DGA in LTCs C57.139	IF	F. Jakobi	60 CL	Estancia D
8:00 am - 9:15 am	WG Enclosure Integrity C57.12.28, C57.12.29, C57.12.31, C57.12.32	Dist	R. Olen/ D. Mulkey	80 CL O	Estancia BC
8:00 am - 9:15 am	TF Def. Thermal Upgraded Insulation	IL	D. Platts	125 CL S3	Estancia F
8:00 am - 9:15 am	WG West Coast, with TF for Revision of IEEE 62, C57.117 and C57.125	Power	M. Lau	125 CL S3, P	Estancia G
9:15 am - 9:30 am	<i>Break (beverages only)</i> Estancia ABC and FG foyers				
	<del>TF Joint/PSIM Low PF Measurement</del>	<del>PCS</del>	<b>Will meet in Spring 2005</b>		
9:30 am - 10:45 am	WG Thermal Evaluation C57.12.56 and C57.12.60	Dry	R. Provost/ R. Wicks	40 CL	Estancia A
9:30 am - 10:45 am	WG Neutral Ground. Devices PC57.32	PCS	S. Schappell	40 CL, P	Estancia E
9:30 am - 10:45 am	WG Natural Ester-based Fluids	IF	P. McShane	60 CL	Estancia D
9:30 am - 10:45 am	WG Std Terminology C57.12.80	Stds	T. Raymond	80 CL	Estancia BC
9:30 am - 10:45 am	WG Thermal Duplicate Guide PC57.145	IL	B. Beaster	125 CL S3	Estancia F
9:30 am - 10:45 am	TF Functional Life Tests, De-energized Tap Changers (DETC)	Power	P. Hopkinson	125 CL S3, P	Estancia G
10:45 am - 11:00 am	<i>Break (beverages only)</i> Estancia ABC and FG foyers				
	<del>TF Rev. to Temp. Ratings in C57.12.00</del>	<del>IL</del>	<b>Will not meet. Status report at IL SC Meeting.</b>		
11:00 am - 12:15 pm	WG ITs for Electronic Meters & Relays	IT	C. TenHaagen	40 CL O	Estancia A
11:00 am - 12:15 pm	WG Loss Tolerance and Measurement	PCS	E. teNyenhuis	40 CL P	Estancia E
11:00 am - 12:15 pm	WG Revision of Oil Guide C57.106	IF	J. Thompson/ T. Oommen	60 CL O	Estancia D
11:00 am - 12:15 pm	WG Dist. Substation Transf. C57.12.36	Dist	Aho/Rossetti	80 CL P	Estancia BC
11:00 am - 12:15 pm	WG Phase-shift Trans. Guide C57.135	Power	T. Lundquist	125 CL S3, O	Estancia F
11:00 am - 12:15 pm	TF Bushing Applicat. Guide C57.19.100	Bush	T. Spitzer	125 CL S3	Estancia G
12:15 pm - 1:45 pm	Speaker Luncheon. Advance registration is necessary -- "Engineers Have a Life, Too!", by Mr. John Futrell -- <u>IMPORTANT</u> : Bring your ticket and place on table to indicate your meal selection.			160 RT S1, P add <u>elevated</u> tbl for 5, add lectern w/mic and lapel	El Viento ABCD (other side of casino near sports bar)
1:45 pm - 3:00 pm	WG Instrument Transformer Standard Requirements C57.13	IT	T. Nelson	40 CL O	Estancia A
1:45 pm - 3:00 pm	WG Dry-Type Test Code C57.12.91	Dry	D. Foster	40 CL P	Estancia E
1:45 pm - 3:00 pm	WG Revision of C57.12.10	Power	J. Arteaga	60 CL P	Estancia D
1:45 pm - 3:00 pm	WG Loss Evaluation Guide C57.12.33	Dist	D. Duckett/ T. Pekarek	80 CL	Estancia BC
1:45 pm - 3:00 pm	WG Revision to Loading Guide C57.91	IL	T. Raymond	125 CL S3, P	Estancia F
1:45 pm - 3:00 pm	WG Dielectric Test Tables, Liquid-filled	DiTests	P. Hopkinson	125 CL S3, P	Estancia G
3:00 pm - 3:15 pm	<i>Break (beverages and treats)</i> Estancia ABC and FG foyers				

\*\* Contact Joe Watson (joe\_watson@ieee.org) if you are interested in sponsoring a future coffee-break.

<u>DATE/TIME</u>	<u>ACTIVITY</u>	<u>SUB-COM</u>	<u>ACTIVITY CHAIR</u>	<u>ROOM CAP/ARR/AV</u>	<u>MEETING ROOM</u>
<b>Tuesday, October 26 (continued)</b>					
3:15 pm - 4:30 pm	WG Conform. Tests C57.13.2	IT	V. Khalin	40 CL	Estancia A
3:15 pm - 4:30 pm	WG Frequency Response Analysis (FRA) Guide PC57.149	PCS	R. James/ C. Sweetser	40 CL O	Estancia E
3:15 pm - 4:30 pm	TF Standardization of Bulk-type Bushings	Bush	R. Williams/ B. Hartgrove	60 CL	Estancia D
3:15 pm - 4:30 pm	WG Voltage Step Regulators C57.15	Dist	C. Colopy/ G. Kennedy	80 CL P	Estancia BC
3:15 pm - 4:30 pm	WG Revision to Impulse Tests	DiTests	P. Riffon	125 CL S3, O	Estancia F
3:15 pm - 4:30 pm	WG Revision Installation Guide C57.93	Power	M. Lau	125 CL S3, P	Estancia G
4:30 pm - 4:45 pm	<i>Break (beverages only)</i>			Estancia ABC and FG foyers	
4:45 pm - 6:00 pm	Presentation #2: "Taps", by V. Sankar **		Sponsor: PCS	200 TH S3, P (with podium and lapel mic)	El Viento CD (other side of casino near sports bar)
No Evening Activity Planned					

### **Wednesday, October 27 -- Wednesday Breaks Sponsored by Kelman**

No Meeting Registration, No Companion Tours						
7:00 am - 8:00 am	Breakfast - Attendees (no companions please)			200 RT	El Viento ABCD	
8:00 am - 9:00 am	Breakfast - Companions			75 RT	Whiskey Ck Porch	
	<del>WG Web-page Development Breakfast Meeting</del>			<b>Will not meet this time.</b>		
8:00 am - 9:15 am	EL&P Delegation -- Users only meeting	++	K. Hanus	50 CL	Estancia BC *	
8:00 am - 9:15 am	<b>SC Audible Sound &amp; Vibration</b> with WG Sound Level Measurement Guide	ASV	J. Puri	40 CL O	Estancia A *	
8:00 am - 9:15 am	<b>SC Instrument Transformer</b>	IT	J. Smith	80 CL O S3	Estancia DE *	
8:00 am - 9:15 am	<b>SC Insulation Life</b>	IL	D. Platts	200 CL S3	Estancia FG *	
9:15 am - 9:30 am	<i>Break (beverages only)</i>			Estancia ABC and FG foyers		
9:30 am - 10:45 am	TF Transportation Issues Guide ( <b>new</b> )	Power	T. Lundquist	80 CL S3, O	Estancia DE	
9:30 am - 10:45 am	<b>SC UG Transf. &amp; Network Protectors</b>	UTNP	C. Niemann	50 CL	Estancia BC	
9:30 am - 10:45 am	<b>SC Dielectric Tests</b>	DiTests	L. Wagenaar	200 CL S3, O	Estancia FG	
10:45 am - 11:00 am	<i>Break (beverages only)</i>			Estancia ABC and FG foyers		
	<del>WG Metric Conversion PC57.144</del>	<del>Dist</del>	<b>Will not meet. Std balloted and into publication.</b>			
	<del>TF Arc Furnace Transformers C57.17</del>	<del>Power</del>	<b>Moved to Monday morning, 8:00 am.</b>			
11:00 am - 12:15 pm	TBD			50 CL, P	Estancia BC	
11:00 am - 12:15 pm	<b>SC Insulating Fluids</b>	IF	F. Gryszkiewicz	80 CL O S3	Estancia DE	
11:00 am - 12:15 pm	<b>SC Performance Characteristics</b>	PCS	R. Girgis	200 CL S3, P	Estancia FG	
12:15 pm - 1:30 pm	Lunch (open)					
1:30 pm - 2:45 pm	TBD			50 CL	Estancia BC	
1:30 pm - 2:45 pm	<b>SC Dry Type</b>	Dry	C. Johnson	80 CL O S3	Estancia DE	
1:30 pm - 2:45 pm	<b>SC Power Transformers</b>	Power	E. Hager	200 CL S3 P	Estancia FG	
2:45 pm - 3:00 pm	<i>Break (beverages and treats)</i>			Estancia ABC and FG foyers		
* primarily CL, but add rows of theater seating in rear of room if necessary						

\* primarily CL, but add rows of theater seating in rear of room if necessary

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

## KEY

> -- activity continued into another session / from another session  
 ++ -- not a Transformers Committee activity TBD = to be determined  
 O = overhead projector; P = PC projector; F = flip chart; S1 = sound (see note)  
 S2 = stand mic in front only; S3 = stand mic in front & 1 stand mic at mid-room

CL -- classroom seating (with head table for 2-3)  
 TH -- theater seating (with head table for 2-3)  
 RT -- multiple roundtable (8-10/table)  
 HS -- one hollow square or U-shape

DATE/TIME	ACTIVITY	SUB-COM	ACTIVITY CHAIR	ROOM CAP/ARR/AV	MEETING ROOM
<b>Wednesday, October 27 (continued)</b>					
3:00 pm - 4:15 pm	IEC TC-14 Technical Advisory Group	++	P. Hopkinson	40 HS P	Estancia A
3:00 pm - 4:15 pm	<b>SC Meetings Planning</b>	Mtgs	G. Anderson	50 CL P	Estancia BC
3:00 pm - 4:15 pm	<b>SC Distribution Transformers</b>	Dist	E. Smith	80 CL O S3	Estancia DE
3:00 pm - 4:15 pm	<b>SC Bushings</b>	Bush	F. Elliott	200 CL S3, O	Estancia FG
4:15 pm - 4:30 pm	<i>Break (beverages only)</i>			Estancia ABC and FG foyers	
4:30 pm - 5:30 pm	<b>SC Transformer Standards</b>	Stds	B. Chiu	200 CL S3, P	Estancia FG
6:00 pm - 10:00 pm	Dinner Social -- "BBQ Dinner at Bonnie Springs, Old Nevada" -- Advance registration is necessary. Western wear is encouraged. -- Buses leave simultaneously from both the GVR and the SS at 6:00 pm. -- Return to both GVR and SS between 10:00 and 10:30 pm. -- <u>IMPORTANT</u> : Show your ticket as you board the bus.				

## Thursday, October 28 -- Thursday Committee Break Sponsored by ABB Inc. \*\*

No Meeting Registration, No Companion Tours, No ASC C57 Meeting.					
7:00 am - 8:00 am	Breakfast - Attendees (no companions please)			200 RT	El Viento ABCD
8:00 am - 9:00 am	Breakfast - Companions			75 RT	Whiskey Ck Porch
8:00 am - 9:45 am >	Transformers Committee -- <u>All attendees</u> are encouraged to attend. -- With special tutorial/presentation of the new "Association Management System" (all SC, WG and TF chairs are encouraged to attend)		K. Hanus	300 CL S1, P <u>elevat.</u> table for 4 lectern w/mic, one floor mic in each isle	Estancia DEFG (with 3-4 rows of TH in the rear of room)
9:45 am - 10:00 am	<i>Break (beverages only)</i>			Estancia FG Foyer	
> 10:00 am - <u>11:30 pm</u>	Transformers Committee		K. Hanus	300 CL S1, P	Estancia DEFG
12:30 pm - 6:00 pm	Technical Tour: <u>Hoover Dam</u> . -- Everyone will participate in general-public Discovery Tour. A select group will attend the special VIP Tour. -- Buses will leave from GVR at 12:30 pm and make a brief stop at SS. See flyer for more information. -- Those on VIP Tour will return around <u>5:30 pm</u> . Others will return around <u>4:30 pm</u> .				
1:00 pm - 5:00 pm >	NEMA ST-1/ST-20 Revision ++		G. Morehart	25 HS beverages in rear of room; screen, cart, power strip	Estancia BC
	<del>EPRI Power Transf. Project Review</del>	++	<b>Not meeting this time. Will meet in the Fall 2005.</b>		

## Friday, October 29

No Transformer Committee Meetings					
	<del>EPRI Power Transf. Project Review</del>	++	<b>Not meeting this time. Will meet in the Fall 2005.</b>		

\*\* Contact Joe Watson (joe\_watson@ieee.org) if you are interested in sponsoring a future coffee-break.

## FUTURE COMMITTEE MEETINGS

SPRING 2005 - March 13-17; Jackson, Mississippi; Hilton Jackson. Hosted by Andy Speegle and Kuhlman Electric.

FALL 2005 - October 23-27; Memphis, Tennessee; Peabody Memphis. Hosted by Randy Williams and ABB Inc.

SPRING 2006 - TBD

FALL 2006 - TBD



# ***Green Valley Ranch***

## ***A Station Casinos Resort & Spa***

**LAS VEGAS**

**NOTE:** All Attendees Breakfasts are held in the El Viento Room which is across the casino, near the sports bar.

All Companions Breakfasts are held in the Whiskey Creek Porch which is outdoors, near the hotel lobby and pool.



### **Shuttle Service**

**Between Green Valley Ranch (GVR) and Sunrise Station (SS)**

**See schedule posted on the Committee's website, and also distributed at the Sunset Station upon check-in at the hotel.**

- This shuttle service is in addition to the buses normally provided by the hotels to the Strip and the airport.
- Look for coach buses marked "IEEE", and 10-passenger buses with the Green Valley Ranch Resort & Spa logo.
- Buses will be provided only at the times posted on the schedule.
- If you miss the bus at the designed time, a taxi can be requested from the hotel valet.

# IEEE/PES Transformers Committee Shuttle Service



## **Sunday - 10/24**

### **Registration:**

SS TO GVR & GVR TO SS - 1:30 PM - 3:00 PM (last bus leaves GVR at 3:00)

### **Reception:**

SS TO GVR 5:30 to 6:30 PM (last bus leaves **SS** at 6:30)

GVR TO SS 7:30 to 8:30 PM (last bus leaves **GVR** at 8:30)

---

## **Monday - 10/25**

### **To Meeting:**

SS TO GVR 6:30 AM to 7:30 AM

(2 busses continuously, **last bus leaves SS at 7:30**)

### **Departing Meeting:**

GVR TO SS 5:00 PM to 6:30 PM

(2 busses continuously, **last bus leaves GVR at 6:30**)

---

## **Tuesday - 10/26**

### **To Meeting:**

SS TO GVR 6:30 am to 7:30 AM

(2 busses continuously, **last bus leaves SS at 7:30**)

### **Departing Meeting:**

GVR TO SS 5:00 pm to 6:30 pm

(2 busses continuously, **last bus leaves GVR at 6:30**)

---

## **Wednesday - 10/27**

### **To Meeting:**

SS TO GVR 6:30 am to 7:30 AM

(2 busses continuously, **last bus leaves SS at 7:30**)

### **Departing Meeting:**

GVR TO SS **4:40 pm to 6:00 PM**

(2 busses continuously, **last bus leaves GVR at 6:00**)

---

## **Thursday - 10/28**

### **To Meeting:**

SS TO GVR 6:30 am to 7:30 AM

(2 busses continuously, **last bus leaves SS at 7:30**)

### **Departing Meeting:**

GVR TO SS 11:30 - 12:30

(2 busses continuously, **last bus leaves GVR at 12:30**)

### **Departing Meeting (last group):**

GVR TO SS 5:15 PM (1 bus for 20 pax, **one bus leaves GVR at 5:15**)



**SUNSET STATION** – PICK UP/DROP OFF AREA IS OUTSIDE THE FRONT ENTRANCE OF HOTEL, (outside of café entrance)

**GVR** – PICK UP/DROP OFF AREA IS LOCATED OUTSIDE OF THE TROPHIES RESTAURANT ENTRANCE

# IEEE/PES TRANSFORMERS COMMITTEE

## TRANSFORMERS COMMITTEE - FALL 2004 MEETING THURSDAY, OCTOBER 28, 2004

---

Chair: Kenneth S. Hanus

Vice-chair: Donald J. Fallon

Secretary: Thomas A. Prevost

---

- |       |  |                            |
|-------|--|----------------------------|
| 1.    | Chair's Remarks and Announcements                            | Kenneth S. Hanus           |
| 2.    | Approval of Minutes from Spring 2004 Meeting                 | Kenneth S. Hanus           |
| 3.    | Administrative Subcommittee                                  | Kenneth S. Hanus           |
| 4.    | Vice-chair's Report  | Donald J. Fallon           |
| 5.    | Presentation/Tutorial on New "Association Management" System | Gregory W. Anderson        |
| 6.    | Transformer Standards  | Bill Chiu                  |
| 7.    | Recognition and Awards                                       | H. Jin Sim                 |
| 8.    | Report of Technical Subcommittees                            |                            |
| 8.1.  | Underground Transformers & Network Protectors                | Carl G. Niemann            |
| 8.2.  | Audible Sound and Vibration                                  | Jeewan L. Puri             |
| 8.3.  | Bushings   | Fred E. Elliott            |
| 8.4.  | Dry Type Transformers  | Charles (Chuck) W. Johnson |
| 8.5.  | Distribution Transformers                                    | James E. (Ed) Smith        |
| 8.6.  | Dielectric Tests   | Loren B. Wagenaar          |
| 8.7.  | HVDC Converter Transformers & Reactors                       | Richard F. Dudley          |
| 8.8.  | Instrument Transformers                                      | James E. (Jim) Smith       |
| 8.9.  | Insulating Fluids  | Frank J. Gryszkiewicz      |
| 8.10. | Insulation Life  | Donald W. Platts           |
| 8.11. | Performance Characteristics                                  | Ramsis S. Girgis           |
| 8.12. | Power Transformers   | Everett G. Hager           |
| 9.    | Editor's Report  | Stephen Antosz             |
| 10.   | Meetings Planning Subcommittee                               | Gregory W. Anderson        |
| 11.   | Reports of Liaison Representatives                           |                            |
| 11.1. | Standard Coordinating Committee No. 4                        | Paulette A. Payne          |
| 11.2. | IEC TC-14 Technical Advisor to USNC                          | Philip J. Hopkinson        |
| 11.3. | CIGRE  | Jean-Christophe Riboud     |
| 12.   | Old Business   | Kenneth S. Hanus           |
| 13.   | New Business   | Kenneth S. Hanus           |



IEEE/PES Transformers Committee  
Fall 2004 Meeting, October 24-28, 2004  
Las Vegas, Nevada, USA



**HVDC Converter Transformers**  
**Polarity Reversal Impact on Dielectric Design**  
-- Technical Presentation, Monday, October 25, 4:45 p.m. --

by Ugo Piovan

## **1. Abstract**

In today's complex transmission network, HVDC interties are being increasingly utilized as a means to control power flow. By reversing the polarity on a HVDC link, a system controller can reverse the direction of the power flow. In some transmission systems the polarity of HVDC interties can be changed several times per day. This is in contrast to the traditional use of many HVDC lines where the polarity was typically reversed only a few times per year. Reversing the polarity of a HVDC intertie places unique and critical dielectric stresses on the converter transformers.

Until now, HVDC dielectric design has been approached by means of static electric field plots (DC field based on material conductivities and Polarity Reversal (PR) field as a superposition of DC and traditional AC fields). However, some insulation systems designed in full accordance with this approach have nonetheless failed during the Polarity Reversal Test or, worse, during operation. An improved approach is to base the design of insulation systems on dynamic electric field studies, which allow a better understanding of polarity reversal transients, i.e. the change of the electric field with time.

We will present a typical HVDC transformer insulation system and compare information that can be obtained by the static and dynamic approach. In addition, we will make considerations on the present way to perform PR test by comparing dielectric stress applied during PR test according to standards with stress during operation.

Finally some consideration will be made on material properties and their influence of electric fields.

## **2. Learning Objectives**

Attendees of this tutorial session will receive an introduction to HVDC transformer insulation design principles. They will learn how the use of transient (time varying) electric field simulation allows for a better (when compared to static fields) understanding of what goes on inside the transformer during Polarity Reversal operations. They will also learn how the stress on insulation during Polarity Reversal test described by IEEE C57.129-1999 compares with the one in operation.

## **3. Learning Outcomes**

The information learned from this session should help attendees to:

- Optimize HVDC transformers insulation
- Increase HVDC transformers reliability
- Reconsider how to carry out DC and PR dielectric tests
- Resolve problems related to dielectric failures of HVDC transformers

#### **4. Presenter's Biographies**

**Ugo Piovan**: Mr. Piovan is presently Manager of Electromagnetic Services at Weidmann Transformerboard Systems AG, Rapperswil, Switzerland. He is responsible for the R&D for transformer insulation design tools and consulting services related to magnetic problems in transformers (3D stray flux loss calculation, effects of current harmonics etc.) Before joining Weidmann in 2000, he was Chief Engineer for industrial transformers in TAMINI Trasformatori, Italy. He is a member of IEEE Working Group for Arc Furnace Transformers and of IEC Working Group 21 Converter Transformers (Industrial and HVDC) and of IEC Working Group 29 High temperature insulation systems. He is a Registered Professional Engineer in Italy. He received his M.S. degree in Electrical Engineering from the Polytechnic of Milan, Italy in 1994.



**IEEE/PES Transformers Committee  
Fall 2004 Meeting, October 24-28, 2004  
Las Vegas, Nevada, USA**



**T A P S**

**-- Technical Presentation, Tuesday, October 26, 4:45 p.m. --**

**by V. Sankar**

**1. Abstract**

Users' aim is to procure reliable and economical transformers that meet their system needs. In this tutorial, use of standards and designs to achieve this aim are discussed. Purchasing specifications' role in optimum utilization of existing tap changers and manufacturing practices are covered. Precautions in operating transformers purchased with constant flux taps as variable flux taps are highlighted. Benefits to users and manufacturers by working as a team are listed. Future work for advancement of transformer industry is suggested.

**2. Learning Objectives**

Attendees of this tutorial session will be learning about the following:

- Types of Taps based on function, electrical connection, winding arrangement and tap changer operation.
- Effect of Taps on first cost and on life cycle cost of the transformer.
- Different types of tap changers available, their optimum utilization, limitations and maintenance cost.
- Types of tapping windings and design practices.
- Guidelines stated in standards, their usage and limitations.
- Various points to be considered in preparation of specifications, especially interaction between system people and transformer designers.
- Adoption of good manufacturing practices to avoid field problems during the life of transformers.
- Cooperation between factory and field personnel to create paths for innovations.

**3. Learning Outcomes**

The information in this session should help participants with the following:

- Selection of type of taps (constant flux or variable flux or mixed regulation) based on operational requirements.
- Determination of most economical tap range and number of taps.
- Selection of taps location (in HV or LV) to achieve least life cycle cost.
- Selection of type of DTC (de-energized) or LTC (on-load) taps based on their advantages and limitations.
- Selection of tank-mounted or in-tank tap changer based on first cost and cost of maintenance.
- Precautions in operating transformers different from their purchasing specifications.
- Use of linear, coarse/fine and reversing taps to obtain most economical transformers with trouble free operation.
- Preparation of functional specifications without imposing restrictions.

#### **4. Presenter's Biography**

**V. Sankar**: Sankar has been a member of IEEE for the past 25 years and a member of the IEEE Transformers Committee for the past 16 years. His earlier tutorials include "Standards, Specifications, Designs and Their Relationships" at the Transformers Committee Meeting in Orlando, Florida in October 2001. He also presented a technical paper entitled "Transformer Maintenance" for Pennsylvania Power and Light at Great Falls, Montana in February 2004.

Sankar's experience includes 21 years as a transformer design engineer at Pauwels, Westinghouse, and Federal Pioneer in North America, and transformer manufacturers in England and India. He also worked for 18 years at Ontario Hydro (Hydro One) in the "transformer maintenance and equipment" sections.

Sankar is a professional engineer in the province of Ontario, Canada. He has a Bachelor's degree in Electrical Engineering and a Master's degree in High Voltage technology. He then received training at Maschinenfabrik Reinhausen GmbH, Regensburg, Germany and at Bharat Heavy Electricals Limited, Bhopal, India. Sankar's technical publications include papers on transformer core configuration that reduce losses, and improvement of impulse voltage distribution.

Sankar retired in May 2000 and operates his own consulting company.

# COMPANIONS TOUR - MONDAY

Monday, October 25, 2004



***Come with us as we journey on a tour of attractions that defines Vegas.***

## **Las Vegas Strip and Downtown Tour**

Las Vegas is truly larger than life! Major hotels, casinos and major attractions will be pointed out on this coach bus tour. Your private tour guide will describe the transformation of Las Vegas from a dusty railroad-watering stop at the beginning of the century to the "Entertainment Capital of the World."

## **Elvis-O-Rama Museum (a one-hour stop)**

Here among the \$5 million worth of memorabilia, you'll find the covers from all 729 of his songs, posters from all 29 of his movies, original handwritten lyrics and personal letters, and clothing worn on stage and during his tour of duty in the Army. Also see his personal speedboat and several cars, including his world famous 1955 Concert Tour Limo. Guests are greeted by a "talking" Elvis on the self-guided tour, and after the introduction, see an 80-foot-long mural, which was created in Nashville in 1979 and has been signed by many notable artists.



## **Liberace Museum (with lunch)**

Here you'll find the entire spectacle "Mr. Showmanship" encompassed, from the rhinestone-studded pianos, to his red, white and blue hotpants outfit. The Museum features his dazzling jewelry, rare antiques, unsurpassed wardrobe, unique and historical pianos and his custom car collection, including his mirrored Rolls Royce Limousine. Also see pieces of Liberace's personal collections including pieces of rare Moser crystal from Czechoslovakia. Liberace owned service for twelve, with 14 individual glasses for each setting. It is one of two collections ever hand-made, the other is owned by Queen Elizabeth. We will enjoy lunch in the museum's cafe.

## **Tropicana Gamblers Museum (a one-hour stop)**

Explore the world's largest collection of rare and valuable casino memorabilia. The Casino Legends Hall of Fame traces the development of Las Vegas from Nevada's 1931 inception of legalized gambling to its meteoric rise as the world's premiere casino resort destination. The collection of chips and artifacts is outstanding. More than 738 casinos are represented, 550 of which no longer exist (including the ones imploded this decade). The photographs of downtown and the Strip are worth the visit.

**Cost: \$50 (includes admission fees and lunch)**

Pickup in front of the Sunset Station at 8:45 am.

Pickup at the Green Valley Ranch (lobby entrance) at 9:15 am.

Return to both hotels around 3:00 pm.





## COMPANIONS TOUR - TUESDAY

Tuesday, October 26, 2004



### **Ballys Jubilee Backstage Tour**

Don Arden's *Jubilee* at Bally's is the most lavish and spectacular program ever staged in Las Vegas. The longest running and most admired show on The Strip, *Jubilee* offers the unique opportunity to get a rare behind-the-scenes tour of the making and the success of a fabulous Las Vegas production. Greeted by a cast member of *Jubilee*, you will be given insight to the excitement of the backstage pre-show. Beginning on the stage, you will learn how the elevator and flyrails operate. Next, it's down to the basement to see the enormous set props such as the Titanic and Samson & Delilah. Escorted to the prop shop, carpenter shop, electrical workshop and

the costume shop, you'll have the chance to witness the maintenance and upkeep involved in keeping *Jubilee* a success. In the costume shop, creations by famous designers such as Bob Mackie are on display, as well as exquisite feather headdresses, feather boas and unique wigs. Finally, visit the dressing rooms where more than 100 performers prepare themselves nightly for the show. This amazing tour concludes with a current cast member transforming herself into a glamorous showgirl with full stage makeup and a beautiful costume. What better way to view a Las Vegas show than to see the inner workings of a hit production, including all the backstage gossip, and learning the secrets of the theater!

Note: There is no wheelchair access. Negotiating stairs is a part of this tour, so wear comfortable shoes. Children under the age of 16 are not permitted on the tour.

### **Fashion Show Mall**

Enjoy shopping and lunch at the Seventh Wonder of the Shopping World! The Fashion Show Mall has expanded to nearly 2 million square feet, making it the largest shopping destination on the Strip, attracting more than 10 million visitors annually. Shops include Saks, Macy's, Neiman Marcus, Nordstrom and Bloomingdale's Home. Restaurants and food shops inside the Mall include Mariposa, California Pizza Kitchen, Neiman Marcus Café, Bloomingdales Café, Auntie Anne's Pretzels, Starbucks Coffee, and multiple restaurants in the Plaza Food Court.

Lunch is on your own within the Mall.



### **Ethel M's Chocolate Factory and Desert Botanical Gardens (a one-hour stop)**

Ethel M was founded by Forrest Mars, Sr., the patriarch of the Mars candy company (Snickers, Milky Way, etc.). When you visit Ethel M Chocolates today, you can look right inside the factory through large glass windows. As if a chocolate factory with windows weren't enough, Forrest Mars also built one of the most beautiful and extensive desert gardens in the country. It covers four acres and boasts over 350 different species of cactus and other desert plants and trees. A relaxing ending to a day of showgirls and shopping!

**Cost: \$35 (includes admission fees, lunch is on your own at the Mall)**

Pickup in front of the Sunset Station at 8:45 am.

Pickup at the Green Valley Ranch (lobby entrance) at 9:15 am.

Return to both hotels around 3:00 pm.

# TUESDAY SPEAKER LUNCHEON

Tuesday, October 26, 2004; 12:15 pm

*A Business Speaker that motivates, educates and elicits results! His message is content-driven and delivered with an entertaining style.*

**John C. Futrell** is President of Futrell Financial Management, a wealth management company. Formerly, the financial commentator for ABC and FOX news in Las Vegas, he now serves as an information source to the media on financial and business matters. He has frequently been featured on local programs, news interviews and publications. John has authored numerous articles as a Financial Columnist for a variety of publications. Additionally, the legal community often retains John to provide testimony to the courts when financial and business issues require an expert's opinion. His 17 years in the financial arena also includes positions with Merrill Lynch and Paine Webber.

John speaks professionally about business and personal success. His entertaining style draws on his personal experiences with business in the professional world. He brings humor, education and motivation to his audiences.



## **"Engineers Have a Life, Too!"**

After surviving a near-fatal accident resulting in a broken neck, John shares how dramatic change can instantly affect the quality of life. Adversity comes in and out of everyone's life. Sometimes it hits like a storm without warning. He explains how his real life *Hare and the Tortoise* tale applies to the success of business and the satisfaction of one's personal life.

Money does not make us rich. It is the quality of our personal and professional relationships that makes us wealthy. Great leaders know how to manage relationships, not just business. Money is a byproduct of the wealth we create in our relationships. Are you complete in your relationships?

John shares the secrets of developing positive alliances in work and at home that result in a winning success. You will walk away with a feeling of inspiration, new ideas and renewed vigor to challenge adversity and strengthen your passion for the life you live.

## **Luncheon Menu**

Bring your ticket and place on the table in front of you to indicate your meal selection!

Luncheon service includes: Tomato-ginger soup, chef's selection of seasonal signature vegetables and potato or rice, freshly baked rolls and sweet butter, freshly brewed regular or decaffeinated coffee, and tea selections. Also, traditional tiramisu for dessert. Your choice of entrees can be selected from the following:

Beef: Curried Beef on Steamed Rice, with crystallized ginger, toasted coconut, almonds, scallions, chili's and mango.

Chicken: Lemon-Oregano Chicken on garlic spinach & polenta with prosciutto, roasted peppers & provolone cheese.

Vegetarian: Pasta Primavera, fettuccini with fresh garden vegetables in a heavy cream sauce with garlic and parmesan.

# WEDNESDAY EVENING DINNER SOCIAL

## Bonnie Springs Old Nevada

Wednesday, October 27, 2004



The Wild West is still as wild as ever in Old Nevada -- a replica of an 1880's mining town built on the 115-acre Bonnie Springs Ranch. Bonnie Springs Old Nevada is John Wayne Country! Boarded sidewalks that creak pleasantly under your feet, saloons, tumbleweeds, stagecoaches, and even a Boot Hill Cemetery.

Bonnie Springs Ranch was originally built in 1843 as a stopover for the wagon trains going to California down the Old Spanish Trail. The Bonnie Springs Ranch tourist attraction got its start back in the early 1950s when Al Levinson, a recently arrived New Yorker, met and married Las Vegas dancer and showgirl, Bonnie McGaugh. Bonnie passed her strong love for the West and its historic past to her husband, and together they ambitiously decided to recreate and preserve much of the wild and woolly old Nevada. Levinson began building Old Nevada back in the early 1970s after doing extensive historical research and slowly gathering artifacts from the 1800s. If the scenery looks familiar, perhaps you saw it in an episode of the TV series "Bonanza."

This little ol' mining town offers plenty of rousing, rough-and-tumble action. We will see a gunfight in the street, and even a public hanging (return your IEEE ballots on time or you may be invited to the neck-tie party!). In addition to gunfights and cowboys, there's a wax museum with figures from our frontier history, and a beautiful 1800's style chapel. Inside Old Nevada, there are no false fronts! It is a real town, with shops and a saloon, and an operational 1902 stamp mill that crushes ore into fine powder for gold separation. Also plenty of opportunities to purchase souvenirs!



### TRIP DETAILS

We will have exclusive use of the town! Buses will depart simultaneously from both hotels (Green Valley Ranch and Sunset Station) at 6:00 pm. We will take a 45-minute tour through scenic Red Rock Canyon to the town of Bonnie Springs. The town is at the base of monumental majestic peaks. It is quite a view! Although it may be dusk when we arrive, a full moon that night will add to the ambiance of the Old West. The buses will leave Bonnie Springs between 9:00 and 9:30 pm and go directly back to the two hotels. For those of you staying at the Sunset Station and attending the Wednesday afternoon Committee meetings, you may ride a bus from the Green Valley Ranch to Bonnie Springs, and return to the Sunset Station afterwards on a different bus.



### OUR DINNER

Dinner will be served buffet style in the large Old Nevada Saloon. A five-piece country & western band will entertain us. Dinner will consist of barbeque chicken and ribs, baked beans, green salad, corn-on-the-cob, hot homemade biscuits, assorted cookies, and tea and coffee. A cash bar will be provided. We have called around to other groups who have used the facility and apparently the food is not a novelty. It is a big BBQ dinner with delicious food. and you won't go away hungry.

Western wear is encouraged! (cowboy hats & boots, jeans, western shirts, bandanas, etc)

**COST (includes admission fee, dinner and transportation): US\$65**



# HOOVER DAM TOUR

## Thursday Afternoon, October 28, 2004



Just a short drive from the glitter and glamour of Vegas, the amazing Hoover Dam is a testimony to civil, electrical and mechanical ingenuity, applied to construct a monolithic project in the midst of adverse conditions. Built during the Great Depression between 1931 and 1935, thousands of men and their families came to Black Canyon to tame the Colorado River. It took less than 5 years to build the largest dam of its time. Now, 70 years later, Hoover Dam still stands as a world-renowned structure.

Hoover Dam is a National Historic Landmark and is called one of the Seven Engineering Wonders of the Modern World. This engineering marvel not only enabled the industrial development of the Pacific Southwest, but it also forms Lake Mead, the largest man-made reservoir in the Western Hemisphere. History comes to life as you tour the interior of this 72-story structure, see its powerplant, and view fascinating exhibits.

### **DISCOVERY TOUR**

The bus trip from Vegas will take about 45 minutes. Once we arrive, everyone will participate in the 1-1/2 hour general-public "Discovery Tour". This is the same tour that nearly one million people take each year. The tour includes the most spectacular views of the facility, including a stop at the Observation Deck and the Winged Statues. Afterwards, we will have plenty of time to browse around the facility and Visitors Center.

### **VIP TOUR (special tour, after the Discovery Tour)**

We have been granted exclusive permission for 55 people to participate in a "VIP Tour" of the facility. This private one-hour tour will include areas for which the general public is no longer allowed access (such as the turbine floor). The first qualifying on-line or faxed registrations requesting the special tour will be admitted. Due to the limited number of participants allowed, we regret that companions will not be considered, except in the event of fewer than 55 attendee applications. If your companion is interested in participation in the VIP Tour, please indicate this on your registration as we will build a "wait-list". However, it is unlikely that companions will be considered.

Also, due to security restrictions, the VIP Tour will only be offered to attendees who have attended at least one previous Transformers Committee Meeting. Newcomers and companions are welcome to attend the Discovery Tour, which is an award-winning presentation route that is preferred by most non-technical visitors. Those who consider applying for the VIP Tour should note that the tour is somewhat physically demanding, consisting of more than a mile of walking in warm conditions, with many stairs.



VIP Tour participants must provide their passport number or a US driver's license number. Have that information ready when you register on-line. Those registering by fax will be contacted later. No mailed-in registrations for the VIP Tour will be accepted.

## **TRIP DETAILS**

The main Committee Meeting will end by 11:30 am on Thursday. We will take 2-3 coach buses to Hoover Dam. The buses will leave from the Green Valley Ranch Resort at 12:30 pm. The buses will make a brief stop in front of the Sunset Station Hotel around 12:40 pm. Lunch will not be provided, so be sure to eat before getting on the bus.

Once we get there, we will all begin the Discovery Tour at 2:00 pm. Once we have all participated in the Discovery Tour, and strolled around the facility for a few minutes, all companions and those not participating in the VIP Tour will return to Vegas, with bus stops at both the Green Valley Ranch Resort and Sunset Station (returning around 5:30 pm). The VIP Tour will start at 3:30 pm and those 55 people participating will return to Vegas around 6:30 pm.

Note: Due to changing security levels, the tours may be cancelled at any time without notice. All persons and bags will need to pass thru airport style security scanners, and bags and briefcases larger than 9" x 12" are not allowed. Strollers and wheelchairs are subject to search.



## **TOUR COSTS (includes admission fee and coach bus transportation)**

Discovery Tour: US\$40 (meeting attendees, companions and newcomers are welcome)

Discovery Tour and VIP Tour: US\$55 (no companions, attendees of a past Committee Meeting only)

The above fees are refundable if the tours are cancelled.

Registrations for the VIP Tour will not be accepted after September 16 (although it is expected to sell-out very quickly). At that time, companions will be considered if there are less than 55 attendee registrations.



## **HOOVER DAM POWER FACTS**

The dam and powerplant are operated and maintained by the US Bureau of Reclamation. There are 17 main turbines in the powerplant. The turbines, originally installed in 1935, were all replaced during an upgrade program between 1986 and 1993. The total plant nameplate capacity is 2,074 megawatts.

There are fifteen 178000 HP, one 100000 HP, and one 86000 HP Francis-type vertical hydraulic turbines. There are thirteen 130 MW, one 61.5 MW, one 68.5 MW, and two 127 kW generators. All machines operate at 60 cycles. There are also two 2400 kW station-service units driven by Pelton water wheels. These provide electrical energy for lights and for operating cranes, pumps, motors, compressors, and other electrical equipment within the dam and powerplant.

# Green Valley Ranch

Offers a complimentary shuttle to and from McCarran Airport  
and the Las Vegas Strip.

Monday thru Thursday		Friday & Saturday		Sunday	
9:00am	GVR to Airport	9:00am	GVR to Airport	6:30am	GVR to Airport
9:30am	Airport to GVR	9:30am	Airport to GVR	7:00am	Airport to GVR
10:00am	GVR to Airport	10:00am	GVR to Airport	8:30am	GVR to Airport
10:30am	Airport to GVR	10:30am	Airport to GVR	9:00am	Airport to GVR
11:00am	GVR to Strip	11:00am	GVR to Airport	10:00am	GVR to Airport
11:30am	Strip to GVR	11:30am	Airport to GVR	10:30am	Airport to GVR
12:00pm	GVR to Airport	12:00pm	GVR to Airport	11:00am	GVR to Strip
12:30pm	Airport to GVR	12:30pm	Airport to GVR	11:30am	Strip to GVR
2:00pm	GVR to Strip	1:00pm	GVR to Strip	12:00pm	GVR to Airport
2:30pm	Strip to GVR	1:30pm	Strip to GVR	12:30pm	Airport to GVR
3:00pm	GVR to Airport	2:00pm	GVR to Airport	1:00pm	GVR to Strip
3:30pm	Airport to GVR	2:30pm	Airport to GVR	1:30pm	Strip to GVR
4:30pm	GVR to Airport	3:00pm	GVR to Airport	2:00pm	GVR to Airport
5:00pm	Airport to GVR	4:00pm	GVR to Airport	2:30pm	Airport to GVR
5:30pm	GVR to Strip	4:30pm	Airport to GVR	3:00pm	GVR to Airport
6:00pm	Strip to GVR	5:00pm	GVR to Strip	3:30pm	Airport to GVR
6:30pm	GVR to Airport	5:30pm	Strip to GVR	4:30pm	GVR to Airport
7:00pm	Airport to GVR	6:30pm	GVR to Airport	5:00pm	Airport to GVR
7:30pm	GVR to Strip	7:30pm	Airport to GVR	5:30pm	GVR to Strip
8:00pm	Strip to GVR	8:00pm	GVR to Strip	6:00pm	Strip to GVR
8:30pm	GVR to Airport	8:30pm	Strip to GVR	6:30pm	GVR to Airport
9:00pm	Airport to GVR	9:00pm	GVR to Strip	7:00pm	Airport to GVR
9:30pm	GVR to Strip	9:30pm	Strip to GVR	7:30pm	GVR to Strip
10:00pm	Strip to GVR	10:00pm	GVR to Strip	8:00pm	Strip to GVR
		10:30pm	Strip to GVR	8:30pm	GVR to Airport
				9:00pm	Airport to GVR

The shuttle is a white 10-passenger van with the  
Green Valley Ranch Resort & Spa logo.

## McCarran Airport

The shuttle picks up and drops off guests at the Zero Level. The Zero Level is located down the escalators behind the Baggage Claim Information Desk. The shuttle will pick up and drop off across the driveway (to the right) – across from stalls #21 and #22.

## The Las Vegas Strip

Transportation to and from  
the Strip is to Mandalay  
Bay (tour & travel lobby).

revised 08/17/2004





## COMPLIMENTARY SHUTTLE SCHEDULE

### SUNDAY - FRIDAY

SUNSET  
TO  
AIRPORT

7:00AM  
8:00AM  
9:00AM  
11:00AM

1:00PM  
2:00PM  
3:00PM  
4:00PM  
5:00PM  
7:00PM  
9:00PM  
10:00PM

AIRPORT  
TO  
SUNSET

7:30AM  
8:30AM  
9:30AM  
11:30AM

1:30PM  
2:30PM  
3:30PM  
4:30PM  
5:30PM  
7:30PM  
9:30PM  
10:30PM

SUNSET  
TO  
TROPICANA

12:00PM  
6:00PM

TROPICANA  
TO  
SUNSET

12:30PM  
6:30PM



### SATURDAY

SUNSET  
TO  
AIRPORT

11:00AM

1:00PM  
2:00PM  
4:00PM  
5:00PM

AIRPORT  
TO  
SUNSET

11:30AM

1:30PM  
2:30PM  
4:30PM  
5:30PM

SUNSET  
TO  
TROPICANA

12:00PM  
6:00PM

TROPICANA  
TO  
SUNSET

12:30PM  
6:30PM

The shuttle departs Sunset Station from the East Side Entrance.  
These doors are located next to the Sunset Cafe.

The Shuttle picks up from the Airport Ground Zero Level,  
directly across from Bus Stall number 23