



## **Transformers Committee - Administrative Subcommittee**

Spring 2012 Meeting - Nashville, TN

Sunday, March 11, 2012, 2:00PM - 5:30PM

Renaissance Nashville Hotel – Ryman Room – 3<sup>rd</sup> Floor

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Chair: Bill Chiu

Vice Chair: Donald Platts

Secretary: Stephen Antosz

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### **3. Administrative Subcommittee – Bill Chiu**

#### **Introductions**

The attendees were asked to introduce themselves. The chair asked each attendee to state his/her affiliation. If the attendee is a consultant, the attendee must state if he is representing a company other than his own consulting interest. Introductions were made by members and guests.

#### **Attendance**

##### Members present:

Gregory Anderson  
Stephen Antosz  
William Bartley  
Bill Chiu  
Richard Dudley  
Charles Johnson  
Thomas Lundquist  
Susan McNelly  
Carl Niemann  
Donald Platts  
Michael Sharp  
Stephen Shull  
Edward Smith  
Loren Wagenaar  
Peter Zhao

##### Members absent:

Bruce Forsyth  
Ross McTaggart  
Ed teNyenhuis

##### Guests present:

Peter Balma  
Jin Sim  
Erin Spiewak  
Al Rotz  
Barry Beaster (for Bruce Forsyth)

#### **3.1 Approval of Previous Meeting Minutes**

The Chair asked for comments from the Boston Administrative Subcommittee meeting minutes. Hearing no comments or requests to change the draft minutes, the Chair asked for a motion to approve. Vote Approved.

### 3.2 Approval of Agenda

The Chair reviewed the draft agenda with the attendees. There were no comments and the Chair declared the agenda approved.

- |  |                       |
|--|-----------------------|
| 1. Introduction of Members and Guests (:05)                      | B. Chiu               |
| 2. Approval of Fall 2011 Minutes – Boston, MA (:03)              | B. Chiu               |
| 3. Additions to and/or Approval of the Agenda (:02)              | B. Chiu               |
| 4. Chair's Report (:05)  | B. Chiu               |
| 5. Vice Chair's Report (:05)                                     | D. Platt              |
| 6. Secretary's Report (:10)                                      | S. Antosz             |
| 7. Treasurer's Report (:05)                                      | G. Anderson           |
| 8. Awards Report (:10)   | E. Smith              |
| 9. Meeting Planning (:10)  | G. Anderson           |
| 9.1. Nashville Meeting Arrangements & Host Update                |                       |
| 9.2. Future Meetings   |                       |
| 10. Standards Report (:20)                                       | B. Bartley            |
| 11. IEC/IEEE Dual Logo Standards Update (:05)                    | E. Spiewak            |
| 12. BREAK (:10)  |                       |
| 13. New Business   |                       |
| 13.1. Corresponding Members and Quorum (:05)                     | S. Antosz             |
| 13.2. GMD/GIC Position Paper (:10)                               | B. Chiu/D. Platts     |
| 13.3. Class I & II Considerations (:05)                          | B. Chiu               |
| 13.4. Committee O&P, WG P&P Manual Update (:15)                  | P. Balma              |
| 13.5. Access to Tutorial Presentations & Copyright release (:05) | B. Chiu/S. McNelly    |
| 13.6. WG Data – Confidentiality, Storage, Access, & Use (:15)    | S. McNelly/E. Spiewak |
| 13.7. General Sessions Coordination (Mon. & Thr.) (:05)          | B. Chiu               |
| 14. Subcommittee Reports - Roundtable                            |                       |
| 14.1. Bushings (:05)   | P. Zhao               |
| 14.2. Dielectric Test (:05)                                      | L. Wagenaar           |
| 14.3. Distribution Transformers (:05)                            | S. Shull              |
| 14.4. Dry Type Transformers (:05)                                | C. Johnson            |
| 14.5. HVDC (:05)   | M. Sharp              |
| 14.6. Instrument Transformers (:05)                              | R. McTaggart          |
| 14.7. Insulating Fluids (:05)                                    | S. McNelly            |
| 14.8. Insulation Life (:05)                                      | B. Forsyth            |
| 14.9. Performance Characteristics (:05)                          | E. teNyenhuis         |
| 14.10. Power Transformers (:05)                                  | T. Lundquist          |
| 14.11. Underground Transformers & Network Protector (:05)        | C. Niemann            |
| 15. Old Business   |                       |
| 16. Adjourn  |                       |

### 3.3 Chair's Report – Bill Chiu

#### **IEEE Power & Energy Society Technical Council**

The Technical Council of the IEEE Power Energy Society (PES) is presently composed of the Chairpersons of the PES Technical Committees, plus the Chairpersons of Standing Committees reporting to it. The Power Energy Society is Division VII of The Institute of Electrical and Electronics Engineers (IEEE). For operating functions it is responsible to the IEEE Technical Advisory Board and for technical activities to the IEEE Technical Activities Board. Please see <http://www.ieee-pes.org/technical-committees/statement-of-purpose-and-scope-of-activities-for-the-pes-technical-council> for further details on the Statement of

Purpose and Scope of Activities for the PES Technical Council. The membership of the Technical Council is listed below.

#### **TECHNICAL COUNCIL OFFICERS**

Damir Novosel, *Chair*  
Jeffrey H. Nelson, *Vice Chair*  
S. S. (Mani) Venkata, *Secretary*  
Rick Taylor, *Past Chair*

#### **STANDING COMMITTEES**

Awards Committee - John Randolph, *Chair*  
Meetings & Marketing Committee - Jeffrey H. Nelson, *Chair*  
Organization & Procedures Committee - Mani Venkata, *Chair*  
Standards Coordination Committee - Bill Bartley, *Chair*  
Technical Sessions Committee - Jeffrey H. Nelson, *Chair*

#### **COORDINATING COMMITTEES**

Emerging Technologies Coordinating Committee - Branislav Djokic, *Chair*  
Intelligent Grid Coordinating Committee - Don Von Dollen, *Chair*  
Marine Systems Coordinating Committee - Paul Bishop, *Chair*  
Wind and Solar Power Coordinating Committee - Richard J. Piwko, *Chair*

#### **TECHNICAL COMMITTEES**

Electric Machinery Committee - Mike Sedlak, *Chair*  
Energy Development and Power Generation Committee - Om Malik, *Chair*  
Insulated Conductors Committee - John Smith, *Chair*  
Nuclear Power Engineering Committee - S. K (Satish) Aggarwal, *Chair*  
Power System Analysis, Computing, and Economics Committee - Sandoval Carneiro, Jr., *Chair*  
Power System Communications Committee - Dan Nordell, *Chair*  
Power System Dynamic Performance Committee - Nikos Hatziargyriou, *Chair*  
Power System Instrumentation and Measurements Committee - R. Arseneau, *Chair*  
Power System Operations Committee - William (Bill) Cassel *Chair*  
Power System Planning and Implementation Committee - M. L. Chan, *Chair*  
Power System Relaying Committee - Robert D. Pettigrew, *Chair*  
Stationary Battery Committee - William (Bill) Cantor, *Chair*  
Substations Committee - John D. Randolph, *Chair*  
Surge Protective Devices Committee - Dr. A. J. (Tony) Surtees, *Chair*  
Switchgear Committee - Ken Edwards, *Chair*  
Transformers Committee - Bill Chiu, *Chair*  
Transmission and Distribution Committee - S. J. Ranade *Chair*

#### **PES Technical Council Activities**

The most recent Technical Council meeting took place on January 8, 2012, at the Joint Technical Committee Meeting in Garden Grove, CA. Highlights of several ongoing activities of Technical Council and its Committees are included below.

#### **IEEE PES Scholarship Plus Initiative**

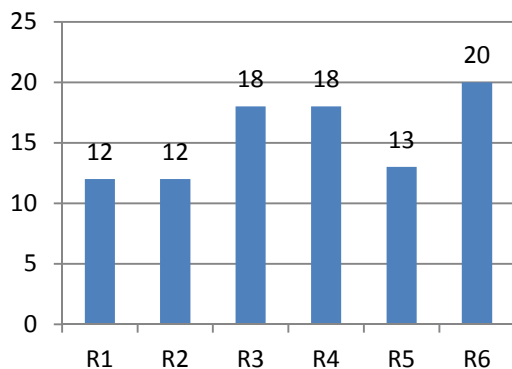
In October 2011, the IEEE PES announced the inaugural Scholarship Plus Initiative™ award recipients. Ninety-Three (93) PES Scholarship recipients have been selected from 51 U.S. universities for the 2011-12 Academic year. These scholarships are being distributed through the IEEE Power & Energy Scholarship Fund which is being used to support the IEEE PES Scholarship Plus Initiative.

The Scholarship Plus Initiative provides multi-year scholarships and career experience opportunities to qualifying U.S. electrical engineering undergraduate students. As long as the scholar continues to meet renewal standards, he or she will receive up to three years of funding — \$2,000 the first year, \$2,000 the second year and \$3,000 the third year — interspersed with up to two much-valued career experiences.

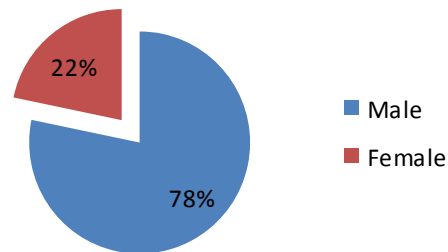
These undergraduate students were selected by industry and academic representatives based primarily upon: academic preparation; extra-curricular activities and leadership; interest in engineering in general, and power and energy engineering in particular; and overall assessment of student's potential for a successful power and energy engineering career.

Six regional committees were formed to review and select the PES Scholarship Plus Scholars in the US by the 6 IEEE defined Regions, and to consult on the program's implementation. There are approximately 100 volunteers supporting the program through the regional and other committees.

### **PES Scholars by Regions**



### **PES Scholars by Gender**



21 (22%) of 93 award recipients are female; the number of females is noteworthy as it is a significant proportion relative to the portion in Electrical Engineering programs. This proportion is estimated as roughly twice the typical enrollment of females in EE thus encouraging and supporting greater future enrollments.

Preparations for the second year of the program are underway. Discussions are being held with prospective donors regarding employment recruitment and career promotion strategies, and requesting financial support for the PES Scholarship Plus Initiative. The next scholarship application period will be from March 1 through June 30, 2012.

More information about the PES Scholarship Plus Initiative™ is available at: [www.ee-scholarship.org](http://www.ee-scholarship.org), or contact the program administrator directly via Email: [info@ee-scholarship.org](mailto:info@ee-scholarship.org)

### **Conference Paper Quality**

There have been some on-going dialogues at the recent Technical Council meetings regarding conference paper quality and acceptance rate, which directly translates to the number of papers accepted, and indirectly impacts the number of attendees, the available timeslots for the paper sessions, multiple simultaneous paper sessions with potential overlap from both time and subject matter perspective. There are many perspectives discussed during the most recent meeting in January, 2012 and the Technical Council agreed on the following set of tenets moving forward:

- One approach does not fit all and we should accommodate to the needs of various committees. Avoid perceived division between practitioners and academics, as we all have the same goal to help our industry that has been experiencing some real exciting developments.
- There is a need to have consistent criteria in reviewing papers, organizing panels, and avoiding overlaps. It is not appropriate to single out or focus on any committee - Our strength is in applying best practices.
- We want to have output and initiatives of all committees more attractive to as wide of an audience as possible. Our members want to participate on the panel or write a paper that is of interest to our community.

After some deliberation, a motion was made to create a taskforce to develop a set of review and acceptance criteria that can be applied across the all the technical committees. The motion passed and a Paper Acceptance Criteria Taskforce was formed, with volunteers from representatives of the following technical committees:

- Power System Relaying Committee - Robert D. Pettigrew, *Chair*
- Transformers Committee - Bill Chiu, *Chair*
- Transmission and Distribution Committee - S. J. Ranade, *Chair*

The deliverable of this Taskforce is a draft guideline for paper review and acceptance criteria for discussion at the upcoming PES GM meeting in San Diego that is schedule to take place in July, 2012. If you have comments or questions related to this activity please contact the Committee Chair.

### **IEEE Fellow Nominations**

The recent statistics of the Fellow nominations have indicated room for improvement for PES to increase the efforts in nominating our significant contributors to the IEEE Fellow membership grade. Currently there are four categories of contributions that senior members with more than five years of service (in any grade of membership) can be nominated towards the Fellow grade. These are:

**Application Engineer/Practitioner**—Responsible for product development, advancement in system, application or operation, project management or construction activity, process development, manufacturing innovation, codes or standards development, or other application of technology.

**Educator**—Responsible to advance electrical engineering and scientific technology through education by the developing curricula and/or courses that are innovative and unique.

**Research Engineer/Scientist**—Responsible for inventions, discoveries or advances in the state of the art technological advances.

**Technical Leader**—Responsible for a managerial, team, or company-wide effort using technical innovation, and resulting in outstanding performance, economic enhancements, or other advantages to benefit society.

The Fellow nominations statistics at the PES level for the Class of 2011 are:

- 49 total nominations received
- 23 were noted as exceptional or highly qualified
- 70% of the nominations exhibit high quality of the preparation
- The remaining 30% of the nominations has shortcomings that included:

- Lack of sufficient description of 1 or 2 distinguished qualifications or contributions to the industry
- Focus on overall individual's policy level contributions (compared to a balance of technical and business level contributions)
- Insufficient citations for the contributions
- Some of the nominations of lower quality appear to come from local PES Chapters

Overall, IEEE average a bit over 35% of the nominees being elected to the grade of Fellow. PES is slightly below the IEEE average at approximately 30% success rate.

The key focus to increase the number of PES Fellows include

- Increasing the number of nominations
- Improved quality of the submissions
- Assure proper representation and fair process for PES at the IEEE Fellows Committee
- Promote our members to become senior members and eligible for Fellows
- Committee Fellows Coordinators are key to facilitate the process
  - Review of the nominations and assist in the process
  - Help committees without experience and many Fellows
  - Sharing of best practices in some of the Technical Committees (e.g., PSRC), that could be shared with other TC's.

One thing worth noting here is that any person, including non-members, can serve as nominator, except for the following individuals (for the purpose of avoiding potential conflict of interest)

- Members of the IEEE Board of Directors
- Members of the IEEE Fellow Committee
- IEEE Technical Society/Council Fellow Evaluating Committee Chairs
- Members of IEEE Technical Society/Council Fellow Evaluating Committee reviewing the nomination, or IEEE Staff.

Our website has a listing of our members who have achieved this highest level of membership recognition. As a handy reference, I have included the list below in alphabetical order:

**Dennis J. Allan (Life Fellow)**

1992 - for contributions to the design and development of power transformers.

**Ray Bartnikas (Life Fellow)**

1977 - for contributions to the field of dielectric and corona loss mechanisms in electrical insulating systems.

**Robert C. Degeneff**

1993 - for contributions to the modeling and computation of transient voltages in transformer windings

**Ramsis S. Girgis**

1993 - for contributions to reductions in the losses of large power transformers

**Philip John Hopkinson**

2002 - for contributions to the reliability of distribution transformers and the development of related standards for testing and application

**William J. McNutt (Life Fellow)**

1976 - for contributions to the design of power transformers and standardization of test procedures

**Harold R. Moore (Life Fellow)**

1997 - for leadership in the development, design, and application of power transformers and associated equipment

**Linden W. Pierce (Life Fellow)**

2000 - for contributions to the understanding of heat transfer and loading of liquid-immersed and dry type power and distribution transformers

**Robert A. Veitch (Life Fellow)**

1998 - for leadership in the development and design of very large and extra high voltage transformers, shunt reactors and associated equipment

**Loren B. Wagenaar**

1996 - for contributions to transformer and bushing test standards and specifications

Most recently, the Transformers Committee volunteers made three nominations for the class of 2012 candidates. We wish them the best in a successful outcome in the upcoming evaluation process.

**Technical Sessions Committee & Upcoming PES Sponsored Conferences**

The Vice Chair's Report contains information on papers and panel sessions to be presented at the upcoming PES T&D Conference and Exposition (scheduled from May 7 – May 10, 2012 in Orlando, FL) and the PES General Meeting (scheduled from July 22 – July 26, 2012 in San Diego, CA).

The Chair notes with appreciation that several members and active participants in the Transformers Committee have authored papers and will be presenting at the Orlando T&D Conference and Exposition. A noteworthy paper authored by Dr. Ramsis Girgis. et.al. on the *Effects of GIC on Power Transformers and Power Systems* will be presented at the PES T&D Conference and Exposition at Orlando.

Special thanks also goes to the volunteers who devoted significant time over the year-end holiday period to assist in reviewing the submitted papers.

Please refer to the PES website <http://www.ieee-pes.org/meetings-and-conferences/calendar> for additional meetings and conferences sponsored by the PES.

**Transformers Committee Activities**

**Subcommittee Chair Appointment for the calendar year 2012**

Consistent with the Transformers Committee's O&P manual, the following Subcommittee Chairs were reappointed/appointed for the calendar year 2011.

- |  |                         |
|--|-------------------------|
| • Meetings Planning                                | <b>Gregory Anderson</b> |
| • Standards  | <b>William Bartley</b>  |
| • Bushings   | <b>Peter Zhao</b>       |
| • Dielectric Test                                  | <b>Loren Wagenaar</b>   |
| • Distribution Transformers                        | <b>Stephen Shull</b>    |
| • Dry-Type Transformers                            | <b>Charles Johnson</b>  |
| • HVDC Converter Transformers & Smoothing Reactors | <b>Michael Sharp</b>    |
| • Instrument Transformers                          | <b>Ross McTaggart</b>   |
| • Insulating Fluids                                | <b>Susan McNelly</b>    |
| • Insulation Life                                  | <b>Bruce Forsyth</b>    |
| • Performance Characteristics                      | <b>Ed teNyenhuis</b>    |
| • Power Transformers                               | <b>Tom Lundquist</b>    |
| • Underground Transformers & Network Protectors    | <b>Carl Niemann</b>     |

### **Technical Editor**

With Ed teNyenhuis taking on his new role as our Chair of the Performance Characteristic Subcommittee, this change created a vacancy for the role of Technical Editor. On behalf of the Committee, the Chair would like to acknowledge the contributions by Ed teNyenhuis during his tenure as our Technical Editor. To fill this important role, the Chair is pleased to announce the appointment of Mr. **Sanjib Som** as our new technical Editor beginning in March, 2012. Please welcome Sanjib to his new assignment and wishing him success in this new role.

PES Technical Council was notified of the Subcommittee Chairs and Technical Editor appointments for the calendar year 2012 in accordance with the guideline set forth in our O&P Manual.

### **Association Management (AM) System**

All Committee members and active participants, and all individuals interested in Transformers Committee activities, are reminded that all communications on Committee meetings and activities are handled through the Committee website (<http://www.transformerscommittee.org/>) and through electronic media. Contact information is self-administered through our Association Management (AM) system, and administration of membership and meeting attendance records is facilitated by the AM System. All Subcommittee and Working Group Chairs are requested to use the AM system for assigning membership within their groups and for communication with their group members. All Committee members, active participants, and interested individuals are reminded also that you are responsible personally for maintaining the accuracy of your contact information, through the AM system, for Committee activities and communication. Updating your contact information in handwriting on a meeting roster does not result in updating your Committee contact information. Keeping your contact information maintained in the AM system assures that the Chair of any Subcommittee or Working Group you are involved with will be able to communicate with you. Details on enrolling and maintaining your contact information in the AM system can be found on the Committee website.

The AM system also allows you to check the Committee record of your membership status in individual Working Groups, Subcommittees, and the Main Committee. This can be done by checking your Personal Profile, and then clicking on Subgroup Details. If the Committee record does not match your record, please review with the appropriate WG or SC Chair.

### **Committee Membership**

All are welcome to participate in the work of the Transformers Committee. Membership in the Committee provides recognition of your peers and indication to your co-workers and management of your active role in Committee work. If you are presently not a Main Committee Member, and you have been actively participating in our work for at least two full year – and can secure the acknowledgement and sponsorship of at least 3 Activity Chairs (WG's, but must include at least one Subcommittee Chair) affirming that participation, the Committee will look forward to welcoming you as a member. Membership requirements and application forms can be found in the Organization and Procedures Manual posted on the Committee website.

### **Acknowledgments**

I extend my thanks, and the appreciation of all Committee members and participants, to Ed Smith, for his excellent leadership of the Committee over the past two years, and to Dan Platts, for having successfully completed his term as Secretary. Welcome to Don to his new



position as Vice Chair, and welcome also to Steve Antosz as he takes on the new role as our Committee Secretary. On behalf of the Committee officers, I wish to express our appreciation for the opportunity to serve you, and we ask for your continuing support over the next two years. We thank you for the service you perform – through your Committee work – to serve our industry, society, and the communities in which we all live.

### 3.4 Vice-Chair's Report – Don Platts

#### IEEE PES Calendar of Upcoming Events

The table below lists the upcoming PES sponsored conferences and committee meetings. Please check the PES website at [www.ieee-pes.org](http://www.ieee-pes.org) for further details.

[Power Systems Conference and Exposition \(PSCE\)](#)

*20-23 March 2011, Phoenix, AZ, USA*

[ESMO 2011 Conference & Exposition](#)

*16-19 May 2011, Providence, RI USA*

[2012 Transmission & Distribution Conference & Exposition](#)

*7-10 May 2012, Orlando, FL, USA*

[PES 2012 General Meeting](#)

*22-26 July 2012, San Diego, CA USA*

#### Upcoming Conference Papers Submitted for Review

##### **2011 IEEE PES Power Systems Conference & Exposition. (Orlando, FL, May 7, 2012)**

A total of 20 papers have been submitted. After review, 10 were approved and will be presented. In paper sessions. There will be no papers in the poster session.

List of the Papers to be presented.

ID	Title
2012TD0052	<b><u>Low-Cost Amorphous-Metal Rolled-up-Core Distribution Transformer</u></b>
2012TD0130	<b><u>Transformer Insulation Dry Out as a Result of Retrofilling with Natural Ester Fluid</u></b>
2012TD0203	Measurement and Computation of Transient Recovery Voltage of Transformer Limited Fault in 525kV-1500MVA Three-Phase Transformer
2012TD0261	<b><u>Gas insulated transformer application for an environmentally-friendly power station upgrade</u></b>
2012TD0311	<b><u>Statistical Insights into Furan Interpretation Using a Large Dielectric Fluid Testing Database</u></b>
2012TD0383	<b><u>Construction of a High Voltage Test Facility</u></b>
2012TD0454	<b><u>Power Grid Stability Protection against GIC Using a Capacitive Grounding Circuit</u></b>
2012TD0463	<b><u>Effects of GIC on Power Transformers and Power Systems</u></b>
2012TD0561	<b><u>Evaluation of Distribution Network Transformer Dissolved Gas Analysis (DGA) Data</u></b>
2012TD0590	<a href="#"><u>FEM Analysis of the Transformer Insulation XY Model</u></a>

### **2012 PES General Meeting (San Diego, CA July 23- 24, 2012)**

A total of 12 papers were submitted. After review, 6 papers are scheduled for presentation in the Paper Session. and there are none in the Poster Session.  
List of the 6 papers to be presented in the Paper Sessions.

ID	Title
2012GM0281	Demagnetization of a Large Power Transformer Based on Calculation of the Flux Linkage
2012GM0693	Effects of Iron-Core Topology on Inrush Currents in Three-Phase Multi-Leg Power Transformers
2012GM0707	Interpretation of Dielectric Response Measurements of Transformer Insulation under Temperature Variations and Transient Effects
2012GM1155	A Study on Suitability of Different Transformer Winding Models for Frequency Response Analysis
2012GM1177	Multivariate Analysis for Correlations among Different Transformer Oil Parameters to Determine Transformer Health Index
2012GM1440	Solid State Transformer Specification via Feeder Modeling and Simulation

### 3.5 Secretary's Report – Stephen Antosz

#### Membership Review

Voting Committee Members – Three new committee members were approved and added at the Boston meeting as shown in the table below:

Name	Affiliation	Sponsor #1	Sponsor #2	Sponsor #3	Membership Category
Stephen M. Schroeder	ABB	Brian Klaponski WG C57.12.40 (5 yrs)	Gary Hoffman WG C57.12.10 (5+ yrs)	Carl Nieman Dry Type SC (5+ yrs)	Producer
Daniel M. Sauer	Cooper Power Systems	Craig Colopy WG C57.15 (2 yrs)	Jane Ann Verner WG PC57.152 (2 yrs)	Bill Bartley Standards SC (? yrs)	Producer
Michael Sharp	Trench Limited	Steve Schappell WGC57.32	Richard Dudley	Richard Dudley HVDC SC (10+ yrs)	Producer

The Transformers Committee AMS database of people currently has three general categories of participation in our activities. These are: **Interested Individual**, **Active Participant**, and **Committee Member**. Any one can join our AMS 123 system as the system is designed for self-registration. A new participant will automatically be assigned the role of Interested Individual when they first sign up. Based on the level of participation,

The following table contains a count of the participants grouped by the three general categories.

Committee Member	211	210	218	182
Committee Member - Emeritus Member *	8	1	8	6
Committee Member - IEEE Life Member *	26	31	31	29
Committee Member - Corresponding Member	1	1	1	0
<b>Total Committee Members</b>	<b>246</b>	<b>243</b>	<b>258</b>	<b>217</b>

\* - indicates this member type receives a discounted registration fee.

(<http://www.123signup.com/servlet/com.signup.servlet.org.ALogin?Org=ieee-transformers&Restart=1>)

Two new applications for Committee Membership have been received since our previous meeting in Boston. They will be submitted for approval at the Nashville meeting on March 11, 2012. Details of the membership applications and sponsors are listed in the following table.

Name	Affiliation	Sponsor #1	Sponsor #2	Sponsor #3	Membership Category
Baitun Yang	Pennsylvania Transformer	Pierre Riffon WG Revision to Impulse Test (2+yrs)	Loren Wagenaar SC Dielectric Test (2+yrs)	Stephen Antosz SC Performance Characteristics (2+yrs)	Producer
Thomas Sizemore	ABB	Thang Hochanh TF PD in Bushings, PTs, CTs (2 yrs)	Ross McTaggart SC Instrument Transformers (1.5 yrs)	Ross McTaggart WG Requirements for Instrument Transformers (6 months)	Producer

The Committee welcomes and encourages active participants to become Members of the Committee. Requirements and application forms can be found in the Organization and Procedures (O&P) Manual, accessible on the Committee website. Subcommittee Chairs are encouraged to recommend new members, and to communicate the process of attaining membership through **active participation** and **contribution** in Committee work at the WG and SC level. WG and SC Chairs are reminded also that signing an application sponsoring a new member signifies their sponsorship that the applicant has met the requirement of membership and active participation for at least one year in the WG or SC they Chair. New member applications may be submitted to the Committee Secretary's attention at any time. Applications will be collected for review and approval in batches at each Administrative Subcommittee meeting. For an application to be reviewed at the next meeting, the application will need to be received by the Committee Secretary a minimum of one week prior to the start of the that meeting.

#### Committee, Subcommittees, and Working Group Rosters

In order to provide indemnification to working group and subcommittee members it is crucial that membership lists be maintained. Our AM system has these functions built-in to ease these administration tasks. It is important that each subcommittee and working group chair keep the rosters updated so that this information can be provided to the IEEE SA. A similar main committee roster has also been developed to track attendance for the Main Committee meeting on Thursdays. The data will be used to update participant's membership profile.

#### Meeting Minutes

The minutes of the Boston Transformers Committee meeting Fall, 2011 were posted to the committee website on February 20, 2012.

Subcommittee Chairs are requested to submit their SC Minutes from the Nashville meeting by May 15, 2012.

The minutes should be submitted via e-mail to the Committee Secretary, Stephen Antosz at [santosz@ieee.org], with a copy to Susan McNelly [sjmcnelly@ieee.org] for posting on the Committee website.

The submittal file should be saved as a Word document and should be formatted similar to this report, and as shown in the recent assembled Minutes. *The numbering for your report should match the numbering as indicated in the Main Committee Meeting Agenda.* Please indicate total attendance count for each Subcommittee, Working Group, and Task Force meeting in your Minutes. Please do not send a copy of the attendance listing for this attendance count.

### 3.6 Treasurer's Report – Greg Anderson

The finances of the Committee are in excellent condition. As of February 22, 2012 (end of this reporting period), the balance was \$47,864.80. The only asset purchased during this reporting period was one large Pelican case for the new high-lumen PC projectors, purchase cost = \$1,365.00. There was a moderate loss during the past reporting period. This was due in part to the following items:

- ~\$2300 loss: polo shirt sale (subsidized cost of shirts and remaining unsold product)
- ~\$4400 loss: CD-ROMs sold to Committee Members at a discount

I expect a notable gain during the next reporting period. See below "balance sheet" for this reporting period and the previous periods.

IEEE/PES TRANSFORMERS COMMITTEE		
Treasurer's Report - Spring 2012		
(for reporting period 09/28/2011 to 02/22/2012)		
<b>AAAAA</b>	<b>Balance before Spring 2010 Meeting, as of 02/25/2010</b>	<b>\$56,868.06</b>
<b>AAAA</b>	<b>Balance before Fall 2010 Meeting, as of 10/01/2010</b>	<b>\$57,971.42</b>
<b>AAA</b>	<b>Balance before Spring 2011 Meeting, as of 02/28/2011</b>	<b>\$62,807.57</b>
<b>AA</b>	<b>Balance before Fall 2011 Meeting , as of 09/27/2011</b>	<b>\$60,022.97</b>
	<b><u>Misc Income, not meeting related</u></b>	
	-- interest, approx 5 months	\$128.51
	-- misc income (polo shirt sales, CD-ROM sales, book sales, etc.)	\$35,901.77
<b>B</b>	<b>Total Misc Income, not meeting related</b>	<b>\$36,030.28</b>
	<b><u>Misc Expenses, not meeting related</u></b>	
	-- 123Signup subscription fee, for 3 quarters	\$2,637.00
	-- awards	\$0.00
	-- equipment purchases, major assets (projectors & cases, etc.)	\$1,365.00
	-- technology (mobile app, cables, etc)	\$534.14
	-- other misc expenses (polo shirt sales, CD-ROM sales, book sales, etc.)	\$42,162.18
<b>C</b>	<b>Total Misc Expenses, not meeting related</b>	<b>\$46,698.32</b>
	<b><u>Spring 2011 Meeting</u></b>	
	-- late income, meeting registrations (rolling reserve paybacks)	\$0.00
	-- misc late income (incentives, late sponsor contributions, etc.)	\$0.00
	-- late meeting expenses	\$0.00
<b>D</b>	<b>Total Late Income/(expenses), Spring 2011 Meeting</b>	<b>\$0.00</b>
	-- reported prelim. gain/(loss), as of 09/27/2011, from previous Treasurer's Report	\$5,182.27
	<u>Actual</u> Gain/(Loss), Spring 2011 Meeting	\$5,182.27
	<b><u>Fall 2011 Meeting</u></b>	
	-- income, meeting registration	\$173,632.17
	-- income (coffee break sponsors)	\$3,000.00
	-- meeting expenses	\$178,039.93
<b>E</b>	<b>Subtotal Income, Fall 2011 Meeting, between 09/28/2011 and 02/22/2012</b>	<b>(\$1,407.76)</b>
	-- meeting expenses, before 09/28/2011, from previous Treasurer's Report	\$5,058.83
	<u>Preliminary</u> Total Gain/(Loss), Fall 2011 Meeting	(\$6,466.59)
	<b><u>Expenses, Future Meetings (deposits, etc)</u></b>	
	-- meeting expenses, Spring 2012 Meeting	\$82.37
	-- meeting expenses, other future meetings	\$0.00
<b>F</b>	<b>Total Expenses, future meetings, paid between 09/28/2011 and 02/22/2012</b>	<b>\$82.37</b>
<b>G</b>	<b>Net Income, between Fall 2011 and Spring 2012 meetings (B - C + D + E - F)</b>	<b>(\$12,158.17)</b>
<b>A</b>	<b>Balance before Spring 2012 Meeting , as of 02/22/2012 (AA + G)</b>	<b>\$47,864.80</b>

### 3.7 Awards Report – Ed Smith

#### Herman Halpern Award

Michel Duval will be presented with the Herman Halpern Award at the Tuesday, March 13<sup>th</sup> 2012 Luncheon. The award will be presented by the immediate past President of the PES, Al Rotz.

Michel Duval is a Senior Research Scientist at the Hydro Quebec Institute of Research (IREQ), in Quebec, Canada. His award is for **“Development and leadership in the condition monitoring of highvoltage power transformers and related equipment”**.

The IEEE Herman Halperin Electric Transmission and Distribution Award was established in 1986 through an agreement between Herman Halperin and the Board of Directors of the IEEE. The funds were contributed by Herman and Edna Halperin and are administered by the IEEE Foundation, Inc.

From 1959 through 1986, the award for outstanding contributions to the field of electric transmission and distribution was named the William M. Habirshaw Award. Herman Halperin was a recipient of the Habirshaw Award in 1962. Mr. Halperin had a distinguished career with the Commonwealth Edison Company over a period of 40 years. Subsequently, he spent 15 years as a consulting engineer. He was particularly noted for his pioneering contributions to the design and operation of electric plant facilities and power cable systems.

Recipient selection is administered through the Technical Field Awards Council of the IEEE Awards Board.

Some specific details surrounding the award itself are . . .

**Sponsors:** Robert and Ruth Halperin Foundation, in memory of the late Herman and Edna Halperin, and IEEE Power & Energy Society

**Presented to:** An individual or team of up to three in number

**Scope:** For outstanding contributions to electric transmission and distribution

**Prize:** The award consists of a certificate and honorarium.

**Basis for judging:** In the evaluation process, the following criteria are considered: technological importance, successful application, originality, leadership, publications, and the quality of the nomination.

**Nomination deadline:** 31 January

**Presentation:** IEEE policy requires that its awards be presented at major IEEE events that are in keeping with the nature of the award and the cited achievement.

**Award Committee Members:** Ralph Samm, Chair, John Densley, Roger C. Dugan, Lauri J. Hiivala, Harry Orton, Tom Prevost and Nirmal Singh

#### 2011 IEEE SA Distinguished Service Award

I'm very pleased to report that Mr. Thomas A. Prevost was presented the 2011 IEEE SA Distinguished Service Award. The award was presented for Tom's ***"leadership, long-standing service, process improvements, and national and international representation of the IEEE Standards Association"***

The IEEE SA Distinguished Service Award is made annually to current member(s) or past member(s) of the IEEE-SA Standards Board to recognize distinguished service to the IEEE-SA based on major contributions to the standards development process. Major contributions include but are not limited to the following examples:

- Enhancing the process through continued service on its major action committees.
- Leadership in developing new aspects of what the IEEE-SA can do to improve its procedural process.
- Interaction on behalf of the IEEE-SA to promote national and international growth of standards as a product of IEEE.
- Representing the IEEE-SA at various levels within IEEE Societies/Committees and other standards-developing organizations (ASME, IEC, etc.), which encourages the implementation of the IEEE Standards Association mission and its goals.

Some specific details surrounding the award itself are . . .

**Award:** This recognition consists of an engraved wooden plaque. There is no honorarium attached to this award.

**Eligibility:** Member(s) of the IEEE-SA Standards Board, or to past member(s) going back as far as five years from the current date. There are no restrictions or preferences as to the nationality, race, sex, creed or age.

**Nomination:** Annual Deadline 31 August

**Sponsorship:** This award is sponsored by the IEEE Standards Association, administered by the IEEE-SA Awards and Recognition Committee.

### Transformers Committee Certificates of Appreciation

Transformers Committee Certificates of Appreciation have been obtained, with approval of the PES Awards & Recognition Chair, for the following Award recipients:

#### **Individual Service Awards**

Stephen Antosz Chair, Performance Characteristics Subcommittee (2010-2011)

Ed teNyenhuis Transformer Committee Editor (2009-2011)

J. Edward Smith Chair, IEEE/PES Transformers Committee (2010-2011)

#### **Host Service Awards**

Derek Baranowski Host-Spring 2012 Meeting, Nashville. Baron USA

#### **Working Group, Taskforce and Subcommittee Awards**

##### **Task Force on Tank Rupture and Mitigations**

Peter Zhou	Chair	Terry Lee	Member
Robert Thompson	Secretary	Josh Herz	Member
Jim Zhang	Member	Marc Foata	Member
Craig Swinderman	Member	Bill Darovny	Member
Guillaume Pengaud	Member	Javiar Arteaga	Member
Van Nhi Nguyen	Member	Nick Abi-Samra	Member

In addition to the Committee Awards above, the IEEE SA SB presents its own Award to the WG Chair upon publication of a new or revised document, and offers the WG Chair the opportunity to nominate significant contributors to the project for an IEEE SA SB Certificate of Appreciation.

#### IEEE SA SB Award Recipients:

##### **Working Group for C57.100-2011 IEEE Standard Test Procedure for Thermal Evaluation of Insulation Systems for Liquid-Immersed Distribution and Power Transformers**

Roger Wicks	Chair C57.100
Thomas Prevost	Vice Chair C57.100
Terry Drees	Member C57.100
John Luksich	Member C57.100
Don Platts	Member C57.100
H. Jin Sim	Member C57.100

##### **Working Group for C57.12.70-2011 IEEE Standard for Standard Terminal Markings and Connections for Distribution and Power Transformers**

Stephen Shull	Chair C57.12.70
Jerry Murphy	Vice Chair C57.12.70
Charles Sweetser	Member C57.12.70

##### **Working Group for C57.12.20-2011 IEEE Standard for Overhead-Type Distribution Transformers, 500 kVA and Smaller: High Voltage, 34 500 V and Below; Low Voltage, 7970/13 800Y V and Below**

Alan Traut	Chair C57.12.20
Chuck Simmons	Vice Chair C57.12.20
Alan Wilks	Member C57.12.20
Marcel Fortin	Member C57.12.20

The above groups/individuals have chosen to have their awards sent to their respective Companies and not presented at our meeting. If recipients would like their awards presented at our spring or fall meetings the IEEE SA form should be completed with the "ship to" being your Transformers Committee Awards Subcommittee Chair at the following address: 3010 High Ridge Blvd., High Ridge, MO 63049

#### IEEE SA Standards Board Awards, IEEE Standards Association (SA) Awards and Recognition

The IEEE SA sponsors additional awards besides the WG Chair Awards reviewed above. Discussion of these awards can be found on the IEEE SA Awards web pages (<http://standards.ieee.org/sa/aw/>). Note particularly the IEEE SA Standards Medallion. Excerpting from the website: "The Standards Medallion is awarded for major contributions to the development of standards. Examples of such contributions may include leadership in standardization of new technologies, assuring achievement of standards development goals, identifying opportunities to better serve the needs of standards users or other such contributions viewed as deserving of this award..." Please review, and if you have suggestions for nominations see our Committee Awards Chair.

#### PES Working Group Recognition Awards

In addition to the Technical Committee distinguished service Awards, PES sponsors Working Group Recognition awards. The awards are related to "outstanding and timely" publications of technical reports, or of standards and guides. Excerpting from the PES website (<http://www.ieee.org/portal/site/pes/>) Awards pages:



"The PES Working Group Recognition Awards recognize "the most outstanding and timely publications" by a PES Working Group (or Committee or Subcommittee) from among the nominations. The PES Recognition Award is divided into two categories: 1) for technical reports; 2) standards and guides. Each Technical Council Committee may nominate one report from each category, published by IEEE, during the previous three year period." This award consists of a plaque which will be presented to the Working Group Chair at the PES Summer Meeting Awards Luncheon. A framed certificate will be presented to each Working Group member at a designated meeting of the parent Technical Committee. Each Technical Council Committee is urged to submit one electronic copy of nominations for each of these awards no later than November 27.

Please forward suggestions for nomination for the next (2011) PES WG Recognition Award to my attention, ASAP, so a nominee can be selected and forwarded to PES.

#### PES Transformers Committee Distinguished Service Award

We will continue to present our PES Technical Committee Distinguished Service Award each year to one of our members who is recognized by his peers as having contributed significantly and consistently to Committee Standards activities. Excerpting from the PES Awards website: "Each Technical Committee is encouraged to make one award for outstanding service. This personal recognition acknowledges the efforts of those individuals whose sustained performance, over many years, has contributed to the advancement of the committee technology." Please see the Awards Chair if you have suggestions for future recipients. We are seeking nominations for this award.

#### Transformers Committee Meritorious Service Awards

In 2008 we initiated a process of additional recognition for Meritorious Service and Outstanding Contributions to the Committee. Suggested qualifications have been developed from a review of similar awards presented by other IEEE Technical Committees or Societies. General examples for qualification for the awards include the following:

- To recognize continuing exemplary service in notable technical contributions to multiple Committee projects/documents over a sustained period of time
- To recognize an achievement of major value and significance to the Committee. The achievement can be a specific, concisely characterized accomplishment, as opposed to a collection of different efforts.
- As with the IEEE Education Society Meritorious Service Award – "to recognize pioneering contributions to the administrative efforts of the Society over a period of years, as evidenced by dedication, effort, and contributions."

If you have any additional thoughts on qualifications for Meritorious Service Awards, and if you have potential nominees to suggest, please contact me. Award nominees will be reviewed by the Awards Chair and the SC Officers.

#### Member Certificates

We will continue with the process of providing a framed Certificate, certifying Membership in the Committee, to new Members. The intent is to provide a symbol of recognition of Membership status, in a format suitable for display. The Certificate will indicate date of acceptance into the Committee, and will be signed by the Committee Chair.

This program is one small way of recognizing your support for the Committee. The Certificates represent the appreciation of the Committee, and of your Committee Officers, for

your service to the Committee, to IEEE, and to our Industry. We hope you will display your Membership Certificate proudly at your place of business, and encourage others to join us in our work.

### Nominations for IEEE, PES, and Technical Council Awards

There are no nominations in these categories at this time. Regarding IEEE Fellow Nominations, we have missed the opportunity for preparation of nominations for the 2011 Class of IEEE Fellows. We need to think about nominations for 2012. Borrowing from the IEEE Awards web pages ([http://www.ieee.org/web/membership/grade\\_elevation/grade\\_elevation.html](http://www.ieee.org/web/membership/grade_elevation/grade_elevation.html)): “The grade of Fellow recognizes unusual distinction in the profession and shall be conferred only by invitation of the Board of Directors upon a person of outstanding and extraordinary qualifications and experience in IEEE-designated fields, and who has made important individual contributions to one or more of these fields.” Nominations, including references by at least five present IEEE Fellows and optional additional endorsements, must be completed and submitted by March 1 of each year for the following year’s Class of Fellows.

### IEEE SA Awards Committee Report

In 2011, the IEEE SA Awards Committee and the IEEE SA Board of Governors approved:

- 7 Standards Medallions, which is the most awarded in any year
- one IEEE Standards Education Award
- one IEEE SA International Award
- one IEEE SA Corporate Award
- one IEEE SA Emerging Technology Award
- one IEEE SA Lifetime Achievement Award
- one IEEE SA Standards Board Distinguished Service Award

<http://standards.ieee.org/develop/awards/>

The nomination period for 2012 begins on 1 February and runs through 31 July.

Again this year, the IEEE Standards Association Awards Ceremony will be held during the December meeting series; this year on 2 December 2012.

## 3.8 Meeting Planning Report – Greg Anderson

### 3.8.1 Nashville Meeting

### 3.8.2 Future Meetings

### 3.9 Standards Report – Bill Bartley

The report was presented and discussed. It is extensive. See website for report.

### 3.10 IEC/IEEE Dual Logo Status Update – Erin Spiewak

#### **New Standard for Phase Shifters**

##### **IEEE Std C57.135-2011 ... ~~IEC/IEEE 60076-57-135~~**

- This document was adopted by IEC TC14; this supersedes the previous 2001 adoption and the publication is underway.
- This adoption was contingent upon an agreement to do a Revision with IEEE after adoption complete (would become IEC/IEEE 60076-57-135). The WG agreed to remove the tutorial material and place in a separate document or annex.
  - There is some discrepancy on the WG meeting minutes on whether the PAR was requested from the Toronto 2010 meeting.
  - At the 2011 Boston meeting there was discussion about the PAR and a request being brought forward to undertake the project.
  - Bill Bartley received the PAR request, but had to reject it because it did not follow the proper procedures.
  - If Raj will remain Chair, Erin and Jodi will assist with the PAR once ready to be submitted (after seeking proper approval).
- The next steps will be to get the PAR approval and work with Raj to get interest in the WG/call for participation.
- Make note that IEEE agreed to do the joint Revision, so if the project doesn't get underway/ WG decides to not pursue the project we will want to handle carefully when bringing this to IEC.

#### **Proposal for joint project on wind farm transformers**

##### **IEC 60076-16 and ~~IEEE 57.42.16~~**

- Both IEC and IEEE were working on similar projects, and Paul Jarman suggested to work together jointly. However, since IEC was almost complete with their project it was decided for IEC to finish and then possibly work on a revision project together.
- In Boston 2011 it was decided to delay the PAR and work to set up a joint WG with IEC, if agreed upon. Paul met with IEC TC14 and they have sent out a Document for Comment. This document is asking IEC if they should undertake this joint revision project. The Document for Comment closes April 13th.
- After April 13th the WG will know if they are going to do a joint project.
- Paul noted that the UK seems to be okay with the revision project, but will need 5 countries total (US also a likely).
- WG can work on developing title/scope and document, however if IEC agrees to joint Revision they should be aware that IEC will need to agree to these.
- If IEC does not agree with joint project the WG will need to seek copyright permission for material used from them.

### 3.11 Break

### 3.12 New Business

#### 3.12.1 Corresponding Members and Quorum – Stephen Antosz

Corresponding members do not count towards quorum (in numerator or denominator) if not present at a meeting.

Corresponding members do count towards quorum (in numerator or denominator) if present at a meeting.

#### 3.12.2 GMD/GIC Position Paper – Bill Chiu / Don Platts

IEEE Spectrum published a paper about widespread xfmr failures to happen. Should IEEE TC sponsor a position paper? as a response to the paper.

Eventually we should develop a Guide on how to specify a xfmr to meet the unusual service conditions related to a geomagnetic disturbance and how much geomagnetically induced currents the unit should be designed for.

A motion was made for the IEEE TC to solicit the IEEE Spectrum editor to ask if they will accept a rebuttal paper. The motion passed. The TC Chair will act on this.

#### 3.12.3 Class I & II Considerations – Bill Chiu

Loren gave a report on what has transpired since the last meeting. Bertrand's WG did a very successful survey for changes to low frequency tests which effectively reduces Class II units down to 69 kV, 15 MVA. It was suggested that the impulse WG follow the same path and send a similar survey. Bill Chiu asked the Dielectric test Subcommittee to take the lead in this effort.

#### 3.12.4 Committee O&P, WG P&P Manual Update – Peter Balma

- Working Group Task Force
- A Committee or Subcommittee (Subgroup) Standards Study Group
  - To examine proposal to determine if need for a standard to be developed.
  - Life of Standards Study group is limited to 6 months.
  - If proposal merits formation of project the study group will draft a PAR.
  - Disbanded when PAR approved by IEEE-SA Board
  - <http://standards.ieee.org/board/pro/study-group.doc>
- Can also establish a study group to investigate material within the scope of the Transformers Committee which does not have purpose of developing a guide or standard.

- At every meeting, it is required that everyone introduce themselves and clearly state their affiliation, on whose behalf are you attending.
- P&P and WG P&P procedures are not optional!
- Corresponding membership –current status in P&P Brief discussion if needed?
- Take Patent Disclosure out of meeting Agendas & Slides
- Corresponding membership – future status
  - AudCom has historically not accepted Corresponding Membership
  - Can establish in operating manual and maintain nomenclature, but they will not be part of quorum at meetings, nor officially a voting member of the committee.
- Historical Archives
  - Two valuable tutorials from Transformers Committee (Courtesy Loren Wagenaar):
    - Application of distribution and power transformers / course organizer, W. J. McNutt ≈ 1976
    - Power transformer considerations of current interest to the utility engineer / course organizer, G.W. Iliff ≈ 1984
  - Three option to make available to Transformers Committee members:
    - Investigate "free" protected access for PES members only on PES website
    - Have PES supply them on demand (prices range from \$5.00 to \$60.00)
    - Post them on Transformers Committee website, with IEEE approved copyright notice, but can only be made available to PES members (will website technology allow this?)
  - Motion or decision from AdCom to proceed and in what direction?

### 3.12.5 Access to Tutorial Presentations & Copyright release - Bill Chiu / Susan McNelly

Should we give technical presentations to PES website so they can sell? After discussion we decided No. They need copyrighted; plus we lose ownership. We will put on our TC website, behind password protected wall. Greg will send out notification with password and conditions of use.

### 3.12.6 WG Data – Confidentiality, Storage, Access, & Use – Susan McNelly / Erin Spiewak

Data should not identify source. No solution or decision. To be continued...

### 3.12.7 General Sessions Coordination (Mon. & Thur.) - Bill Chiu

The Chair asked each SC Chair to report on hot topics in Part 1 on Monday morning, and full report on Thursday.

### 3.13 Subcommittee Reports

3.13.1	Bushings – P. Zhao	Report: No	Hot Topic: Yes
3.13.2	Dielectric Test – L. Wagenaar	Report: Yes, acoustic PD Guide to start. Hot Topic: Yes, Class I/II issue	
3.13.3	Distribution Transformers – S. Shull	Report: No	Hot Topic: Yes, DOE efficiency levels
3.13.4	Dry Type Transformers – C. Johnson	Report: No	Hot Topic: Yes, dry-type PD levels and method for test corrections for altitude to be worked on
3.13.5	HVDC – M. Sharp	Report: No	Hot Topic: No
3.13.6	Instrument Transformers – R. McTaggart	Report: No	Hot Topic: No
3.13.7	Insulating Fluids – S. McNelly	Report: Yes, TF for combining documents Hot Topic: No	
3.13.8	Insulation Life – B. Forsyth	Report: Yes, Four new topics – moisture TF, high temperature insulation, wdg temp indicators, heat run Hot Topic: Yes	
3.13.9	Performance Characteristics – E. teNyenhuis	Report: No	Hot Topic: No
3.13.10	Power Transformers – T. Lundquist	Report: Yes, New WG's – C57.93 and C57.135 PST. Hot Topic: No	
3.13.11	Underground Transformers & Network Protector – C. Niemann	Report: No	Hot Topic: No

### 3.14 Old Business

None

### 3.15 Adjourn

Yes