



## **Transformers Committee - Administrative Subcommittee**

Fall 2013 Meeting – St. Louis, Missouri

Sunday, October 20, 2013, 2:00AM - 5:30PM

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Chair: Bill Chiu  
Treasurer: Greg Anderson

Vice Chair: Donald Platts  
Standards Coordinator: William Bartley

Secretary: Stephen Antosz  
Awards Chair: J. Edward Smith

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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  
Ed teNyenhuis  
Bill Chiu  
Ross McTaggart  
Susan McNelly  
Donald Platts  
Michael Sharp  
Stephen Shull  
Bruce Forsyth  
Michael Franchek

Joe Watson

Peter Zhao

Charles Johnson

Edward Smith

Carl Niemann (& Dan Mulkey)

##### Members absent:

none

##### Guests present:

Erin Spiewak

Jodi Haasz

Peter Balma

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

The Chair asked for comments from the Munich 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 was one comment from Jodi Haasz that she will report on the IEC meeting from last week in Milwaukee. The Chair declared the agenda approved.

### Meeting Call to Order 2:00 pm

- |   |                     |
|---|---------------------|
| 1. Introduction of Members and Guests (:05)                     | All                 |
| 2. Approval of Spring 2013 Minutes from Munich (: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 & New Committee Membership Approval (:10) | S. Antosz           |
| 7. Treasurer's Report (:05)                                     | G. Anderson         |
| 8. Awards Report (:05)  | E. Smith            |
| 9. Standards Report (:30)                                       | B. Bartley          |
| 10. IEEE Staff Update (:10)                                     | E. Spiewak/J. Haasz |
| 11. Meeting Planning (:10)                                      | G. Anderson         |
| 11.1. St. Louis Meeting Update                                  |                     |
| 11.2. Future Meetings   |                     |

### *Break & Time Check – 3:30 pm*

- |   |                       |
|---|-----------------------|
| 12. Old Business  |                       |
| 12.1. WG Data – Confidentiality, Storage, Access, & Use (:15) | S. McNelly/E. Spiewak |
| 12.2. Committee P&P (:05)                                     | P. Balma              |
| 12.3. GMD/GIC Position Paper (:05)                            | B. Chiu               |
| 12.4. Meeting Improvement Initiative (:15)                    | D. Platts/B. Bartley  |
| 13. New Business  |                       |
| 13.1. Request from NERC SPCS Re: Sudden Pressure Relay (:05)  | B. Chiu               |
| 13.2. Energy router coordination (:05)                        | B. Bartley            |

### *Time Check – 4:30 PM*

- |   |               |
|---|---------------|
| 14. Subcommittee Reports - Roundtable                     |               |
| 14.1. Bushings (:03)                                      | P. Zhao       |
| 14.2. Dielectric Test (:03)                               | M. Franchek   |
| 14.3. Distribution Transformers (:03)                     | S. Shull      |
| 14.4. Dry Type Transformers (:03)                         | C. Johnson    |
| 14.5. HVDC (:03)  | M. Sharp      |
| 14.6. Instrument Transformers (:03)                       | R. McTaggart  |
| 14.7. Insulating Fluids (:03)                             | S. McNelly    |
| 14.8. Insulation Life (:03)                               | B. Forsyth    |
| 14.9. Performance Characteristics (:03)                   | E. teNyenhuis |
| 14.10. Power Transformers (:03)                           | J. Watson     |
| 14.11. Underground Transformers & Network Protector (:03) | C. Niemann    |
| 15. Adjourn   |               |

### **3.3 Chair's Report – Bill Chiu**

#### **1.1 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.

The PES Technical Committees report to the Technical Council on matters concerning membership, technical publications, recognition, scope and the coordination of the Power Energy Society generated standards. For standards relating to their technical scope, the Technical Committees work directly with the IEEE Standards Board and the Power Energy Society Standards Coordinating Committee.

Please see <http://www.ieee-pes.org/technical-activities/technical-council> for further details on the Statement of Purpose and Scope of Activities for the PES Technical Council.

##### **1.1.1 Technical Council Officers & Membership**

The detail listing of the PES Technical Council Officers was provided in my previous report back in March of 2013. Since that time, Mr. Mani Venkata, the Vice Chair of the PES Technical Council, has announced his resignation effective October 1, 2013. The duties of the Vice Chair are now being handled by the Chair of the Technical Council until the Vice Chair position is filled again in the near future.

The officers and members of the Technical Council are listed below for your reference. Where available, the affiliation of the technical committee chair is also shown in parentheses.

##### **TECHNICAL COUNCIL OFFICERS**

Jeffrey H. Nelson, *Chair (TVA)*

~~S. S. (Mani) Venkata, *Vice Chair (Alstom)* (Resigned October 1, 2013)~~

Ken Edwards, *Secretary (BPA)*

Damir Novosel, *Past Chair (Quanta Technology)*

##### **STANDING COMMITTEES**

Awards Committee - John Randolph, *Chair (PG&E)*

Meetings & Marketing Committee - Mani Venkata, *Chair (Alstom)*

Organization & Procedures Committee - Ken Edwards, *Chair (BPA)*

Standards Coordination Committee - Bill Bartley, *Chair (HSB)*

Technical Sessions Committee - Mani Venkata, *Chair (Alstom)*

##### **COORDINATING COMMITTEES**

Emerging Technologies Coordinating Committee - Branislav Djokic, *Chair*

Intelligent Grid Coordinating Committee - Erich W. Gunther, *Chair*

Marine Systems Coordinating Committee - Paul Bishop, *Chair (consultant)*

Wind and Solar Power Coordinating Committee - Richard J. Piwko, *Chair*

##### **TECHNICAL COMMITTEES**

Electric Machinery Committee - Mike Sedlak, *Chair (Edison Mission Energy)*

Energy Development and Power Generation Committee - Om Malik, *Chair*

Insulated Conductors Committee - John Smith, *Chair (General Cables)*

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 Hatziaargyriou, *Chair*  
 Power System Instrumentation and Measurements Committee - R. Arseneau, *Chair*  
 Power System Operations Committee - William (Bill) Cassel, *Chair (consultant)*  
 Power System Planning and Implementation Committee - M. L. Chan, *Chair (consultant)*  
 Power System Relaying Committee – Roger Hedding, *Chair (ABB)*  
 Stationary Battery Committee - William (Bill) Cantor, *Chair*  
 Substations Committee – Mike Dodd, *Chair (Sweitzer)*  
 Surge Protective Devices Committee - Ron Hotchkiss, *Chair*  
 Switchgear Committee – Ted Olsen, *Chair (Siemens)*  
 Transformers Committee - Bill Chiu, *Chair (SCE)*  
 Transmission and Distribution Committee - W. A. Chisholm, *Chair*

## 1.2 IEEE Standards Association (SA) Requirements

### 1.2.1 IEEE SA's Role

In the course of developing our standards, we as volunteers while having the best interest of advancing the technical understanding of our industry, are no doubt also influenced by those who sponsored our participation with other interests that potentially could influence our decisions. This is where a good understanding of the IEEE SA's role and its relevant policy and procedures will help in clarifying some of the dos and don'ts in the process of developing our standards.

IEEE SA is a standards development organization that:

- Develops voluntary standards, recommended practices, and guides
- Uses an accredited process that promotes consensus building among those with material interest in any given technology, and is based on proven imperative principles of openness, consensus, balance, due process, and right of appeal
- Oversees the process by which consensus is reached
- Has standards that are adopted by regulatory agencies and international bodies around the world
- Promotes standards implementation, but does not define laws or regulatory requirements
- Defines technical requirements, not market mechanisms
- Reviews documents based on technical merit, and established scientific findings

IEEE SA does not:

- Test or verify the content of standards
- Assure health or safety
- Make guarantees
- Make warranties
- Establish law or regulation
- Define essential patents, essential patent holders, or licensing terms
- Define commercial terms or market mechanisms
- Infer that an IEEE standard endorses products, services, or companies

### 1.2.2 Press Releases Policy Relating to IEEE SA Work & Products

Press releases about IEEE standards by outside entities without approval by IEEE:

- Cannot claim that the IEEE standard endorses a product, service, or company
- Cannot claim that the standard establishes requirements based on information in informative text (including informative annexes)
- Cannot include marketing text about IEEE or IEEE-SA that may infer endorsement by IEEE or IEEE-SA
- Must clearly indicate that all statements are that of the entity and does not necessarily represent a position or opinion of either IEEE or the IEEE Standards Association

### 1.2.3 IEEE SA Disclaimers

A statement, written or oral, that is not processed in accordance with the IEEE-SA Standards Board Operations Manual shall not be considered the official position of IEEE or any of its committees and shall not be considered to be, nor be relied upon as, a formal position of IEEE. At lectures, symposia, seminars, or educational courses, an individual presenting information on IEEE standards shall make it clear that his or her views should be considered the personal views of that individual rather than the formal position of IEEE.

### 1.3 IEEE Code of Ethics

The IEEE Code of Ethics serves as the guiding light to keep us focused on maintaining and evolving our culture that makes the Transformers Committee one of the best technical committees in the Power & Energy Society's area. Below is the excerpt from the IEEE Policies, Section 7 – Professional Activities.

We, the members of the IEEE, in recognition of the importance of our technologies in affecting the quality of life throughout the world, and in accepting a personal obligation to our profession, its members and the communities we serve, do hereby commit ourselves to the highest ethical and professional conduct and agree:

1. to accept responsibility in making decisions consistent with the safety, health, and welfare of the public, and to disclose promptly factors that might endanger the public or the environment;
2. to avoid real or perceived conflicts of interest whenever possible, and to disclose them to affected parties when they do exist;
3. to be honest and realistic in stating claims or estimates based on available data;
4. to reject bribery in all its forms;
5. to improve the understanding of technology; its appropriate application, and potential consequences;
6. to maintain and improve our technical competence and to undertake technological tasks for others only if qualified by training or experience, or after full disclosure of pertinent limitations;
7. to seek, accept, and offer honest criticism of technical work, to acknowledge and correct errors, and to credit properly the contributions of others;
8. to treat fairly all persons regardless of such factors as race, religion, gender, disability, age, or national origin;
9. to avoid injuring others, their property, reputation, or employment by false or malicious action;
10. to assist colleagues and co-workers in their professional development and to support them in following this code of ethics.

#### 1.3.1 Affiliation

Given the core objectives of the standards development process to follow the concept of “openness” and “due process” in that it allows for equity and fair play we need to strive to have a balance of interests and not to be dominated by any single interest category. Moving forward, the disclosure of participants' affiliation shall include not just who you are, but also who is your financial sponsor.

### 1.4 Update on Geomagnetic Disturbance (GMD) Taskforce

The Technical Council Taskforce on GMD is continuing to make progress on the development of the position paper. The task force was able to complete an initial release of an article entitled ***Geomagnetic Disturbance and Its Impacts on the Power Grid*** in the PES Power & Energy Magazine in the July, 2013 edition to coincide with the GDM Super Session planned at the PES General Meeting in July, 2013

at Vancouver Canada. This is a little behind the original schedule set back at the end of last year, primarily due to the additional scope of further analysis on transformers hot spots based on a recorded GIC profile of the GMD event that occurred during the March 13-14, 1989 solar storm. The entire GMD Super Session is recorded and available on YouTube (<http://www.youtube.com/watch?v=gE-H8VSzNXY>) with the key word search of "GMD Super Session."

The listing of the GMD SuperSession presenters is shown below in sequential order:

1. **Bill Chiu – Southern California Edison**  
*Overview of GMD & PES Tech Council Task Force on GMD*
2. **David Hilt – Quanta Technology**  
*Regulatory Update*
3. **David Boteler – Natural Resources Canada**  
*Modeling Geomagnetically Induced Currents – The Evolution in Techniques over the last 30 years*
4. **Ramsis Girgis – ABB St. Louis**  
*Methodology for Evaluating the Impact of GIC and GIC Capability of Power Transformer Designs*
5. **Jeff Dagle – Pacific Northwest Labs**  
*Geomagnetic Storms and Long-Term Impacts on Power Systems*
6. **Emanuel E. Bernabeu – Dominion Power**  
*Impacts of GICs on the Dominion Power System*
7. **John Kappenman – Storm Analysis Consultants**  
*Low-Frequency Protection Concepts for the Electric Power Grid: Geomagnetically Induced Current (GIC) and E3 HEMP Mitigation – FERC Meta 322 Update*
8. **Q&A & General Discussions**

## 1.5 Transformers Committee Activities

### 1.3.1 Officers Progression for the 2014-2015 Period

In accordance with the rules set forth in the Transformers Committee Organization and Procedures Manual, the Committee Officers (the Chair, the Vice Chair, and the Secretary) are recommended by the incumbent Chair of the Committee with the concurrence of the immediate Past Chair and are approved by the Chair of the Technical Council and is expected to serve two years a two-year term, and follows the established progression cycle for the next two-year period. As we approach the end of 2013, it marks the end of the two-year officers assignment period from 2012 to 2013. The table below shows the progression of officer's assignment for the next two years.

Officer Role	2012 – 2013 Term	2014-2015 Term
Committee Chair	Bill Chiu	Donald W. Platts
Committee Vice-Chair	Donald W. Platts	Stephen Antosz
Committee Secretary	Stephen Antosz	Susan McNelly
Past Chair / Awards Chair	J. Ed Smith	Bill Chiu
Committee Treasurer*	Greg W. Anderson	Greg W. Anderson
Standards Coordinator*	Willam (Bill) H. Bartley	Willam (Bill) H. Bartley

\* Treasurer and Standards Coordinator are excluded from the officer progression cycle.

### 1.3.2 Subcommittee Chairpersons & Technical Editor

Our current roster of the Subcommittee Chairs and Editor are:

- |   |                         |
|---|-------------------------|
| • Bushings Subcommittee   | <b>Peter Zhao</b>       |
| • Dielectric Test Subcommittee                                    | <b>Michael Franchek</b> |
| • Distribution Transformers Subcommittee                          | <b>Stephen Shull</b>    |
| • Dry-Type Transformers Subcommittee                              | <b>Charles Johnson</b>  |
| • HVDC Converter Transformers and Smoothing Reactors Subcommittee | <b>Michael Sharp</b>    |
| • Instrument Transformers   | <b>Ross McTaggart</b>   |
| • Insulating Fluids Subcommittee                                  | <b>Susan McNelly</b>    |
| • Insulation Life Subcommittee                                    | <b>Bruce Forsyth</b>    |
| • Meetings Subcommittee   | <b>Gregory Anderson</b> |
| • Performance Characteristics Subcommittee                        | <b>Ed teNyenhuys</b>    |
| • Power Transformers Subcommittee                                 | <b>Joe Watson</b>       |
| • Standards Subcommittee  | <b>William Bartley</b>  |
| • Underground Transformers & Network Protectors Subcommittee      | <b>Carl Niemann</b>     |
| • Technical Editor  | <b>Sanjib Som</b>       |

All of them have committed to serve the duration of the calendar year 2013. PES Technical Council was notified of the Subcommittee Chairs and Technical Editor appointments for the calendar year 2013 in accordance with the guideline set forth in our O&P Manual.

### 1.4 IEEE Membership – Senior Grade

IEEE membership has several categories, with the senior level being the highest grade which a member can apply. IEEE has developed a streamlined process for members to request elevation of their membership status. The process is simple and can be done entirely online. The Chair strongly encourages everyone that has been an active contributor to the industry for at least five years to apply for this elevation in membership status. The basic qualifications are:

- be engineers, scientists, educators, technical executives, or originators in IEEE-designated fields;
- have experience reflecting professional maturity;
- have been in professional practice for at least ten years;
- show significant performance over a period of at least five of their years in professional practice.

Benefits of becoming a senior member include:

- **Recognition:** The professional recognition of your peers for technical & professional excellence.
- **Senior member plaque:** Since January 1999, all newly elevated Senior members have received an engraved Senior Member plaque to be proudly displayed for colleagues, clients and employers. The plaque, an attractive fine wood with bronze engraving, is sent within six to eight weeks after elevation.
- **US\$25 coupon:** IEEE will recognize all newly elevated Senior members with a coupon worth up to US\$25. This coupon can be used to join one new IEEE society. The coupon expires on 31 December of the year in which it is received.
- **Letter of commendation:** A letter of commendation will be sent to your employer on the achievement of Senior member grade (upon the request of the newly elected Senior member).
- **Announcements:** Announcement of elevation can be made in section/society and/or local newsletters, newspapers and notices.
- **Leadership Eligibility:** Senior members are eligible to hold executive IEEE volunteer positions.
- **Ability to refer other candidates:** Senior members can serve as a reference for other applicants for senior membership.
- **Review panel:** Senior members are invited to review senior member applications.

- **US\$25 referral coupon:** Newly elevated Senior members are encouraged to find the next innovators of tomorrow and invite them to join IEEE. Invite them to join and the new IEEE member will receive \$25 off their first year of membership.

#### 1.4.1 IEEE Membership – Fellow Grade

The IEEE membership 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. IEEE Fellow nominees are classified into the following four categories:

- Application Engineer/Practitioner
- Educator
- Research Engineer/Scientist
- Technical Leader

IEEE Fellow is a distinction reserved for select IEEE members whose extraordinary accomplishments in any of the IEEE fields of interest are deemed fitting of this prestigious grade elevation.

According to IEEE Bylaw I-305.5, the total number of Fellow recommendations in any one-year must not exceed one-tenth of one percent of the voting membership on record as of 31 December of the year preceding. At the time the nomination is submitted, a nominee must:

- have accomplishments that have contributed importantly to the advancement or application of engineering, science and technology, bringing the realization of significant value to society;
- hold [IEEE Senior Member or IEEE Life Senior Member grade](#);
- have been a member in good standing in any grade for a period of five years or more preceding 1 January of the year of elevation.

For further details please refer to the website

[http://www.ieee.org/membership\\_services/membership/fellows/index.html](http://www.ieee.org/membership_services/membership/fellows/index.html)

#### 1.4.2 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 (WGs, 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.

As our organization is a 100% volunteer based organization, we are very much in need of all of your continued participation and sharing of your expertise towards our world-class standards development efforts. Many of our long-standing committee members have made tremendous contributions towards our standards development effort over the years and their contributions are greatly appreciated.



Respectfully submitted,

***Bill Chiu***

Chair, IEEE/PES Transformers Committee

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

#### 3.4.1 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.

[2013 IEEE PES Asia-Pacific Power & Energy Engineering Conference](#)

*Dec 08 - 11, 2013      Location: Kowloon, Hong Kong*

[2014 IEEE PES Joint Technical Committee Meeting](#)

*Jan 12 - 16, 2014      Location: New Orleans LA, USA*

[2014 IEEE PES Innovative Smart Grid Technologies Conference](#)

*Feb 19 - 22, 2014      Location: Washington DC, USA*

[2014 IEEE/PES Transmission & Distribution Conference & Exposition \(T&D\)](#)

*Apr 14 - 17, 2014      Location: Chicago IL, USA*

[PES 2014 General Meeting](#)

*Jul 27 - 31, 2014,      Location: National Harbor, MD (Washington, DC Metro Area)*

#### 3.5 Conference Papers Submitted

##### 3.5.1 2013 PES General Meeting (Vancouver, Canada July 21 - 25, 2013)

A total of 22 conference papers were submitted.

After review, 7 papers were scheduled for presentation at the Poster Session, 2 for the Paper Session and 4 for the Paper Forum. A large number -9 were rejected.

In addition, 4 authors of Transactions papers, that have been previously published, requested the opportunity to present their papers. Per the rules set up by the PES Tech Council, they will be scheduled, as requested. The presentation will be a joint session with PSIM, who will chair this session.

The papers that were accepted for presentation are:

ID	Title
GM0015	Impact of High PV Penetration on Distribution Transformer Life
GM0285	Impact of PEV Charging and Rooftop PV Penetration on Distribution Transformer Life
GM0792	Modal Parameters Identification of Power Transformer Winding Based on Hilbert-Huang Transform
GM0886	Simulation Analysis of Geomagnetically-Induced Currents (GIC) Effects on Shell-Form Transformers
GM1119	Study of Transformer Winding Deformation by Frequency Response Analysis
GM1238	A Tank Vibration Model For Online Monitoring of Power Transformer
GM1252	Power Transformer Immune to Geomagnetically Induced Currents
GM1409	Energizing and de-energizing of a 250 MVA transformer of a pumped storage power-plant: Modelling and its validation by on site tests
GM1412	Design and Implementation of Vibration On-line Monitoring System of Power Transformer
GM1415	Impact of the representation of the upstream network on the energization of a 340 MVA transformer: modelling and its validation by on site tests
GM1717	A Topology for Three-stage Solid State Transformer
GM2046	Methodology for Evaluating the Impact of GIC and GIC Capability of power Transformer Designs
GM2135	Impact of Axial Displacement on Power Transformer FRA Signature

### 3.6 Upcoming Conference Papers and Schedules

#### 3.6.1 2014 IEEE PES Power Systems Conference & Exposition

Chicago IL --The deadline for paper submission was August 19 2013.

The Theme of the conference is *Fifty Years of Engineering Solutions*

A total of 14 conference papers were submitted. They appear in the table below.

The review process, and the revise and resubmit evaluations are still in progress. A few have been accepted, a few others will be rejected, and the remaining papers have been sent back to the authors with a request that they be revised and resubmitted.

In addition, 3 authors of Transactions papers, that have been previously published, requested the opportunity to present their papers. Per the rules set up by the PES Tech Council, they will be scheduled, as requested.

2014 T&D Conf Paper Review	
ID	Title
14TD0004	PROBABILISTIC TRANSFORMER FAULT TREE ANALYSIS USING BAYESIAN NETWORKS
14TD0022	Transformer Life Cycle Management
14TD0109	Loss Estimation for Miniaturized AC Reactors Using Amorphous Toroidal Cores in 400-kVA UPS
14TD0118	Large Power Transformers: Changing operating conditions and advanced cooling solutions
14TD0256	Analytic Nonlinear Correction to the Impedance Boundary Condition
14TD0289	Thermal analysis of a three phase transformer by coupled simulation
14TD0295	Combining dry type RIF™ Paperless Solid Insulation Condenser Transformer Bushing With Built-in Novel Insulation Monitoring Function
14TD0298	Practical Aspects of Power Transformer Condition Monitoring
14TD0331	Advanced Transformer Fleet Monitoring System
14TD0332	Contributions to differences between on – site and factory measured noise levels of Power Transformers
14TD0347	Permanent PD Monitoring system for power transformers: is there a chance?
14TD0351	A measurement technique to identify and locate partial discharge in transformer with AE and HFCT
14TD0380	A Process for Evaluating the Degree of Susceptibility of a fleet of Power Transformers to Effects of GIC
14TD0411	The Three-Dimensional Electromagnetic Simulation Analysis of Power Transmission of Loosely Coupled Transformer Based on ANSYS
14TD0455	Advanced Tap Changer Control of Parallel Transformers based on IEC 61850 GOOSE Service
14TD0532	An Innovative Method for Cooling oil-immersed Transformers by Rayleigh-Benard Convection
14TD0557	Transformer Reliability – A Statistical Look

### 3.6.2 2014 PES General Meeting

Jul 27 - 31, 2014, Location: National Harbor, MD (Washington, DC Metro Area)

The deadline for paper submission will be November 30, 2013.

The theme of the meeting is: *Charting the Course to a New Energy Future*. The Super Sessions planned have the following focus:

**Cyber and Physical Security**

**Natural Disaster Preparedness, Planning and Response**

**Grid Operations: Practices and Challenges**

**Implementation of Smart Grid Projects: Results and Lessons Learned**

### 3.7 Changes to IEEE PES Conference Paper Rules

As noted in the Vice Chair reports from the fall 2012 and spring 2013 meetings, many of the rules for authors, and for the presentation of papers at IEEE PES technical conferences have changed. Authors should consult the following website. The IEEE PES explanation of these changes is published and can be reviewed at <http://pes-gm.org/2013/index.php/call-for-papers>.

### 3.8 Panel Sessions

The Transformers Committee has committed to sponsor a panel session at the T&D conferences. We have not yet completed the determination of the presentations, or who the panelists will be. Panelists won't be required to write summary papers to participate in panel sessions. Only PowerPoint presentations are required. Invited panelists are free to submit a conference paper on the topic they are asked to present, if they so choose, but it must be submitted to the on-line submission and review site by the conference paper submission deadlines listed above and it will be reviewed for acceptance under the same criteria as all conference paper submissions. Participation as a panelist does not guarantee that your conference paper submission will be accepted and published.

## 3.5 Secretary's Report – Stephen Antosz

### 3.5.1 Membership Review

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

Name	Affiliation	Sponsor #1	Sponsor #2	Sponsor #3	Membership Category
James Bruce Fairris	Nashville Electric Service	Wally Binder WG's C57.117 & C57.125 (2yrs)	Joe Watson WG C57.148 Cont Cab (3yrs)	Joe Watson Power Transformer SC (4yrs)	User
J. Arturo Del Rio	Trench Ltd	Thang Hochanh PD Bushings & IT TF (5yrs)	Bertrand Poulin Low Frequency Test WG (5yrs)	Peter Zhao Bushings SC (5yrs)	Producer
David E. Buckmaster	Shaw Power	Philip Hopkinson WG C57.157 DETC (3yrs)	Peter Zhao Bushings SC (5yrs)	Joe Watson Power Transformer SC (3.5yrs)	User
Charles Sweetser	Omicron Electronics Corp USA	Jane Ann Verner WG C57.152 Field Test Guide (3yrs)	Stephen Shull WG C57.12.70 Terminals (2yrs)	Stephen Antosz PCS SC for C57.149 FRA(8yrs)	Producer
Hali Moleski	S.D. Myers, Inc.	H. Jin Sim IEC/IEEE Cross Reference (3yrs)	Richard Ladroga WG C57.104 DGA (3yrs)	Susan McNelly Insulating Fluid SC (3yrs)	General Interest
David Brender	Copper Development Assoc, Inc.	David Buckmaster TF/WG Wind Xfmrs (2yrs)	Derek Foster C57.12.91 Dry Type Test Code	Jeewan Puri Audible Sound SC (5yrs)	General Interest

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**. Anyone 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 committee administrative staff will upgrade the participation status to "Active Participant" when appropriate. The Committee Member status however, can only be attained through a formal application with the sponsorship of a minimum of three WG or SC chairmanships. Detail of the application requirements and approval process by the Administrative Subcommittee is outlined in our O&P manual.

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

Membership Status	<u>Apr-11</u>	<u>Oct-11</u>	<u>Mar-12</u>	<u>Oct-12</u>	<u>Mar-13</u>	<u>Oct-13</u>
Interested Individual	997	1061	1132	1205	1277	<b>1376</b>
Interested Individual - IEEE Life Member	2	4	6	7	8	<b>16</b>
<b>Total Interested Individuals</b>	<b>999</b>	<b>1065</b>	<b>1138</b>	<b>1212</b>	<b>1285</b>	<b>1392</b>
Active Participant	230	218	232	231	173	<b>178</b>
Active Participant - IEEE Life Member	5	5	6	6	5	<b>5</b>
<b>Total Active Participants</b>	<b>235</b>	<b>223</b>	<b>238</b>	<b>237</b>	<b>178</b>	<b>183</b>
Committee Member	210	218	182	182	186	<b>170</b>
Committee Member - Emeritus Member	1	8	6	6	6	<b>3</b>
Committee Member - IEEE Life Member	31	31	29	30	31	<b>25</b>
<b>Total Committee Members</b>	<b>243</b>	<b>258</b>	<b>217</b>	<b>218</b>	<b>223</b>	<b>198</b>
<b>TOTAL IN AMS DATABASE</b>	<b>1478</b>	<b>1546</b>	<b>1593</b>	<b>1667</b>	<b>1686</b>	<b>1773</b>

It is the responsibility of each individual to keep his/her profile updated, (except for the category).

### 3.5.2 New Member Applications

One new application for Committee Membership has been received since our previous meeting in Munich.

Name	Affiliation	Sponsor #1	Sponsor #2	Sponsor #3	Membership Category
<b>Adam Bromley</b>	<b>Fort Collins Utilities</b>	<b>Guiseppe Termini WG C57.12.24 3 ph Submersible (2yrs)</b>	<b>Ron Stahara WG C57.12.34 3 ph Padmount (2.5yrs)</b>	<b>Stephen Shull Distribution Trans SC (2.5yrs)</b>	<b>User</b>

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. A copy of the Membership Application is attached as an Annex to this Secretary's Report. Subcommittee Chairs are encouraged to recommend new members, and to communicate the process of attaining membership through **active participation** and **contribution** 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.

### **3.5.3 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 General Session meeting on Monday & Thursday. The data will be used to update participant's membership profile.

### **3.5.4 IEEE/PES and IEEE/SA Membership Requirements**

As a reminder, all members of the Transformers Committee must also be members in good standing of the Power & Energy Society (IEEE/PES) and the Standards Association (IEEE/SA). There are a number of Transformers Committee members who have lapsed and must renew their SA and/or PES affiliation. These memberships are renewed annually along with your IEEE Membership renewal, which typically occurs around October/November of each year.

Reminder that WG Chairs must also be a member of the SC, IEEE, PES, and SA.

There are a number of Transformers Committee Members who are not PES or SA members. They will be given a reminder to renew these required memberships. If they do not comply then they will be dropped as Members. It is not fair to the other Members who adhere to this rule and pay the annual fees. Moreover, a person CANNOT participate in any ballot activity if they are not an SA member, and this is one of the basic responsibilities of an active member.

### **3.5.5 Committee Membership Maintenance**

The committee roster has recently been updated. There were many members not attending, not actively participating, and/or not members of IEEE, PES, or SA, as required. They were notified and their membership status was changed. There were 229 members and now are 198 - see the attached updated membership list.

### **3.5.6 Essential Patent Claims**

The Transformers Committee asks each participant at the time of meeting registration if they are aware of an essential patent claim, and if so to provide details. An Essential Patent Claim is any Patent Claim the use of which was necessary to create a compliant implementation of the IEEE Standard when there was no commercially and technically feasible non-infringing alternative. In other words, if an IEEE Standard REQUIRES the use

of a product or process that is already patented, then this could be an essential patent claim. If they did, they would be instructed to have the patent holder's legal team file a Letter of Assurance (LOA) with the IEEE-SA Standards Board Patent Committee. There is a link to this information on the transformerscommittee.org website under Patent Disclosure Requirements. For this St Louis meeting most people said No to the Patent question. There were 5 people who answered YES that they were aware of an essential patent claim. 3 of the 5 provided no details and were therefore not considered any further. The other two were reviewed: one referred to PC57.139 DGA of LTC's which said a LOA was signed in Jan 2013; and the other referred to a patent on natural esters but no LOA has been filed. We are reviewing the next steps that should be taken.

### 3.5.7 Affiliation

According to the IEEE Standards Board Bylaws, there is a requirement that participants of an IEEE meeting must disclose their employer and affiliation. Consultants must state if they are sponsored, or not. One cannot simply announce that "My name is John Smith, and I'm a consultant." If a client is sponsoring your presence, it must be disclosed. If the consultant does not have a sponsor, the proper introduction is something like....My name is John Smith, I'm a consultant, and I represent myself at this meeting.

### 3.5.8 Meeting Minutes

The minutes of the Munich Transformers Committee Spring 2013 meeting were posted to the committee website in May 2013.

Subcommittee Chairs are requested to submit their SC Minutes from the St Louis meeting by December 21, 2013.

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 formatted similar to this report and the assembled Minutes. The numbering for your report should match the numbering as indicated in the Main Committee General Session Meeting Agenda. Please indicate attendance count for each SC, WG, and TF meeting in your Minutes.

Respectfully,

*Stephen Antosz*

Secretary  
IEEE PES Transformers Committee



October 12, 2013



## Annex - Membership Application and Eligibility Requirements

Date: \_\_\_\_\_

Applicant Name \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

Email Address \_\_\_\_\_

Telephone \_\_\_\_\_ Fax \_\_\_\_\_

IEEE Member Grade \_\_\_\_\_ IEEE Member # \_\_\_\_\_

Member IEEE-PES? ☐ Yes ☐ No      Member IEEE-SA? ☐ Yes ☐ No

List principal subcommittee and working group activity you have participated in:

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

Examples of typical statements you may use to explain your participation:

I participated in the review of the draft of \_\_\_\_\_ and provided comments.

I participated in the survey of the draft of \_\_\_\_\_ and provided comments.

I have committed to participate in development of the draft of \_\_\_\_\_ and the WG Chair concurs.

I wrote (or worked with others to write) section \_\_\_\_ of the draft of \_\_\_\_\_.

This application is to be signed by the respective chairs as references. At least one reference must be a subcommittee chair, who will sponsor the applicant.

1. \_\_\_\_\_  
Subcommittee/Working Group      Duration      Chair (Signature)

2. \_\_\_\_\_  
Subcommittee/Working Group      Duration      Chair (Signature)

3. \_\_\_\_\_  
Subcommittee/Working Group      Duration      Chair (Signature)

Applicant Name \_\_\_\_\_

Check the classification most appropriate for your position:

☐

Producer or Manufacturer Interests - Those directly concerned with the production of products which are covered by documents prepared by the Transformers Committee.

☐

Consumer or User Interests - Those who apply or use products which are covered by documents prepared by the Transformers Committee.

☐

General Interest - Those who have interests other than those described above.

Signed \_\_\_\_\_ Date \_\_\_\_\_

Approved by Administrative Subcommittee:

\_\_\_\_\_  
Chair

\_\_\_\_\_  
Date

### *Membership Eligibility Requirements*

Member in good standing of the IEEE Power & Energy Society and IEEE Standards Association.

- a. A demonstrated interest and knowledge of the fields of Distribution, Power and/or Regulating transformers as expressed by working on standards, publishing papers, taking part in discussions of technical papers and presentations thereof.
- b. Technical competence in one or more particular branch(s) of engineering as specified in the scope of the Committee.
- c. Contributing regularly as a member of Subcommittee(s) and Working Group(s) during a two-year apprenticeship period.
- d. Willingness to devote time and effort to contribute to the advance of the art by:
  - \* Regular attendance at meetings and participation at the Subcommittee and Working group level
  - \* Reviewing technical papers for presentation and publication, as may be assigned by the Vice Chair of the Committee.
  - \* Committing to timely return of Committee ballots.
- e. Continued participation in Committee functions such as serving as an officer, liaison representative, Subcommittee member, or Working Group member.
- f. Actively participating in balloting of Technical Committee issues. SA membership is required for balloting.
- g. Regular attendance at meetings.

	Transformer Committee Members										
	as of Oct 21, 2013										
1	Ahuja	Raj	51	Foldi	Joseph	101	Marlow	Dennis	151	Sarkar	Subhas
2	Allan	Dennis	52	Forsyth	Bruce	102	Matthews	Lee	152	Sauer	Daniel
3	Amos	Richard	53	Fortin	Marcel	103	McClure	Phillip	153	Schappell	Steven
4	Anderson	Gregory	54	Foster	Derek	104	McNelly	Susan	154	Schroeder	Stephen
5	Antosz	Stephen	55	Franchek	Michael	105	McShane	Charles Patrick	155	Schweiger	Ewald
6	Arpino	Carlo	56	Ganser	Robert	106	McTaggart	Ross	156	Sewell	Jeremy
7	Arteaga	Javier	57	Garcia	Eduardo	107	Mehrotra	Vinay	157	Sharma	Devki
8	Asano	Roberto	58	Gardner	James	108	Melanson	Joseph	158	Sharp	Michael
9	Ayers	Donald	59	Gaytan	Carlos	109	Miller	Kent	159	Shekelton	James
10	Ballard	Robert	60	Ghafourian	Ali	110	Millward	Paul	160	Shertukde	Hemchandra
11	Balma	Peter	61	Ghosh	Saurabh	111	Molden	Arthur	161	Shull	Stephen
12	Bartley	William	62	Girgis	Ramsis	112	Moleski	Hali	162	Sim	H. Jin
13	Beaster	Barry	63	Graham	James	113	Moore	Harold	163	Sizemore	Thomas
14	Beauchemin	Claude	64	Graham	John	114	Mukerji	Amitav	164	Smith	Edward
15	Betancourt	Enrique	65	Griesacker	Bill	115	Mulkey	Daniel	165	Snyder	Steven
16	Binder	Wallace	66	Gromlovits	Mark	116	Murphy	Jerry	166	Som	Sanjib
17	Blackburn	Gene	67	Haas	Michael	117	Nguyen	Van Nhi	167	Spitzer	Thomas
18	Blaydon	Daniel	68	Hachichi	Said	118	Nicholas	Ray	168	Stahara	Ronald
19	Boettger	William	69	Haggerty	Norman	119	Nicholas	Ron	169	Stiegemeier	Craig
20	Boman	Paul	70	Hanique	Ernst	120	Niemann	Carl	170	Sweetser	Charles
21	Brender	David	71	Hanus	Kenneth	121	Olen	Robert	171	Swinderman	Craig
22	Brush	Edwin	72	Hardin	Michael	122	Oommen	T.V.	172	teNyenhuis	Ed
23	Buchanan	Paul	73	Harley	John	123	Papp	Klaus	173	Termini	Giuseppe
24	Buckmaster	David	74	Harlow	James	124	Patel	Bipin	174	Thompson	Jim
25	Bush	Carl	75	Harris	David	125	Patterson	Wesley	175	Thompson	Robert
26	Callsen	Thomas	76	Hayes	Roger	126	Penny	Brian	176	Traut	Alan
27	Castellanos	Juan	77	Heinzig	Peter	127	Perco	Dan	177	Trummer	Edgar
28	Cherry	Donald	78	Hochanh	Thang	128	Perkins	Mark	178	Tuli	Subhash
29	Chiu	Bill	79	Hoffman	Gary	129	Pezzin	Justin	179	Vaillancourt	Georges
30	Chu	Donald	80	Holdway	Timothy	130	Pierce	Linden	180	Veitch	Robert
31	Claiborne	C. Clair	81	Holifield	Thomas	131	Pink	Tony	181	Verdolin	Roger
32	Colopy	Craig	82	Hopkinson	Philip	132	Platts	Donald	182	Verner	Jane Ann
33	Crotty	John	83	Iman	Mike	133	Ploetner	Christoph	183	Vir	Dharam
34	Crouse	John	84	James, Jr.	Rowland	134	Pointner	Klaus	184	Wagenaar	Loren
35	Damico	Frank	85	Johnson	Charles	135	Poulin	Bertrand	185	Wallace	David
36	Darovny	William	86	Jordan	Stephen	136	Powell	Paulette	186	Wallach	David
37	Darwin	Alan	87	Kelly	Joseph	137	Prevost	Thomas	187	Ward	Barry
38	Davis	Eric	88	Kennedy	Gael	138	Progar	John	188	Watson	Joe
39	Degeneff	Robert	89	Kennedy	Sheldon	139	Puri	Jeewan	189	Wicks	Roger
40	Del Rio	J. Arturo	90	Khalin	Vladimir	140	Radbrandt	Ulf	190	Wilks	Alan
41	Dix	Larry	91	King	Gary	141	Rahangdale	Ravi	191	Wimmer	William
42	Dr Dohnal	Dieter	92	Klaponski	Brian	142	Rasor	Robert	192	Woodcock	David
43	Duckett	Don	93	Kraetge	Alexander	143	Rave	Martin	193	Xu	Shuzhen
44	Dudley	Richard	94	Lackey	John	144	Raymond	Timothy	194	Yang	Baitun
45	Elliott	Fred	95	Ladroga	Richard	145	Riffon	Pierre	195	Yu	Jennifer
46	Ellis	Keith	96	Lau	Michael	146	Robbins	Kirk	196	Yule	Kipp
47	Fairris	James Bruce	97	Lopez-Fernandez	Xose	147	Roussell	Marnie	197	Zhao	Peter
48	Fallon	Donald	98	Lowdermilk	Larry	148	Sampat	Mahesh	198	Ziomek	Waldemar
49	Faulkenberry	Michael	99	Lundquist	Thomas	149	Sankar	Vallamkonda			
50	Feghali	Pierre	100	Marek	Richard	150	Sankarakurup	Dinesh			

### 3.6 Treasurer's Report – Greg Anderson

#### **MEMORANDUM**

October 20, 2013

To: Bill Chiu  
Chair, IEEE/PES Transformers Committee

RE: IEEE/PES Transformers Committee Treasurer's  
Report  
Fall 2013 Meeting  
(for reporting period 02/25/2013 to 08/01/2013)

Dear Bill,

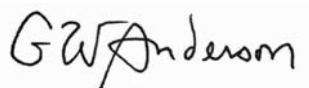
The finances of the Committee are in excellent condition. As of 1st of August 2013 (end of this reporting period), the balance was \$55,388.96.

There were no assets (PC projectors, etc.) purchased during this reporting period.

Expenses associated with the Munich Meeting were "as anticipated" (see comment in previous Treasurer's Report).

See attached summary for balances for this reporting period and the previous periods. Let me know if you have any questions or concerns.

Sincerely,

A handwritten signature in black ink that reads "GW Anderson". The signature is written in a cursive, slightly slanted style.

Gregory W. Anderson, Treasurer IEEE/PES  
Transformers Committee



**IEEE/PES TRANSFORMERS COMMITTEE**  
**Treasurer's Report - Fall 2013**  
(for reporting period 02/25/2013 to 08/01/2013)

AAAAA	Balance before Fall 2011 Meeting , as of 09/27/2011	\$60,022.97
AAAA	Balance before Spring 2012 Meeting , as of 02/22/2012	\$47,864.80
AAA	Balance before Fall 2012 Meeting , as of 09/01/2012	\$56,563.01
AA	Balance before Spring 2013 Meeting , as of 02/25/2013	\$83,852.95
	<u>Misc Income, not meeting related</u>	
	– interest, approx 6 months	\$119.45
	– misc income (polo shirt sales, CD-ROM sales, book sales, etc.)	\$0.00
B	Total Misc Income, not meeting related	\$119.45
	<u>Misc Expenses, not meeting related</u>	
	– 123Signup subscription fee, for 2 quarter(s)	\$1,758.00
	– awards	\$189.91
	– equipment purchases, major assets (projectors & cases, etc.)	\$0.00
	– technology (mobile app, WIFI equip, cables, etc)	\$0.00
	– conferences, remote meetings, etc.	\$630.00
	– other misc expenses (polo shirts, CD-ROMs, books, etc.)	\$51.75
C	Total Misc Expenses, not meeting related	\$2,629.66
	<u>Fall 2012 Meeting</u>	
	– late income, meeting registrations (rolling reserve paybacks)	\$0.00
	– misc late income (incentives, late sponsor contributions, etc.)	\$0.00
	– late meeting expenses	\$0.00
D	Total Late Income/(expenses), Spring 2012 Meeting	\$0.00
	– reported prelim. gain/(loss), as of 02/25/2013, from previous Treasurer's Report	\$28,889.80
	<u>Actual</u> Gain/(Loss), Fall 2012 Meeting	\$28,889.80
	<u>Spring 2013 Meeting</u>	
	– income, meeting registration	\$136,341.30
	– income (coffee break sponsors)	\$4,025.00
	– meeting expenses	\$166,320.08
E	Subtotal income, Spring 2013 Meeting, between 02/25/2013 and 08/01/2013	(\$25,953.78)
	– meeting expenses, before 02/25/2013, from previous Treasurer's Report	\$0.00
	<u>Preliminary</u> Total Gain/(Loss), Spring 2013 Meeting	(\$25,953.78)
	<u>Expenses, Future Meetings (deposits, etc)</u>	
	– meeting expenses, Fall 2013 Meeting	\$0.00
	– meeting expenses, other future meetings	\$0.00
F	Total Expenses, future meetings, paid between 02/25/2013 to 08/01/2013	\$0.00
G	Net Income (loss), between Spring 2013 and Fall 2013 meetings (B - C + D + E -	(\$28,463.99)
A	Balance before Fall 2013 Meeting , as of 08/01/2013 (AA + G)	\$55,388.96

### 3.7 Recognition and Awards Report –James Edward Smith

#### 3.7.1 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:

##### 3.7.1.1 General Service Awards

James Edward Smith	Host-Fall 2013 Meeting, St. Louis, Missouri USA
The H-J Family of Companies	Host-Fall 2013 Meeting, St. Louis, Missouri USA
Bill Chiu	2012 – 2013 Transformers Committee Chair
Jerry Corkran	Certificate of Appreciation-For the many years of Outstanding Contributions to the Transformers Committee

##### 3.7.1.1.1 Special Awards

Dr. Ramsis Girgis	IEEE PES GM in Vancouver Best Paper Award from the Equipment and Load Characteristic category. “The Methodology For Evaluating The Impact of GIC and GIC Capability of Power Transformers”
Dr. Ramsis Girgis	Transformers Committee recognition for the IEEE SA’s Standards Medallion Award
Philip Hopkinson	Transformers Committee recognition for the IEC’s Executive Committee’s IEC 1906 Award
Axel Kraemer	Transformers Committee recognition for the IEC’s Executive Committee’s IEC 1906 Award
Hasse Nordman	Transformers Committee recognition for the IEC’s Executive Committee’s IEC 1906 Award

##### 3.7.1.1.2 Membership Certificates-For distribution at the Fall 2013 St. Louis Meeting

No new members were reported for recognition at the Fall 2013 St. Louis Meeting

##### 3.7.1.2 Task Force Service Awards

###### Taskforce on Geomagnetic Disturbance

The taskforce members, including industry experts outside of the Transformers Committee, pull together to develop a comprehensive industry paper that presented a broad perspective on the subject of GMD and its impacts on the power system. The final deliverable is a published article in the July/August, 2013 edition of the Power & Energy Magazine entitled: :

###### ***“Geomagnetic Disturbances and Its Impacts on Power Grid”***

Bill Chiu – Chair  
Dr. Ramsis Girgis – CoChair  
Dr. Randy Horton – Vice Chair  
Stephen Antosz – Secretary  
Donald W. Platts – Technical Editor  
William H. Bartley – Special Editor  
Gary Hoffman - Special Editor  
Dr. Luis Marti – Special Editor  
James McIver - Special Editor  
Jane Ann Verner – Special Editor  
Mohamed Diaby - Significant Contributor

Thomas G. Lundquist - Significant Contributor  
Loren Wagenaar - Significant Contributor

**3.7.1.3 IEC's 1906 AWARD**-The Transformers Committee is please to recognize Mr. Philip Hopkinson, Axel Kraemer & Hasse Nordman for receiving the IEC (International Electrotechnical Commission) 1906 Award. The IEC's 1906 Award recognizes exceptional current achievements of experts. Created in 2004 by the IEC Executive Committee, the 1906 Award commemorates the IEC's year of foundation and honors IEC [experts](#) around the world whose work is fundamental to the IEC. The Award also recognizes exceptional and recent achievement - a project or other specific contribution - related to the activities of the IEC and which contributes in a significant way to advancing the work of the Commission.

### **3.7.2 IEEE SA Standards Board Awards**

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. All Working Group Chairs chose to have their awards sent direct to their residence or place of business. No awards will available for distribution at the Fall 2013 St. Louis meeting the list below should be called forward for recognition only.

#### **IEEE SA Award Recipients:**

##### **C57.12.35 Standard for Bar Coding for Distribution Transformers and Step-Voltage Regulators**

Lee Matthews – Chair, C57.12.35  
Giuseppe Termini – Vice Chair, C57.12.35  
Robert Olen - Significant Contributor, C57.12.35

##### **C57.12.60-2009/Cor 1-2013 Standard Test Procedure for Thermal Evaluation of Insulation System for Dry-Type Power and Distribution Transformers, Including Open-Wound, Solid-Cast, and Resin-Encapsulated Transformers – Corrigendum 1 6/14/2013.**

Roger Wicks – Chair, C57.12.60-2009/Cor 1-2013  
Casey Ballard – Significant Contributor, C57.12.60-2009/Cor 1-2013

##### **C57.152 Guide for Diagnostic Field Testing of Fluid-Filled Power Transformers, Regulators and Transformers**

Jane Ann Verner – Chair, C57.152  
Kipp Yule - Co-Chair, C57.152  
Loren Wagenaar – Vice Chair, C57.152  
Wallace Binder – Significant Contributor, C57.152  
Mario Locarno – Significant Contributor, C57.152  
Charles Sweetser – Significant Contributor, C57.152  
John Herron – Significant Contributor, C57.152  
Peter Balma – Significant Contributor, C57.152

#### **\*\*\*\*\* REQUESTED RECOGNITION AT THE FALL 2013 ST LOUIS MEETING \*\*\*\*\***

##### **C57.17 IEEE Standard for Arc Furnace Transformers**

Robert G. Ganser Sr. - WG Chair, C57.17  
Robert G. Ganser Jr. - Secretary, C57.17  
Peter Balma - Significant Contributor, C57.17  
William Bartley - Significant Contributor, C57.17



Dominico Corsi - Significant Contributor, C57.17  
Frank Damico - Significant Contributor, C57.17  
Thomas Lundquist - Significant Contributor, C57.17

\*\*\*\*\* REQUESTED RECOGNITION AT THE FALL 2013 ST LOUIS MEETING \*\*\*\*\*

### 3.7.3 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.

### **2013 Standards Medallion Award Fall 2013 St. Louis Meeting**

On behalf of the IEEE we are very pleased to recognize Dr. Ramsis Girgis with an IEEE Standards Medallion award for his many accomplishments and years of dedicated service to the Transformers Committee, IEEE, PES and our industry as a whole.

### 3.7.4 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.

### 3.7.5 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.

### 3.7.6 Transformers Committee Meritorious Service Awards

There is also 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.

### 3.7.7 Member Certificates

The Transformer Committee Membership Certificates were finalized and distributed at our Fall 2012 Milwaukee meeting. Those that were not handed out or picked up in Milwaukee and/or Munich will be available for pick up at our St. Louis, Missouri meeting. Any Transformers Committee member who has not received his/her membership certificate should make an effort to do so at our St. Louis meeting.

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. See section 6.1.1.2 of this report for the new membership certificates approved since the last meeting.

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

Regarding IEEE Fellow Nominations, we need to think about nominations for 2013. Borrowing from the IEEE Awards web page . . .

([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.

Respectfully submitted,  
*James Edward Smith*  
 Chair, Awards Subcommittee

### 3.8 Meeting Planning Report – Greg Anderson

No written report.

St Louis 2013 Meeting

- 532 attendees (542 registered, minus 10 no-shows)
- 69 spouses/companions/guests (69 registered, minus no no-shows)

#### 3.8.1 Savannah Meeting

No written report.

#### 3.8.2 Future Meetings

No written report.

### 3.9 Standards Report – Bill Bartley

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

### 3.10 IEEE Staff Update – Erin Spiewak IEEE-SA Public Review

*AdHoc in place*

- Approved at the SASB – Standards Association Standards Board
  - A Public Review that shall start simultaneously with the opening of the initial ballot and last for 65 days.
  - Any person may purchase the initial ballot draft for information only, and have the ability to submit public review comments on said draft without vote.
  - All public review comments shall be submitted electronically through the IEEE Standards Association public review tools
  - Implementation and training prior to roll out.
    - Potentially July 2014

### IEEE-SA Training Videos

*In progress*

- Training Initiative
  - Two editorial videos are in the final stages of completion. Short, few minutes, to walk the user through steps of the process
  - Goal is to continue to develop additional videos. Suggest we link to Transformers Website once complete.

### Non-Disclosure Agreement - NDA

*Pending review and approval from legal*

- Proposal
  - Setup an input site to allow submission of data to IEEE. Suggest we provide a spreadsheet for the input. Therefore, we could automate the compilation and ensure that the anonymity of the submitter is maintained
  - User will need to click through the NDA in order to access the compiled data

### 3.11 IEC TC14 Report – Jodi Haasz

See attached.

### 3.12 Old Business

3.12.1 WG on data integrity – Sue. Not much done yet. Working on a formal agreement for contributor of data and TC to sign, a spreadsheet for submission of data in a common format, and a non-disclosure for people who use it.

Housed on an IEEE server.

3.12.2 P&P – Peter. We are very close to having the P&P completed. Will submit it for approval.

3.12.3 GMD/GIC position paper ... is covered by Bill Chiu in the Chair's report.

3.12.4 Meeting Improvement Initiative – Don. Still working on it. 2 parts being considered;  
Part 1. IEEE-SA Procedures reminders.  
Part 2 How to conduct effective meetings

### 3.13 New Business

3.13.1 Request from NERC SPSC about sudden pressure relay settings. Bill Chiu will draft a reply and circulate it to Admin SC.

3.13.2 Energy router coordination with the Power Electronics Committee. Solid state transformer. ICC Industry Connections Committee is trying to identify emerging technologies and develop new standards. Bill Bartley is taking care of this.

### 3.14 Subcommittee Reports

Subcommittee	Report	Hot Topic
Bushings – P. Zhao		Arturo del Rio stepped down
Dielectric Test – M. Franchek		Wrapping up Class I/II redefinition Working with Phil to clean up the dielectric test table problems One slight change to the last minutes Need new Secretary
Distribution Transformers – S. Shull		Request from WG Chair Craig Colopy to move Regulators C57.15 to Power Transformers SC
Dry Type Transformers – C. Johnson		No Hot Topics
HVDC – M. Sharp		Comparison of IEEE & IEC Standards is being done. And dual logo status is being sought.
Instrument Transformers – R. McTaggart		New PAR at Standards Board for station service voltage transformers
Insulating Fluids – S. McNelly		Need new Chair and some WG Secretaries. C57.147 Natural esters should we continue the revision work due to the patent issues?
Insulation Life – B. Forsyth		Seeking dry-type insulation expert on what degrades insulation
Performance Characteristics – E. teNyenhuis		No Hot Topics
Power Transformers – J. Watson		Made motion to accept the move of C57.15 from Dist Trans. No second. C57.15 – 60076-21 C57.131 – 60214-1
Underground Transformers & Network Protector – C. Niemann		No Hot Topics
Standards SC – Bill Bartley		No Hot Topics

### 3.15 Adjourn

Yes

## IEC Report from Jodi Haasz, IEEE Standards Strategist

IEEE Transformers Committee  
Report of the IEC TC 14 Meeting  
Milwaukee, WI  
Oct 20, 2013

### IEC TC 14 Meeting Attendance

- 36 Participating Members
  - 18 Participating Members Attended the Meeting
- 10 Observing Members
- IEEE
  - Don Platts, IEEE Transformers Committee Vice-Chair
  - Jodi Haasz, IEEE Standards Strategist
- CIGRE
  - Representative from SC A2
- 51 total meeting attendees
  - 15 IEEE and IEEE-SA Members
  - 1 IEEE Member
  - 1 IEEE-SA Member (interested in joining IEEE)

### Items Discussed

- Paul Jarman's Term as Chair ends 30-Nov-2014
  - Paul's term may be extended until 30-Nov-2017
- IEC 60076-4 - Power transformers - Part 4: Guide to the lightning impulse and switching impulse testing - Power transformers and reactors
  - IEEE has a similar document (IEEE C57.98-2011 – IEEE Guide for Transformer Impulse Tests). IEC TC 14 may be interested in harmonizing their document with IEEE's document
  - TC 14 agreed to circulate IEEE C57.142-2010 (IEEE Guide to Describe the Occurrence and Mitigation of Switching Transients Induced by Transformer, Switching Device, and System Interaction) for comment with the potential for adoption under the IEC/IEEE Dual Logo Agreement.
- Discussion of adoption of IEEE PC57.155 (Guide for Interpretation of Gases Generated in Natural Ester and Synthetic Ester Immersed Transformers) by IEC TC 10
- Interest in adding the tutorial information in Annex E of IEEE C57.131-2012 (IEEE Standard Requirements for Tap Changers, into the revision of IEC 60214-1, Tap changers - Part 1: Performance requirements and test methods)
- After the meeting, Craig Colopy indicated interest in having IEEE adopt the IEC standard

- Adoption of IEEE C57.143-2012, Guide for Application for Monitoring Equipment to Liquid-Immersed Transformers and Components
- Spanish National Committee indicated an interest in adopting the IEEE standard
- Spanish National Committee not present at the meeting
- Document not compatible with IEC 60076-1, Power transformers - Part 1: General
- Mention of “adapting” the IEEE standard
- Decision was made that IEC TC 14 needed more time to review it
- A joint revision may be possible in the future
- Discussion of Geomagnetic Induced Currents (GIC)
- CIGRE SC A2 (Transformers) mentioned work in this area
- IEEE (Don) mentioned a Power & Energy Society paper undergoing development
- It was noted that IEEE, CIGRE SC A2 and IEC should coordinate so that there is consistent messaging
- Mention of providing input into CIGRE SC A2 of IEC 62032 Ed.2 (2012-06) (IEEE Std C57.135™-2011), Guide for the Application, Specification and Testing of Phase-Shifting Transformers
- Appropriate copyright permission will be required

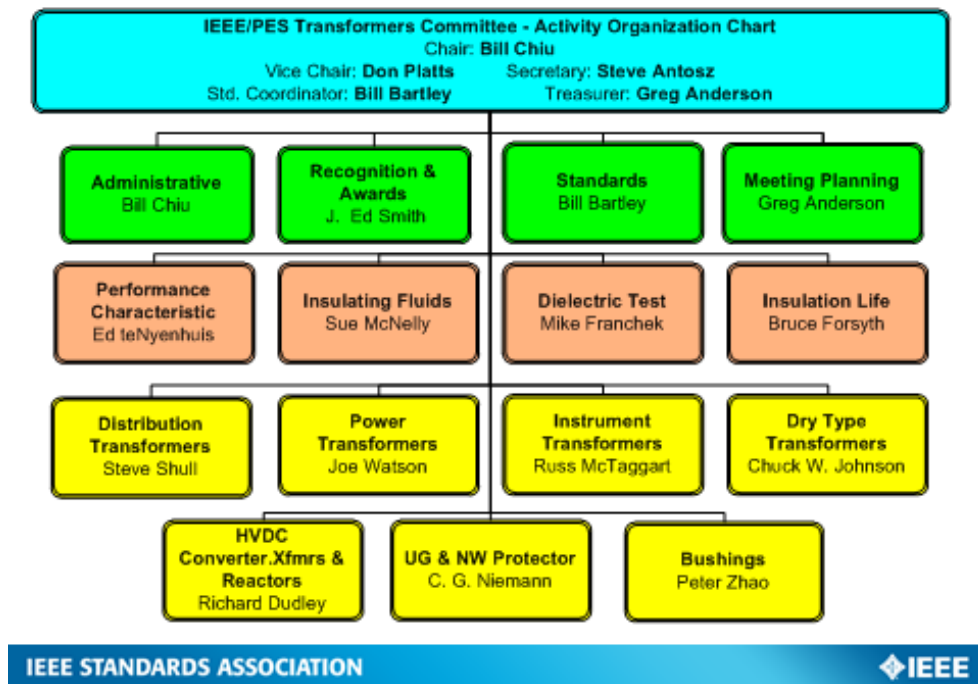
#### Current and Future Potential Projects

- IEC 60076-7 - Loading guide for oil immersed power transformers
  - May be interest from IEC TC 14 on merging this with IEEE C57.91-2011, Guide for Loading Mineral-Oil-Immersed Transformers and Step-Voltage Regulators
    - Lack of utility participants in IEC.
- IEC/IEEE 60076-16 – Standard Requirements for Wind Turbine Generator Transformers
  - There is confusion on this joint project, both on the part of IEC and IEEE. Further discussions will be needed this week to get this project back on track.
- IEEE C57.15-2009 (IEC/IEEE 60076-21) – Standard Requirements, Terminology, and Test Code for Step-Voltage Regulators
  - IEC TC 14 agreed in principle to revise the document with IEEE. A Document for Comment (DC) will be issued to ensure that there is interest for this revision.
- Merger of IEEE C57.129-2007 (Standard for General Requirements and Test Code for Oil-Immersed HVDC Converter Transformers) and IEC 61378-2 (Converter transformers - Part 2: Transformers for HVDC applications)
  - TC14 confirmed Mr. Anders Lindroth (Sweden) as the convenor of MT and agreed joint work with IEEE and noted the joint working arrangements. They agreed to issue a DC and to await the IEEE PAR. Subject to agreement of IEEE, IEC would issue a Review Report (RR) to establish the project.

IEEE Transformers Committee  
Information for IEC TC 14  
Don Platts, Vice-Chair  
IEEE Transformers Committee  
17-18 October 2013

Items of Interest

- IEEE Transformers Committee Organizational Chart
- IEC Adoptions of IEEE Standards
- IEC/IEEE Joint Projects
  - Current Projects
  - Potential Future Project
- IEEE Transformers Committee – Projects Under Development



IEC Adoptions of IEEE Standards

- IEC 60076-21 Ed. 1 (2011-12) (IEEE Std C57.15™-2009): Power Transformers — Part 21: Standard Requirements, Terminology, and Test Code for Step-Voltage Regulators
- IEC 62032 Ed.1 (2005-03) (IEEE Std C57.135™-2001): Guide for the Application, Specification and Testing of Phase-Shifting Transformers



- IEC 62032 Ed.2 (2012-06) (IEEE Std C57.135™-2011): Guide for the Application, Specification and Testing of Phase-Shifting Transformers

## IEC/IEEE Joint Projects

### ■ Current Joint Projects

- IEC/IEEE 60076-16 Ed.2: Power Transformers — Part 16: Transformers for Wind Turbine Applications
- IEC/IEEE 60076-57-1202 Ed.1: Liquid Immersed Phase Shifting Transformers

### ■ Potential Future Maintenance Project

Revision of IEC 60076-21 Ed.1: Power transformers - Part 21: Standard requirements, terminology, and test code for step-voltage regulators (IEC adoption of

## IEEE Transformers Committee – Projects Under Development

- P1276 - Application Guide for Hi-Temp Insulation Materials in L.I. Power Transformers (2016)
- P60076-16 - Standard Requirements for Wind Turbine Generator Transformers (2016)
- P60076-57-1202 - Standard Requirements for Liquid Immersed Phase-Shifting Transformers (2016)
- P65700-19-03 - Standard for Bushings for DC application (2013)
- PC57.104 - Guide for the Interpretation of Gases Generated in Oil-Immersed Transformers (2014)
- PC57.106 - Guide for Acceptance and Maintenance of Insulating Oil in Equipment (2015)
- PC57.116 - Guide for Transformers Directly Connected to Generators (2015)
- PC57.12.00 - Std Gen Requirements for L.I. Distribution, Power, and Regulating Transformers (2015)
- PC57.12.01 - Standard for General Requirements for Dry-Type Distribution and Power Transformers (2015)
- PC57.12.20 - Std for Ovrhd-Distribution Transformers <500 kVA HV <34 500v; LV, 7970/13 800Y V (2016)
- PC57.12.24 - Standard for Submersible, 3-ph Transformers, <3750 kVA, HV <34 500 LV < 600 Volts (2015)
- PC57.12.28 - Standard for Pad Mounted Equipment - Enclosure Integrity (2014)
- PC57.12.29 - Standard for Pad Mounted Equipment - Enclosure Integrity for Coastal Environments (2014)
- PC57.12.31 Std for Pole-Mounted Eqpt - Enclosure Integrity - Corr 1: SCAB Corrosion Test /4.5.6 (2017)
- PC57.12.34 Std for Req's-Pad-Mounted, Compart'l Self Cooled, 3 ph Dist Transformers, <10 MVA (2015)
- PC57.12.36 Standard Requirements for Liquid-Immersed Distribution Substation Transformers (2015)

- PC57.12.37 Standard for the Electronic Reporting of Distribution Transformer Test Data (2015)
- PC57.12.38 Std for Pad-Mounted-Type, Self-Cooled, 1ph Dist Transformers; <250 kVA (2014)
- PC57.12.39 Standard Requirements for Distribution Transformer Tank Pressure Coordination (2016)
- PC57.12.40 Standard for Network, 3-ph Transformers, <2500 kVA; Subway and Vault Types (2016)
- PC57.12.44 - Standard Requirements for Secondary Network Protectors (2014)
- PC57.12.59 - Guide for Dry-Type Transformer Through-Fault Current Duration (2015)
- PC57.12.90 - Std Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers (2015)
- PC57.120 - Guide for Loss Evaluation of Distribution and Power Transformers and Reactors (2014)
- PC57.121a - Guide for Acceptance & Maint of Less Flammable Hydrocarbon Liquids - Amendment a (2017)
- PC57.125 - Guide for Failure Investigation, Analysis, and Reporting for Pwr Transformers & Reactors (2015)
- PC57.13 - Standard Requirements for Instrument Transformers (2014)
- PC57.13.7 - Standard for Current Transformers with a Maximum mA Secondary Current of 250mA (2014)
- PC57.130 - Trial-Use Guide for the Use of DGA Applied to Factory Temp Rise Tests (2014)
- PC57.13- C 1 - Std Req for Instrument Transformers - Corrigendum 1: Figure 3 Correction (2014)
- PC57.136 - Guide for Sound Level Abatement and Determination for L.I. Power Transformers > 500 kVA (2014)
- PC57.138 - Recommended Practice for Routine Impulse Test for Distribution Transformers (2015)
- PC57.139 - Guide for Dissolved Gas Analysis in Transformer Load Tap Changers (2015)
- PC57.140 - Guide for Eval and Reconditioning of Liquid Immersed Power Transformers (2015)
- PC57.147 - Guide for Acceptance & Maintenance of Natural Ester Insulating Fluids in Transformers (2016)
- PC57.153 - Guide for Paralleling Power Transformers (2014)
- PC57.155 - Guide for Interpretation of Gases Generated in Ester Immersed Transformers (2014)
- PC57.156 - Guide for Tank Rupture Mitigation of Liquid-Immersed Pwr Transformers and Reactors (2015)
- PC57.157 - Guide for Conducting Functional Life Tests for DETC Contacts (2015)
- PC57.158 - Guide for the Application of Tertiary & Stabilizing Windings in Power Transformers (2016)
- PC57.159 - Application Guide for Transformers in Photovoltaic Power Gen Systems (2016)

- PC57.160 - Guide for the Electrical Measurement of Partial Discharges in High Voltage Bushings (2017)
- PC57.161 - Guide for Dielectric Frequency Response Test (2017)
- PC57.162 - Guide for Interpretation of Moisture Parameters in Dry, Gas Insulated and L.I. Transformers (2017)
- PC57.19.01 - Std Performance Characteristics and Dimensions for Outdoor Apparatus Bushings (2014)
- PC57.19.04 - Std Perf Characteristics & Dimensions for High Current Bushings w/ Cont. Current >5000 A (2015)
- PC57.32 - Std Requirements & Test Procedures for Neutral Grounding Devices (2015)
- PC57.637 - Guide for the Reclamation of Insulating Oil and Criteria for Its Use (2014)
- PC57.93 - Guide for Installation and Maintenance of Liquid-Immersed Power Transformers (2016)
- PC57.94 - Guide for Installation & Maintenance of Dry-Type Distribution & Power Transformers (2015)