IEEE/PES

Transformers

Committee

**Fall 2015**

**Meeting Minutes**

**Memphis, Tennessee, USA**

**November 1, 2015**

**Unapproved**

**(These minutes are on the agenda to be approved at the next meeting in Fall 2015)**

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6. Vice Chair’s Report – Stephen Antosz
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8. Treasurer’s Report – Gregory Anderson
9. Awards Report – Bill Chiu
10. Administrative SC Meeting Report – Susan McNelly
11. Standards Report – William Bartley
12. Editor’s Report – Sanjib Som
13. Unfinished (Old) Business
14. New Business
15. Monday Opening Session Adjournment

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1. Chair’s Remarks and Anouncements
2. Meetings Planning SC Minutes & Report – Gregory Anderson
3. Reports from Technical Subcommittees (decisions made during the week)
4. Report from Standards Subcommittee (issues from the week)
5. Liaison Reports
   1. Cigre – Raj Ahuja
   2. IEC TC14 Technical Advisor to USNC – Paul Jarman
   3. Standards Coordinating Committee No. 18 (NFPA/NEC) – Ned Brush
   4. Standards Coordinating Committee No. 4 (Electrical Insulation) – Paulette Payne reported by Don Platts
6. New Business (Continued from Monday General Session)
7. Thursday General Session Adjournment

**Minutes of Technical Subcommittees**

1. **Bushings SC – Peter Zhao**
2. **Dielectric Tests SC – Michael Franchek**
3. **Distribution Transformers SC – Steve Shull**
4. **Dry Type Transformers SC – Charles Johnson**
5. **HVDC Converter Transformers & Reactors – Mike Sharp**
6. **Instrument Transformers SC – Ross McTaggart**
7. **Insulating Fluids SC – David Wallach**
8. **Insulation Life SC – Bruce Forsyth**
9. **Meetings SC – Greg Anderson**
10. **Performance Characteristics SC – Ed teNyenhuis**
11. **Power Transformers SC – Joe Watson**
12. **Standards SC – Bill Bartley**
13. **Underground Trans & Network Protectors SC – Dan Mulkey**

Monday Opening Session

# Agenda

**Opening Session**

**Monday, November 1; 8:00 am - 9:15 am**

(rosters circulated and attendance recorded as eligibility for Committee membership)

1. Welcome and Announcements Don Platts
2. Approval of Agenda Don Platts
3. Approval of Minutes from Fall 2014 Meeting Don Platts
4. Chair’s Report Don Platts
5. Vice Chair’s Report Stephen Antosz
6. Secretary's Report Sue McNelly
7. Treasurer's Report Greg Anderson
8. Report from Administrative Subcommittee Meeting Don Platts
9. Standards Report Bill Bartley
10. Editor’s Report Sanjib Som
11. Reports from Liaison Representatives (moved from Monday due to lack of time)
    1. CIGRE Raj Ahuja
    2. IEC TC-14 Technical Advisor to USNC Phil Hopkinson
    3. Standards Coord. Committee, SCC No. 18 (NFPA/NEC) Ned Brush
    4. Stds Coord. Committee, SCC No. 4 (Electrical Insulation) Paulette Payne Powell
12. Hot Topics for the Upcoming Week Subcommittee Chairs
13. New Business & Wrap-up Don Platts

**Closing Session**

**Thursday, November 5, 11:00 am - 12:00 pm**

1. Chair's Remarks and Announcements Don Platts
2. Meetings Planning Subcommittee Greg Anderson
3. Reports from Technical Subcommittees (decisions made during the week)

Dielectric Tests Mike Franchek

Distribution Transformers Steve Shull

Dry Type Transformers Chuck Johnson

HVDC Converter Transformers & Reactors Mike Sharp

Instrument Transformers Ross McTaggart

Insulating Fluids David Wallach

Insulation Life Bruce Forsyth

Performance Characteristics Ed teNyenhuis

Power Transformers Joe Watson

Underground Transformers & Network Protectors Dan Mulkey

Bushings Peter Zhao

1. Additional Report from Standards Subcommittee (issues from the week) Bill Bartley
2. New Business (continued from Monday) and Wrap-up Don Platts

# Attendance

## Committee Member Attendance

**Legend:**

CM Committee Member

CM-LM Committee Member-IEEE Life Member

CM-EM Committee Member-Emeritus

| **Committee Member Attendance (Red designates CM added and present at present meeting)** | | | | |
| --- | --- | --- | --- | --- |
| **Member Type** | **Name** | **Company** | **Mon** | **Thu** |
| CM-LM | Amos, Richard | Retired | X | X |
| CM | Anderson, Gregory | GW Anderson & Associates, Inc. | X | X |
| **CM** | **Ansari, Tauhid Haque** | **ABB Inc.** | X |  |
| CM | Antosz, Stephen | Stephen Antosz & Associates, Inc | X | X |
| CM | Arteaga, Javier | ABB Inc. | X | X |
| CM-LM | Ayers, Donald | Ayers Transformer Consulting | X |  |
| CM | Ballard, Robert | DuPont | X | X |
| CM-LM | Bartley, William | Hartford Steam Boiler | X | X |
| CM | Beaster, Barry | H-J Enterprises, Inc. | X | X |
| CM | Beauchemin, Claude | TJH2b Analytical Services | X | X |
| CM | Betancourt, Enrique | Prolec GE | X |  |
| CM-LM | Binder, Wallace | WBBinder Consultant |  | X |
| CM | Blackburn, Thomas | Gene Blackburn Engineering | X | X |
| CM | Blaydon, Daniel | Baltimore Gas & Electric | X | X |
| CM-LM | Boettger, William | Boettger Transformer Consulting LLC | X | X |
| CM | Boman, Paul | Hartford Steam Boiler | X |  |
| CM | Bromley, Adam | Fort Collins Utilities |  | X |
| CM | Callsen, Thomas | Weldy-Lamont Associates | X | X |
| CM | Castellanos, Juan |  | X |  |
| CM | Cherry, Donald | ABB Inc. | X |  |
| CM | Chiu, Bill |  | X | X |
| CM | Claiborne, C. Clair | ABB Inc. | X | X |
| CM | Colopy, Craig | EATON Corporation | X | X |
| CM | Crotty, John | Ameren |  |  |
| CM | Damico, Frank | TAMINI Transformers USA |  |  |
| CM | Davis, Eric | Burns & McDonnell | X |  |
| CM | Del Rio, J. Arturo | Trench Limited | X | X |
| CM | Dix, Larry | Quality Switch, Inc. | X | X |
| CM | Dohnal, Dieter | Maschinenfabrik Reinhausen |  | X |
| **CM** | **Dorris, Don** | **Nashville Electric Service** | X | X |
| CM | Ellis, Keith | Elect Connection, Inc (RHM International) | X |  |
| CM | Fairris, James | KMS Electrical Products | X |  |
| CM | Feghali, Pierre | N. American Substation Services |  | X |
| CM-LM | Foldi, Joseph | Foldi & Associates, Inc. | X |  |
| CM | Forsyth, Bruce | Southwest Electric Co. | X | X |
| CM | Foster, Derek | Magnetics Design, LLC | X |  |
| CM | Franchek, Michael | Weidmann Electrical Technology | X | X |
| CM | Garcia, Eduardo | Siemens | X | X |
| CM | Gaytan, Carlos | Prolec GE |  | X |
| CM-LM | Girgis, Ramsis | ABB Inc. | X |  |
| **CM** | **Golarz, Jeffrey** | **LumaSense Technologies** | X |  |
| CM | Graham, James | Mott MacDonald, Inc. | X | X |
| CM | Griesacker, Bill | Doble Engineering Co. | X | X |
| CM | Gromlovits, Mark | EMC OEM Products Division |  |  |
| CM | Haas, Michael | Instrument Transformers, LLC |  |  |
| CM | Hachichi, Said | Hydro-Quebec | X | X |
| CM | Hardin, Michael | H-J Enterprises, Inc. | X |  |
| CM | Harley, John | FirstPower Group LLC | X | X |
| CM | Hayes, Roger | ALSTOM Grid | X | X |
| CM | Heinzig, Peter | Weidmann Electrical Technology | X | X |
| CM | Herz, Josh | Qualitrol | X | X |
| CM | Hochanh, Thang | Delta Star Inc. | X | X |
| CM | Hoffman, Gary | Advanced Power Technologies | X | X |
| CM | Holdway, Timothy | Intermountain Electronics | X | X |
| CM | Holifield, Thomas | Howard Industries | X | X |
| CM-LM | Hopkinson, Philip | HVOLT Inc. | X |  |
| CM | Jordan, Stephen | Tennessee Valley Authority | X | X |
| CM | Kennedy, Gael | GR Kennedy & Associates LLC | X | X |
| CM | Kennedy, Sheldon | Niagara Transformer | X | X |
| CM | King, Gary | Howard Industries | X |  |
| **CM** | **Kinner, Robert** | **FirstPower Group LLC** | X |  |
| CM | Klaponski, Brian | Carte International Inc. | X |  |
| CM | Kraemer, Axel | Maschinenfabrik Reinhausen | X | X |
| **CM** | **Kulasek, Krzysztof** | **ABB Inc.** | X |  |
| CM-LM | Lackey, John | PowerNex Associates Inc. | X | X |
| CM | Lau, Michael | Weidmann Diagnostic Solutions | X | X |
| CM | Levin, Aleksandr | Weidmann Electrical Technology | X | X |
| CM | Lopez-Fernandez, Xose | Universidade de Vigo | X | X |
| CM-LM | Lowdermilk, Larry | LAL International, LLC | X |  |
| CM | Marek, Richard | DuPont | X | X |
| CM | Matthews, Lee | Howard Industries | X | X |
| CM | McClure, Phillip | Weschler Instruments | X |  |
| CM | McNelly, Susan | Xcel Energy | X | X |
| CM | McShane, Charles Patrick | Cargill, Inc. | X | X |
| CM | McTaggart, Ross | Trench Limited | X | X |
| CM | Mehrotra, Vinay | SPX Transformer Solutions, Inc. | X | X |
| CM | Melanson, Joseph | J. Melanson, Inc. | X | X |
| CM | Melle, Thomas | HIGHVOLT | X |  |
| CM-LM | Miller, Kent | T&R Electric Supply Co. |  |  |
| CM | Molden, Arthur | AMEESCO | X |  |
| CM | Moleski, Hali | S.D. Myers Inc. | X |  |
| CM-LM | Moore, Harold | Harold Moore & Associates | X |  |
| CM | Mulkey, Daniel | Mulkey Engineering | X | X |
| CM | Murphy, Jerry | Reedy Creek Energy Services | X | X |
| **CM** | **Murray, David** | **Tennessee Valley Authority** | X | X |
| **CM** | **Narawane, Aniruddha** | **ABB Inc.** |  |  |
| **CM** | **Parkinson, Dwight** | **EATON Corporation** | X |  |
| CM | Patel, Poorvi | ABB Inc. | X | X |
| **CM** | **Patel, Sanjay** | **Smit Transformer Sales, Inc.** |  |  |
| CM | Payerle, George | Carte International Inc. | X | X |
| CM | Penny, Brian | American Transmission Co. | X | X |
| CM | Perkins, Mark | ABB Inc. | X |  |
| CM | Pezzin, Justin | IFD Corporation | X |  |
| CM | Platts, Donald | OMICRON electronics Corp USA | X | X |
| CM | Pointner, Klaus | Trench Austria GmbH | X | X |
| CM | Poulin, Bertrand | ABB Inc. | X |  |
| CM | Prevost, Thomas | OMICRON electronics Corp USA | X | X |
| CM | Radbrandt, Ulf | ABB | X |  |
| CM | Rasor, Robert | S.D. Myers Inc. | X |  |
| CM | Rave, Martin | ComEd | X |  |
| CM | Recksiedler, Leslie | Manitoba Hydro | X |  |
| CM | Riffon, Pierre | Pierre Riffon Consultant Inc. | X | X |
| CM | Robalino, Diego | Megger | X |  |
| CM | Robbins, Kirk | Exelon Generation | X | X |
| CM | Roussell, Marnie | Entergy | X | X |
| **CM** | **Sarkar, Amitabh** | **CG Power Systems USA, Inc.** | X | X |
| CM | Sarkar, Subhas | Virginia Transformer Corp. | X |  |
| CM | Sauer, Daniel | EATON Corporation | X | X |
| CM | Schappell, Steven | SPX Transformer Solutions, Inc. | X |  |
| CM | Schroeder, Stephen | ABB Inc. | X |  |
| CM | Schweiger, Ewald | Siemens AG | X | X |
| CM | Sewell, Adam | Quality Switch, Inc. | X | X |
| CM | Sewell, Jeremy | Quality Switch, Inc. | X | X |
| CM-LM | Sharma, Devki | Entergy | X |  |
| CM | Sharp, Michael | Trench Limited | x | X |
| CM | Shekelton, James | H-J Enterprises, Inc. |  |  |
| CM | Shertukde, Hemchandra | University of Hartford | X |  |
| CM | Shull, Stephen | The Empire District Electric Co. | X | X |
| CM | Simmons, Charles | Duke Energy | X | X |
| CM | Sizemore, Thomas | ABB Inc. | X | X |
| CM | Skinger, Kenneth | CBI | X | X |
| CM | Smith, Edward | H-J Enterprises, Inc. | X | X |
| CM | Snyder, Steven | ABB Inc. | X | X |
| CM | Som, Sanjib | Siemens - Process & Drives | X | X |
| CM-LM | Stahara, Ronald | Stahara Consulting | X | X |
| CM | Stiegemeier, Craig | ABB Inc. | X | X |
| CM | Sweetser, Charles | OMICRON electronics Corp USA | X |  |
| CM | Swinderman, Craig | Mitsubishi Electric Power Products |  | X |
| CM | Tanaka, Troy | Burns & McDonnell | X |  |
| CM | Tarlapally, Susmitha | ABB Inc. | X |  |
| **CM-LM** | **Tendulkar, Vijay** | **ONYX Power, Inc.** | X | X |
| CM | teNyenhuis, Ed | ABB Inc. | X | X |
| CM | Termini, Giuseppe | PECO Energy | X |  |
| CM | Thompson, Jim | T&R Services | X |  |
| CM | Thompson, Robert | RST Consulting, P.C. | X |  |
| **CM** | **Tostrud, Mark** | **Dynamic Ratings, Inc.** | X | X |
| CM | Traut, Alan | Power Partners | X | X |
| CM | Trummer, Edgar | Transatlantic Transformer Consulting | X |  |
| **CM** | **Vedante, Kiran** | **Consultant** | X |  |
| CM | Verdolin, Rogerio | Verdolin Solutions Inc. | X | X |
| CM | Verner, Jane Ann | Pepco Holdings Inc. | X |  |
| **CM** | **Vijayan, Krishnamurthy** | **CG Power Systems Canada Inc.** | X | X |
| CM | Vir, Dharam | SPX Transformer Solutions, Inc. | X | X |
| **CM-LM** | **Walia, Sukhdev** | **New Energy Power Company** | X |  |
| CM | Wallace, David | ABB Inc. | X | X |
| CM | Wallach, David | Duke Energy | X | X |
| CM | Watson, Joe | ZTZ Services | X | X |
| CM | Wicks, Roger | DuPont | X | X |
| CM-LM | Wilks, Alan | Consultant | X | X |
| CM | Wimmer, William | Dominion | X |  |
| **CM** | **Woods, Deanna** | **Alliant Energy** |  |  |
| CM | Yang, Baitun | Pennsylvania Transformer | X | X |
| CM | Yu, Jennifer | Pacific Gas & Electric | X |  |
| CM | Yule, Kipp | Bechtel Power Corp |  |  |
| CM | Zhang, Shibao | PCORE Electric |  |  |
| CM | Ziomek, Waldemar | CG Power Systems Canada Inc. | X | X |
|  |  | **Totals:** | **139** | **94** |
|  |  | **% of Members Present of 199 members:** | **69.8** | **47.2** |

**In addition to the above totals,**

**Quorum was achieved at Monday Opening Session**

**Quorum not achieved at Thursday Closing Session**

## General Attendance

**Legend:**

AP Active Participant

AP-LM Active Participant-IEEE Life Member

II Interested Individual

II-LM Interested Individual-IEEE Life Member

PCM Past Committee Member

| **General Attendance** | | | | |
| --- | --- | --- | --- | --- |
| **Member Type** | **Name** | **Company** | **Mon** | **Thu** |
| II | Abdelkamel, Hamid | Ameren |  |  |
| II | Abril, Vladimir | ABB Inc. | X | X |
| II | Agee, Christopher | Memphis Light Gas & Water | X |  |
| II | Ahmed, Omar | Transformer Protector Corp | X | X |
| II | Ahmed, Raihan | Qualitrol Corporation | X |  |
| AP | Allen, Jerry | Metglas Inc. | X |  |
| II | Allen, Jerry | Shihlin Electric | X |  |
| II | Alton, Henry | Triacta Power Technologies | X |  |
| AP | Antweiler, James | Schneider Electric | X |  |
| AP | Armstrong, James | Siemens Energy | X |  |
| AP | Averitt, Ralph | Reinhausen Mfg. | X |  |
| II | Ayers, Roy | Nashville Electric Service | X | X |
| II | Badaracco, Ken | Hitachi HVB, Inc. | X |  |
| II | Bailey, Anne | A-Line E.D.S. |  |  |
| AP | Baranowski, Derek | Baron USA, Inc. | X |  |
| AP | Barnes, Abbey | Baron USA |  |  |
| II | Barnes, Jeff | Norplex-Micarta | X |  |
| AP | Barnes, Michael | Retired (Qualitrol) | X | X |
| AP | Bartek, Allan | C-K Composites |  |  |
| AP | Baumgartner, Christopher | We Energies | X | X |
| AP | Behrens, Tammy | SPX Transformer Solutions, Inc. |  |  |
| II | Bell, Myron | Delta Star Inc. | X |  |
| AP | Benach, Jeffrey | Weidmann Diagnostic Solutions |  |  |
| II | Bennett, Jay | Southern Company Services |  |  |
| AP | Bercea, Emil | ABB AG | X |  |
| II | Berler, Daniel | ZTZ Services International | X |  |
| AP-LM | Bertolini, Edward | Richards Manufacturing Co. |  |  |
| AP | Berube, Jean-Noel | Neoptix Canada LP | X | X |
| II | Biniwale, Samir | ABB Schweiz Ltd |  |  |
| II | Bjorgvik, Geir | Statnett | X |  |
| AP | Blackmon, Jr., James | Georgia Power Co. | X |  |
| II | Blake, Dennis | Pennsylvania Transformer |  |  |
| II | Blankenbeckler, Nicole | DuPont | X |  |
| II | Blaszczyk, Piotr | The Specialty Switch Co LLC | X |  |
| II | Bleau, William | Mitsubishi Electric Power Products |  |  |
| II | Boege, Alan | Orto de Mexico | X |  |
| II | Boll, Alex | SPX Transformer Solutions, Inc. |  |  |
| AP | Bolliger, Alain | HV Technologies | X |  |
| II | Bradshaw, Jeremiah | Bureau of Reclamation | X | X |
| AP | Brafa, John | ABB Inc. | X | X |
| II | Bray, Elizabeth | Southern Company Services | X |  |
| AP | Bressan, Natalia | Siemens Energy |  |  |
| AP | Britton, Jeffrey | Phenix Technologies, Inc. |  |  |
| AP | Brodeur, Samuel | ABB Inc. | X |  |
| II | Brown, Chris | Tempel |  |  |
| II | Brown, Clayton | Memphis Light Gas & Water |  |  |
| II | Brown, Darren | Howard Industries | X |  |
| II | Brown, Steven | Allen & Hoshall, Inc. | X | X |
| II | Brusetti, Robert | Doble Engineering Co. | X |  |
| II | Brzoznowski, Steven | Bonneville Power Administration | X |  |
| AP | Burde, Jagdish | PDI | X | X |
| AP | Cai, Jim | JSHP Transformer | X |  |
| AP | Campbell, James | Dominion Virginia Power |  | X |
| AP | Caskey, John | NEMA |  |  |
| II | Casserly, Edward | Ergon, Inc. | X |  |
| AP | Castillo, Alonso | BHI Energy |  |  |
| II | Caverly, David | Trench Limited |  |  |
| II | Chaganti, Mythili | CenterPoint Energy | X | X |
| II | Chakraborty, Arup | Delta Star, Inc. | X | X |
| II | Chapa, Raymundo | WEG Electric | X |  |
| AP | Cheatham, Jonathan | General Electric | X | X |
| AP | Chiang, Solomon | The Gund Company | X |  |
| II | Chiodo, Vincent | HICO America | X |  |
| AP | Chisholm, John | IFD Corporation | X |  |
| II | Cho, Eun | HICO America | X |  |
| II | Chow, Chih | Pepco Holdings Inc. | X | X |
| II | Christodoulou, Larry | Electric Power Systems |  | X |
| II | Chrysler, Rhett | ERMCO | X | X |
| II | Chu, Matt | Shihlin Electric | X |  |
| II | Chu, Michelle | Bonneville Power Administration | X |  |
| AP | Clonts, Jermaine | Power Partners | X |  |
| II | Collette, Dave | Mitsubishi Electric | X |  |
| II | Collin, Jean-Francois | Nomos Systems |  |  |
| AP | Comely, Tracy | Warco, Inc. | X |  |
| II | Corsi, Domenico | Doble Engineering Co. | X |  |
| AP | Costa, Florian | Corimpex USA, Inc. |  |  |
| II | Cox, Paul | GE Digital Energy | X |  |
| AP | Craven, Michael | Phoenix Engineering Services | X | X |
| II | Cruz Cienfuegos, Jorge | Partner Technologies Inc. | X |  |
| AP | Cunningham, Kelcie | Delta Star Inc. |  |  |
| II | Dahlke, Michael | Central Moloney, Inc. | X | X |
| II | Dalal, Snehal | Salt River Project |  | X |
| AP | Daniels, Timothy | Weidmann Electrical Technology | X |  |
| II | Dave, Nikita | Georgia Transformer | X |  |
| II | Davis, Dustin | Norplex-Micarta | X |  |
| AP | Davydov, Valery | Mr. Valery Davydov | X |  |
| II | Dennis, Scott | ABB Inc. | X |  |
| II | Denzer, Stephanie | General Electric |  | X |
| II | DeRouen, Craig | ERMCO | X | X |
| AP | Dhawan, Anil | ComEd | X | X |
| AP | Diaby, Mohamed | ABB Inc. | X |  |
| II | Dickens, Bill | Jordan Transformer | X |  |
| AP | Digby, Scott | Duke Energy | X | X |
| AP | Dorpmanns, Luc | SMIT Transformatoren B.V. | X |  |
| II | Dorsten, James | Alabama Power | X | X |
| AP | Drees, Terry | Cindus Corp. | X |  |
| II | Drobnick, Jason | Jordan Transformer | X | X |
| AP-LM | Dukarm, James | Delta-X Research | X |  |
| II | Dulac, Hakim | FISO Technologies | X | X |
| II | Dunn, James | Unifin International |  | X |
| II | Duplessis, Jill | Megger | X |  |
| II | Durham, Carolyn | Entergy |  |  |
| AP | Ebbert, Alexander | HICO America |  |  |
| II | Ehmcke, Benjamin | Ehmcke Consulting LLC | X |  |
| II | Elliott, Will | General Electric | X |  |
| II | Ellis, Wayne | Memphis Light, Gas & Water |  |  |
| II | Euvrard, Eric | RHM International |  |  |
| II | Faherty, Joseph | OTC Services |  |  |
| AP | Faulkner, Mark | EATON Corporation |  |  |
| II | Faur, Florin | ABB Inc. |  |  |
| II | Fedor, Ken | Smit Transformer Sales, Inc. |  |  |
| II | Feldmann, David | HICO America | X |  |
| II | Fentress, Philip | Memphis Light Gas & Water | X | X |
| AP | Fernandes, Tania | Efacec Energia, SA |  |  |
| PCM | Ferreira, Marcos | Los Angeles Department Water and Power | X |  |
| AP | Field, Norman | Teshmont Consultants LP | X |  |
| II | Fields, Ryan | East Kentucky Power Cooperative | X |  |
| AP | Flores, Hugo | CG Power Systems |  |  |
| AP-LM | Forrest, George | Delta-X Research USA, Inc. | X | X |
| II | Franchitti, Anthony | PECO Energy Company | X | X |
| AP | Frimpong, George | ABB Inc. | X |  |
| AP | Frotscher, Rainer | Maschinenfabrik Reinhausen |  | X |
| AP | Gagnon, Jean-Francois | Siemens Transformers Canada |  |  |
| AP | Galbraith, Shawn | Nuclear Service Organization | X | X |
| II | Gamboa, Jose | Siemens Energy | X | X |
| II | Gara, Lorne | Orbis Engineering | X |  |
| II | Garcia, Victor | Siemens | X | X |
| II | Geibel, David | ABB Inc. |  |  |
| II | Giang, Rebecca | The Sherwin-Wiiliams Co. | X |  |
| II | Golner, Thomas | SPX Transformer Solutions, Inc. |  | X |
| AP | Gomez, Rolando | Arteche |  |  |
| AP | Gonzalez de la Vega, Jorge | Orto de Mexico | X |  |
| II | Gragert, Jeffrey | Xcel Energy | X | X |
| AP | Gross, Detlev | Power Diagnostix | X | X |
| AP | Guilbault, Frank | Cogent Power Inc. | X |  |
| II | Guner, Ismail | Hydro-Quebec | X | X |
| II | Gustavsson, Niklas | ABB Components | X |  |
| II | Gyore, Attila | M & I Materials | X | X |
| AP | Haasz, Jodi | IEEE |  |  |
| AP | Hakim, Shamaun | CG Power Systems USA, Inc. |  |  |
| II | Hamilton, Kendrick | Power Partners | X |  |
| AP | Hammer, Mark | ALSTOM Grid | X |  |
| AP | Hanson, David | TJH2b Analytical Services | X |  |
| II | Hardaway, Albert | Memphis Light Gas & Water | X |  |
| II | Harder, Steven | Siemens Energy |  |  |
| II | Harrison, Ken | N. American Substation Services |  |  |
| II | Hartmann, Thomas | Delta Star Inc. | X |  |
| II | Hernandez, Ronald | Doble Engineering Co. | X |  |
| AP | Herron, John | Raytech USA Life Member | X | X |
| II | Hinson, Todd | PPL Corporation | X |  |
| II | Holey, Scott | Engineer Sales |  |  |
| AP | Holmes, Jill | Bureau of Reclamation | X |  |
| AP | Holsomback, Steve | Southern Company Services | X |  |
| II | Hsu, Tingwei | Shihlin Electric | X |  |
| II | Humphrey, Eric | Electro Composites ULC |  |  |
| AP | Inkpen, Jesse | Qualitrol Corp. - Serveron | X |  |
| II | Ishida, Yuichiro | Mitsubishi Electric Power Products |  |  |
| II | Jackson, Jerry | 3M | X |  |
| AP | Jacob, Nathan | Manitoba Hydro | X |  |
| AP | Jakob, Fredi | Consultant |  |  |
| AP | Jarman, Paul | National Grid | X | X |
| AP | Jaroszewski, Marion | Delta Star Inc. | X | X |
| II | Jensen, Brad | Burns & McDonnell | X |  |
| AP | Johannson, Larry | T&D Products Ltd. | X |  |
| AP | John, John | Virginia Transformer Corp. | X | X |
| AP | Johnson, Derek | Reinhausen Mfg. | X |  |
| AP | Johnson, Wayne | EPRI | X |  |
| II | Johnstone, Ted | Cogent Power Inc. | X |  |
| II | Joshi, Arvin | General Electric | X | X |
| II | Juchem, Kevin | ABB AG |  | X |
| AP | Kaineder, Kurt | Siemens AG | X |  |
| AP | Kaiserseder, Gerald | Starkstrom-Geraetebau GmbH | X | X |
| II | Kampshoff, Ken | Equisales |  |  |
| II | Kelley, Robert | N. American Substation Services | X |  |
| II | Kim, Donghee | ABB Inc. | X |  |
| II | Kiparizoski, Zan | Howard Industries | X |  |
| AP | Kirchenmayer, Egon | Siemens AG | X | X |
| AP | Kirchner, Lawrence | Siemens Energy | X |  |
| II | Knuth, Wesley | Salt River Project | X |  |
| AP | Kornowski, Marek | Polycast International | X | X |
| II | Koshel, Anton | Delta Star Inc. | X |  |
| AP | Kranich, Neil | Jordan Transformer | X | X |
| II | Kuo, Joseph | Shihlin Electric | X |  |
| AP | Kurth, Bernhard | Reinhausen Mfg. |  |  |
| AP | Kyle, Randall | Southern Company | X |  |
| AP | Lachman, Mark | Doble Engineering Co. | X |  |
| II | Langran, Evan | RES Americas Inc. | X |  |
| AP | Larochelle, David | NDB Technologies | X |  |
| II | Lawless, Andrew | Siemens Energy |  |  |
| II | Leal, Gustavo | Dominion | X |  |
| II | Lee, Shawn | HICO America | X |  |
| II | Leece, Benjamin | American Electric Power | X |  |
| II | Leishman, Gary | American Electric Power | X | X |
| II | Leite, Andre | Toshiba | X |  |
| II | Lemos, Gilbert | Southern California Edison | X | X |
| II | Leufkens, Paul | KEMA Laboratories |  |  |
| II | Lewis, Juanita | IEEE |  |  |
| AP | Li, Weijun | Braintree Electric Light Dept. | X | X |
| II | Liu, Harry | Shihlin Electric | X |  |
| II | Lively, Parry | Tempel | X |  |
| AP | Livingston, Kerry | Great River Energy | X | X |
| II | Lobo, Gregorio | Mitsubishi Electric Power Products | X | X |
| AP | Locarno, Mario | Doble Engineering Co. | X |  |
| AP | Lopes, Ana | Efacec Energia |  |  |
| II | Lowther, Jr., Mark | Mitsubishi | X |  |
| II | Lugge, Andrew | Mitsubishi Electric Power Products |  |  |
| AP | Luksich, John | Cargill, Inc. | X | X |
| AP | Macias, Alejandro | CenterPoint Energy | X | X |
| II | MacMullin, Ryan | Altalink LP | X | X |
| II | Mahajan, Satish | Tennessee Tech University | X |  |
| II | Mai, Tim-Felix | Siemens AG | X |  |
| II | Malde, Jinesh | Weidmann Electrical Technology | X | X |
| II | Mango, Joseph | NextEra Energy Resources | X |  |
| II | Mani, Kumar | Duke Energy | X |  |
| II | Mansuy, Bruno | Trench France SAS | X |  |
| AP | Marquardt, Bryan | AK Steel | X |  |
| II | Martig, Arnaud | Trench Limited | X | X |
| AP | Martin, Terence | Doble Engineering Co. | X |  |
| II | Martin, Zach | Delta Star Inc. |  |  |
| II | Martinez, Apollonia | Public Service Co. of New Mexico | X | X |
| II | Mattson, Trevor | Schweitzer Engineering Laboratories | X |  |
| AP | Mayer, Robert | San Diego Gas & Electric |  |  |
| II | Mayer, Robert | Siemens AG |  |  |
| AP | McBride, James | JMX Services, Inc. | X | X |
| II | McCarrick, Brian | CG Power Systems USA, Inc. | X |  |
| II | McCloskey, Scott | Amran Inc. |  |  |
| II | McCullough, Douglas | Maxima / Hyundai |  |  |
| II | McElligott, Joseph | UTC Overseas, Inc. | X |  |
| AP | McIver, James | Siemens Energy |  | X |
| II | McNeish, Kenneth | TXTS | X |  |
| PCM-LM | Mehta, Shirish | Mehta Consultants | X |  |
| II | Miano, Christopher | Calumet Specialty Products | X |  |
| II | Middleton, Robert | RHM International |  |  |
| AP | Miller, Michael | Siemens Industry, Inc. | X |  |
| II | Miller, Philip | Memphis Light, Gas & Water | X |  |
| II | Mills, Kerry | JMX Services, Inc. | X | X |
| II | Minhaz, Rashed | Transformer Consulting Services Inc. | X |  |
| II | Mitchell, Glenn | Acense LLC | X |  |
| II | Montoya Castillo, Ricardo | Siemens |  |  |
| II | Montpool, Rhea | Schneider Electric | X |  |
| II | Morales-Cruz, Emilio | Qualitrol | X | X |
| II | Morrison, Richard | Utility Agency & Import (UAI) |  |  |
| II | Mullikin, John | WEG Electric Corp |  |  |
| II | Musgrove, Ryan | Oklahoma Gas & Electric | X | X |
| AP | Mushill, Paul | Ameren | X |  |
| AP | Naderian, Ali | Kinectrics | X |  |
| II | Nambi, Shankar | Bechtel Power Corp | X |  |
| AP | Navarro, Martin | Siemens Ltda | X | X |
| II | nazarko, jeffrey | Tempel |  |  |
| II | Neild, Kristopher | Megger | X | X |
| II | Neiman, Jeffrey | SPX Transformer Solutions, Inc. | X |  |
| II | Nguyen, Andrew | Tennessee Valley Authority | X | X |
| AP | Nikoley, Ingo | Transformer Business Development |  |  |
| AP | Nims, Joe | Allen & Hoshall | X |  |
| AP | Nordman, Hasse | ABB Oy, Transformers | X |  |
| II | Nunez, Arturo | Mistras Group, Inc. |  |  |
| AP | Oakes, Stephen | Instrument Transformer Equip Corp | X |  |
| II | Ojeda, Sam | LumaSense Technologies | X |  |
| II | Oliver, William | Hitachi HVB, Inc. | X |  |
| II | O'Malley, Anastasia | Consolidated Edison Co. of NY | X |  |
| AP | Ostrander, David | Ameren | X | X |
| II | Palakandy, Rahul Rajendran | Black & Veatch | X | X |
| AP | Patel, Dhiru | Hammond Power Solutions Inc. | X |  |
| II | Patoine, Barbara | Weidmann Electrical Technology | X | X |
| II | Patterson, Russell | Patterson Power Engineers |  |  |
| II | Pattou, Arnaud | JST Transformateurs |  |  |
| II | Pellon, Verena | Florida Power & Light | X |  |
| II | Pepe, Harry | Phenix Technologies, Inc. | X | X |
| AP | Perjanik, Nicholas | Weidmann Diagnostic Solutions | X | X |
| II | Pesonen, Andrea | Mitsubishi Electric Power Products |  |  |
| AP | Peterson, Alan | Utility Service Corporation |  | X |
| II | Pimentel, Reginaldo | Toshiba | X |  |
| II | Pinon, Oscar | WEG-Voltran | X | X |
| II | Pitts, Chris | Howard Industries | X |  |
| II | Portillo, Alvaro | Ing. Alvaro Portillo | X | X |
| II | Prince, Jarrod | ERMCO | X | X |
| AP | Pruente, John | SPX Transformer Solutions, Inc. | X |  |
| AP | Rashid, Adnan | Measurement Canada/Industry Canada | X |  |
| II | Rathi, Rakesh | Virginia Transformer | X |  |
| AP | Ray, Jeffrey | JLR Consulting, Inc. | X | X |
| II | Reagan, Ashley | ELTEK International Labs |  |  |
| PCM | Reed, Scott | MVA Diagnostics, Inc. | X |  |
| AP | Reiss, Tony | Custom Materials, Inc. | X | X |
| II | Rezai, Hossein | The Transformer Consultant | X |  |
| AP | Rinks, Timothy | Reinhausen Mfg. | X |  |
| II | Riopel, Sebastien | Electro Composites (2008) ULC |  |  |
| II | Riordan, Kevin | CG Power Systems | X | X |
| II | Rivers, Mark | Doble Engineering Co. | X |  |
| AP | Roberts, Mark | N. American Substation Services |  |  |
| II | Robey, Dennis | RL Components |  |  |
| II | Robles, Eduardo | EATON Corporation | X |  |
| II | Rock, Patrick | American Transmission Company | X | X |
| II | Rohkamm, Henning | Siemens AG | X |  |
| II | Roldan, Zoilo | Southern California Edison | X |  |
| II | Roman, Zoltan | ALSTOM Grid | X | X |
| II | Ronchi, Rodrigo | WEG-Voltran | X | X |
| II | Rottenbacher, Andre | Ritz Insrument Transformers | X |  |
| II | Rutledge, Christopher | Memphis Light, Gas & Water | X |  |
| AP | Sahin, Hakan | ABB Inc. | X |  |
| II | Sainvilus, Anasthasie | IEEE |  |  |
| II | Saldivar, Juan | Prolec GE | X |  |
| II | Salinas, Alex | Southern California Edison | X |  |
| II | Sanchez Rodriguez, Jesus | CG Power Systems | X |  |
| II | Sandhu, Surinder | Sanergy Consulting | X |  |
| AP | Sauls, Roderick | Southern Company Services |  |  |
| AP | Sauzay, Mathieu | JST Transformateurs | X | X |
| AP | Scarborough, Mark | DuPont | X | X |
| II | Scardazzi, Alaor | Siemens Ltda | X | X |
| AP | Schickedanz, Frank | Maschinenfabrik Reinhausen | X |  |
| II | Schiessl, Markus | Starkstrom-Geraetebau GmbH | X | X |
| AP | Schleismann, Eric | Southern Company |  | X |
| AP | Schrammel, Alfons | Siemens AG | X | X |
| II | Selvaraj, Pugazhenthi | Virginia Transformer Corp. |  |  |
| II | Sestito, John | Hitachi HVB, Inc. |  |  |
| AP | Sewell, Russell | Quality Switch, Inc. | X | X |
| II | Shannon, Michael | Rea Magnet Wire | X |  |
| II | Sharpless, Samuel | Rimkus Consulting Group | X | X |
| II | Sheehan, David | HICO America | X |  |
| II | Sheldon, James | New York Power Authority |  |  |
| AP | Shem-Tov, Mark | Von Roll Transformers | X | X |
| II | Sheridan, Peter | SGB USA, Inc. | X |  |
| II | Shertok, Yitzhak | Duke Energy | X |  |
| II | Shimomugi, Kojiro | Tokyo Electric Power Company | X | X |
| II | Shin, Younjin | Hyosung | X |  |
| II | Shirasaka, Yukiyasu | Hitachi Ltd. | X | X |
| II | Shorts, Geoffrey | Central Moloney, Inc. | X | X |
| AP | Siebert, Stefan | BROCKHAUS MESSTECHNIK |  |  |
| AP | Simon, Preston | Electrical Technologies | X |  |
| AP | Simonelli, Richard | SPX Transformer Solutions, Inc. | X |  |
| II | Simons, Andre | Cogent Power Inc. |  |  |
| II | Singh, Kushal | ComEd |  | X |
| II | Slattery, Christopher | FirstEnergy Corp. | X | X |
| II | Smith, Shane | Delta Star Inc. | X |  |
| AP | Sohn, Yong Tae | Hyosung | X | X |
| II | Song, Kwang Jae | Korea Testing Laboratory | X |  |
| II | Sordo, Salvador | WEG Electric Corp. | X |  |
| II | Spangler, Laura | DuPont | X |  |
| AP | Sparling, Brian | Dynamic Ratings, Inc. | X | X |
| AP | Spiewak, Erin | IEEE |  |  |
| AP | Spurlock, Michael | American Electric Power | X | X |
| II | Stacy, Fabian | ABB Inc. |  |  |
| AP | Stank, Markus | Maschinenfabrik Reinhausen |  |  |
| AP | Stankes, David | 3M IPT | X |  |
| AP | Steineman, Andrew | Delta Star Inc. | X |  |
| AP | Stem, Gregory | Cardinal Pumps & Exchangers | X | X |
| II | Stephan, James | Mitsubishi Electric Power Products |  |  |
| II | Stinson, Robert | General Electric Co. | X | X |
| AP | Stranko, Jennifer | HPN Global |  |  |
| II | Strongosky, Neil | Memphis Light, Gas & Water | X | X |
| II | Subramanian, Raman | Georgia Transformer | X | X |
| II | Suddarth, Wesley | Nashville Electric Service | X |  |
| AP | Sullivan, Christopher | Westmark Parnters |  |  |
| II | Sullivan, Kevin | Duke Energy | X |  |
| II | Sullivan, Liz | ABB Inc. | X |  |
| II | Summers, Carol | Power Partners |  |  |
| AP | Sundin, David | DSI Ventures, Inc. | X |  |
| II | Susa, Dejan | Statnett SF | X | X |
| II | Swansey II, Michael | EDPRenewables, NA |  |  |
| II | Tabakovic, Dragan | Hitachi HVB, Inc. | X | X |
| II | Taousakis, Anastasios | Pepco Holdings Inc. | X |  |
| AP | Tellez, Richard | Siemens S.A. | X | X |
| II | Thibault, Michael | Pacific Gas and Electric | X | X |
| II | Thompson, Ryan | Burns & McDonnell | X |  |
| AP | Tikvesa, Taib | KY Assoc. of Electric Coops |  |  |
| II | Tiller, David | ABB Inc. |  |  |
| II | Tillery, Timothy | Howard Industries | X | X |
| II | Tozzi, Marco | Camlin Power | X |  |
| II | Turner, Justin | GE Energy Management | X |  |
| II | Vailoor, Vasanth | Trantech | X |  |
| II | Valencia, Jose | EATON Corporation | X |  |
| II | Valentin, Reinaldo | Duke Energy | X |  |
| II | Van Fleet, Steven | Micromem Applied Sensor Tech |  |  |
| II | Van Horn, Jeremy | IFD Corporation | X |  |
| II | van Rijnsoever, Frank | SMIT Transformatoren B.V. |  |  |
| II | VanderWalt, Alwyn | Public Service Co. of New Mexico | X | X |
| II | VanSickel, Greg | Memphis Light, Gas & Water | X | X |
| AP | Varghese, Ajith | SPX Transformer Solutions, Inc. | X | X |
| AP | Veens, Jos | SMIT Transformatoren B.V. | X | X |
| II | Veillette, Michel | Morgan Schaffer | X |  |
| AP | Verdell, Joshua | ERMCO | X | X |
| II | Vermette, Yves | Electro Composites ULC |  |  |
| AP | vonGemmingen, Richard | Dominion | X |  |
| II | Vora, Shekhar | Georgia Transformer | X |  |
| II | Wahid, Waqar | Mitsubishi Electric Power Products |  |  |
| II | Walker, David | ABB Inc. | X |  |
| II | Wang, Evanne | DuPont | X | X |
| II | Wattenbarger, Kyle | ABB Inc. |  |  |
| AP | Weatherbee, Eric | PCORE Electric |  | X |
| AP | Weathington, Larry | N. American Substation Services |  |  |
| II | Weijers, Roel | SMIT Transformatoren B.V. |  |  |
| AP | Weisensee, Matthew | PacifiCorp | X | X |
| II | Weldetnsae, Yotam | Bechtel Infrastructure Corp | X | X |
| AP | Werelius, Peter | Megger | X |  |
| II | White, Leon | Serveron |  |  |
| II | Whitehead, William | Fuji Electric Corp of America |  |  |
| II | Wilford, Chris | Cam Tran Co. | X |  |
| AP | Williams, Randy | ABB Inc. |  |  |
| II | Williams, Trenton | Advanced Power Technologies | X |  |
| AP | Wimberly, Barrett | ALSTOM Grid | X |  |
| II | Winstanley, Gerard | NEMA | X |  |
| II | Winter, Dr. Alexander | HIGHVOLT Pruftechnik Dresden | X |  |
| II | Wright, Jeffrey | Mitsubishi Electric Power Products | X | X |
| II | Wu, Shawn | Shihlin Electric | X |  |
| II | Yeboah, Kwasi | GE Energy Management | X | X |
| AP | Young, Samuel | Reinhausen Mfg. | X |  |
| II | Yun, Joshua | CG Power Systems USA, Inc. | X | X |
| AP | Zhang, Jim | Arizona Public Service Co. |  |  |
| II | Zhang, Jiong | Mitsubishi Electric Power Products |  |  |
| II | Zhu, Hanxin | BC Hydro |  | X |
| II | Zibert, Leo | Allgeier, Martin and Associates | X | X |
| II | Ziger, Igor | KONCAR - Instrument Transformers | X | X |
| II | Zouaghi, Abderrahmane | ABB Inc. |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  | **Mon** | **Thu** |
|  |  | **Total Committee Member Attendance:** | **139** | **94** |
|  |  | **Total Attendance:** | **444** | **218** |

In addition to the above totals, there were 156 of the total attendees that attended **both** the Monday and Thursday Sessions and 402 that attended **either** the Monday or the Thursday Session.

# Approval of Agenda and Previous Minutes – Don Platts

The Chair asked if there were any comments or corrections to the Agenda, hearing none, the Agenda was approved. Motion by Dan Sauer ,Second by Steve Shull

A motion to approve the minutes was received from the Ken Skinger and seconded by DanSauer. The motion was unanimously approved.

# Meeting Schedule

The meeting schedule is provided as **Attachment 1**

# Chair’s Remarks & Report – Don Platts

The Chair’s Report was presented at the Monday General Session.

Highlights:

Don opened welcoming the attendees to Memphis.

Don discussed the Tech Council. He indicated that none of the discussed topics affect this group. The primary topic was the reorganization of the PES Technical Committees. There were some significant changes to some of the other Technical Committess. There was a proposal that solid state TRs and energy routers should be covered under the Transformers Committee, however, when questioned on who to contact at the various organizations to coordinate, there were no answers readily available. Until further information is provided, no changes to our Committee will be made.

Don mentioned that Bill Bartley after many years of service in the role of Standards Coordinator, would be stepping down and that Tim Holdway would be taking his place January 1. In addition, in January there will be a transition of the officers with Steve Antosz moving into the position of Committee Chair, Susan McNelly into the position of Vice-Chair, and that Bruce Forsyth would be moving in to the position of Committee Secretary.

## Chair’s Report – Presented at the Monday General Session

### 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/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.

### Technical Council Officers & Membership

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

TECHNICAL COUNCIL OFFICERS

Miriam Sanders, Chair (SEL University)   
Farnoosh Rahmatian, Vice Chair (Quanta Technology)

Secretary

Jeffrey H. Nelson, Past Chair (TVA)

|  |  |
| --- | --- |
| STANDING COMMITTEES | |
| Awards Committee | Jeffrey H. Nelson, Chair |
| Organization & Procedures Committee | Farnoosh Rahmatian, Chair |
| Standards Coordination Committee | Ted Burse, Chair |
| Technical Sessions Committee | Farnoosh Rahmatian, Chair |
| COORDINATING COMMITTEES | |
| Emerging Technologies Coordinating Committee | Nouredine Hadjsaid, Chair |
| Intelligent Grid Coordinating Committee | Steve Pullins, Chair |
| Marine Systems Coordinating Committee | Dwight Alexander, Chair |
| Wind and Solar Power Coordinating Committee | Richard J. Piwko, Chair |
| TECHNICAL COMMITTEES | |
| Electric Machinery Committee | Kevin Mayor, Chair |
| Energy Development and Power Generation Committee | Michael J Basler, Chair |
| Insulated Conductors Committee | Thomas Champion III, Chair |
| Nuclear Power Engineering Committee | Stephen Fleger, Chair |
| Power System Analysis, Computing, and Economics Committee | Joydeep Mitra, Chair |
| Power System Communications Committee | Dan Nordell, Chair |
| Power System Dynamic Performance Committee | Pouyan Pourbeik, Chair |
| Power System Instrumentation and Measurements Committee | Farnoosh Rahmatian, Chair |
| Power System Operations Committee | Hong Chen, Chair |
| Power System Planning and Implementation Committee | M. L. Chan, Chair |
| Power System Relaying Committee | Mike McDonald, Chair |
| Stationary Battery Committee | Rick Tressler, Chair |
| Substations Committee | Markus Etter, Chair |
| Surge Protective Devices Committee | Ronald W. Hotchkiss, Chair |
| Switchgear Committee | Ted Olsen, Chair |
| Transformers Committee | Don Platts, Chair |
| Transmission and Distribution Committee | John McDaniel, Chair |

### PES Technical Council Activities

The Tech Council is undertaking a project to ensure that the activities of each of the technical committees fits within their scope, and that each has an updated O&P manual, and those that write standards also have a current P&P.

It appears that as some new technologies develop, they do not fit into the scope of the present committees, or that they may fit into several possible places due to scope overlaps, or gaps in the scopes.

A program is underway to realign the technical committees with the industry today. To implement this, the present list of 21 Technical Committees and Coordinating Committees will be reduced to 19. The reorganization has resulted in nineteen coordinating and technical committees as shown below.

1. Intelligent Grid & Emerging Technologies Coordinating Committee
2. Marine Systems Coordinating Committee \*
3. Insulated Conductors (Name updated based on conversations during PES GM)
4. Electric Machinery \*
5. Energy Development & Power Generation (Name updated based on conversations during PES GM)
6. Energy Storage & Stationary Battery
7. Nuclear Power Engineering \*
8. ~~Power System Analysis Methods~~  Analytic Methods for Power Systems (Name updated based on conversations during PES GM)
9. Power System Communications & Cyber Security
10. Power System Dynamic Performance \*
11. Power Systems Instrumentation and Measurement (Updated based on conversations during PES GM)
12. Power System Operations, Planning & Economics
13. Power Systems Relaying & Control (The group has agreed to keep this name and not change it to System Protection)
14. Smart Buildings, Loads & Customer Systems
15. Substations
16. Surge Protective Devices \*
17. Switchgear \*
18. Transformers
19. Transmission & Distribution

\* = No changes proposed to current operations.    Names subject to confirmation

**\*\*\*The proposed** [**scopes of operations for the PES Technical Committees is available in PDF format**](http://www.ieee-pes.org/images/files/pdf/2015-08-15-PES-TC-Scopes-of-Operations.pdf)**.\*\*\***

**Presentations & Video from the Town Hall Meetings that were held bat** [**PES General Meeting**](http://www.pes-gm.org/2015/) **- Denver, Colorado**

* [Town Hall Meeting](http://resourcecenter.ieee-pes.org/conferences/2015-gm-town-hall-video/) (Video - 1hr 39 minutes)
* [Technical Committee Structure Overview](http://www.ieee-pes.org/images/files/pdf/Technical_Committee_Structure_Overview_2015-0802.pdf) (PDF)
* [Analytical Methods for Power Systems](http://www.ieee-pes.org/images/files/pdf/Analytical_Methods_in_Power_Systems_2015-0802.pdf) (PDF)
* [Power System Operation, Planning and Economics](http://www.ieee-pes.org/images/files/pdf/Power_System_Operation_Planning_Economics_2015-0802.pdf) (PDF)
* [Energy Storage and Stationary Battery](http://www.ieee-pes.org/images/files/pdf/Energy_Storage_and_Stationary_Battery_2015-0802.pdf) (PDF)
* [Energy Development and Power Generation](http://www.ieee-pes.org/images/files/pdf/Energy_Development_and_Power_Generation_2015-0802.pdf) (PDF)
* [Power System Communications and Cyber Security](http://www.ieee-pes.org/images/files/pdf/Power_System_Communications_and_CyberSecurity_2015-0802.pdf) (PDF)
* [Smart Buildings, Loads and Customer Systems](http://www.ieee-pes.org/images/files/pdf/Smart_Buildings_Loads_and_Customer_Systems_2015-0802.pdf) (PDF)

**Milestones**

* 30 August - Deadline for feedback in regards to proposed changes **(Completed)**
* 31 October - PES Technical Council Task Force  to provide updated proposal based on feedback received
* 30 November - Update proposal reviewed by PES Technical Council/Technical Committees, the PES Long-Range Planning committee and the PES Executive committee
* 31 December -Technical Council Task Force will incorporate comments from Technical Council Committees
* January 2016 - Technical Council Approval of new Technical Council/Committee Structure (i.e. Names and scope of operations of committees)
* January 2016 - PES Governing Board Approval of new Technical Council/Committee Structure
* 31 March 2016 (not later than) - Update PES membership on new Technical Committee Structure
* April 2016 - Start implementation of new Technical Committee Structure
* July 2016 - Conduct additional Town Hall meetings as needed to inform membership about the changes at the 2016 PES General Meeting

**Reference Material**

* January 2015 - [Governing Board Presentation](http://www.ieee-pes.org/images/files/pdf/technical-council/TC%20Committee%20Structure%2001-2015.pdf)
* February 2015 - [PES Leader's Corner Reorganization](http://sites.ieee.org/pes-enews/2015/02/10/leaders-corner/)
* April 2015 - [PES Leader's Corner Reorganization](http://sites.ieee.org/pes-enews/2015/04/10/leaders-corner-reorganization/)

### Update on Geomagnetic Disturbance (GMD) Taskforce

The Technical Council Taskforce on GMD has made no progress this year on the development of the position paper, and little progress since last Chair’s report in October 2013. 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 GMD Super Session held at the PES General Meeting in July, 2013 at Vancouver Canada. This project continues to fall further behind schedule, primarily due to fundamental differences of opinion of some of the contributors. The IEEE PES Technical Council still maintains strong support for the project and has urged the task force to proceed with the completion, even if the report needs to be a Stage 1 report, subject to revision and additions as time passes and knowledge grows. The chair has been waiting for the PES Transformers Committee working group to produce a Guide that has recently been published. With that document as a background, the Chair has a plan to try to move the participants toward completion of the project by later this year.

### Transformers Committee Activities

Officers Progression for the 2014-2015 Period

In accordance with the rules set forth in the Transformers Committee Policies 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. Each is expected to serve a two-year term, and to follow the established progression cycle for the next two-year period. The table below shows the progression of officer's assignment for the two years beginning January 2014.

|  |  |
| --- | --- |
| **Officer Role** | **2014-2015 Term** |
| Committee Chair | Donald W. Platts |
| Committee Vice-Chair | Stephen Antosz |
| Committee Secretary | Susan McNelly |
| Past Chair / Awards Chair | Bill Chiu |
| Committee Treasurer\* | Greg W. Anderson |
| Standards Coordinator\* | William (Bill) H. Bartley |

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

Subcommittee Chairpersons & Technical Editor

. Our current roster of the Subcommittee Chairs and Editor are:

* Bushings Subcommittee Peter Zhao
* Dielectric Test Subcommittee Michael Franchek
* Distribution Transformers Subcommittee Stephen Shull
* Dry-Type Transformers Subcommittee Charles Johnson
* HVDC Converter Transformers & Smoothing Reactors Subcommittee Michael Sharp
* Instrument Transformers Ross McTaggart
* Insulating Fluids Subcommittee David Wallach
* Insulation Life Subcommittee Bruce Forsyth
* Meetings Subcommittee Gregory Anderson
* Performance Characteristics Subcommittee Ed teNyenhuis
* Power Transformers Subcommittee Joe Watson
* Standards Subcommittee William Bartley
* Underground Transformers & Network Protectors Subcommittee Dan Mulkey
* Technical Editor Sanjib Som

### What You Need to Know About IEEE Standards and the Law [an excerpt]

 IEEE standards should be relevant and respond to regulatory and market needs. They should not distort the global or domestic market, have adverse effects on competition, or stifle innovation and technological development. Efforts should be made to avoid duplication or overlap with other standards, especially international standards.

Wherever appropriate, IEEE standards-developing groups should specify standards based on performance or function rather than design or product specifications.

The full brochure can be found at:

<https://standards.ieee.org/develop/policies/stdslaw.pdf>

### The Standards Board Operations Manual

The following text has been approved by The Standards Board and will be implemented into our Operations Manual in January 2015. The accompanying text may provide an opportunity to educate the committee members as a whole.

"5.4.3 Conduct of the standards balloting process

The ballot process may include communication among the Sponsor comment resolution group and Sponsor balloting group members regarding the substantive merits and possible resolution of comments. However, no comment resolution member, Sponsor balloting group member, or standards participant shall intimidate or coerce a specific vote from any Sponsor balloting group member."

IEEE-SA supports communication among participants and members as a part of the technical discourse or comment resolution, and advocating a personal view or opinion can be a part of the discourse.  However, the WG or TF should be mindful not to give specific recommendations and proposed text with instructions to other members.  This could be seen as a form of coercion for a specific vote, which violates Clause 5.4.3 of the IEEE-SA Standards Board Operations Manual, "Conduct of standards balloting process."

Within our committee we want to operate in a manner that does not give the appearance, or cause anyone to perceive, that our actions would result in collusion or coercion by any members or activity leaders.

### IEEE Standards Association (SA) Requirements

**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 warrantees
* 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

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

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.

### 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.

**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.

### 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 and 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 be on the panel 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.

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](http://www.ieee.org/membership_services/membership/senior/senior_requirements.html);
* 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>

Transformers 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 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,

***Donald W Platts***

Chair, IEEE/PES Transformers Committee

# Vice Chair’s Report – Stephen Antosz

The Vice Chair’s Report was presented at the Monday General Session.

## 6.1 IEEE PES Calendar of Upcoming Events

Following are 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, and additional events.

2016 IEEE/PES Joint Technical Committee Meeting (JTCM)

January 11-14, Memphis, TN

2016 IEEE/PES Transmission & Distribution Conference & Exposition

May 2-5, Dallas, TX

2016 IEEE/PES General Meeting (GM)

July 17-21, 2016, Boston, MA

**6.2 Conference Papers Submittal for 2016**

6.2.1 2016 IEEE/PES T&D Conf & Expo

The paper submission website has already closed to new papers. The following papers were submitted as Conference Papers. They are being peer-reviewed and the accepted ones will be selected for poster session.

| # | **ID** | ***TITLE*** |
| --- | --- | --- |
| 1 | TD0011 | Transactions Paper Thermodynamic Estimation of Transformer Fault Severity |
| 2 | TD0122 | Transactions Paper Cold Start of a 240 MVA Generator Step-up Transformer Filled with Natural Ester Fluid |
| 3 | TD0033 | A Topology–Based Model for Two-Winding, Shell- Type, Single-Phase Transformer Inter-Turn Faults |
| 4 | TD0143 | Investigation on Frequency Response Analysis Measurement Method for Power Transformer Impedance |
| 5 | TD0155 | Mitigation of Adverse Effects of GICs on Transformers Using Look-Up Table Controlled Ground Resistance |
| ~~6~~ | ~~TD0158~~ | ~~Understanding DGA Techniques and Interpretations NO PAPER UPLOADED IN SYSTEM.~~ |
| 7 | TD0160 | Vibration Response Analysis of Transformer Winding by Finite Element Method |
| 8 | TD0234 | HiDry72: Short-Circuit Withstand Test upon the biggest ever Dry-type Power Transformer |
| 9 | TD0261 | Acoustic tap-changer analyses using continuous wavelet transformation |
| 10 | TD0268 | Analysis of the Factors and Loads that Affect Transformer Ageing |
| 11 | TD0300 | Minimizing Dielectric Frequency Response Measurement Time by using Multiple Frequency Signals |
| 12 | TD0325 | Noise Recognition of Transformers Based on Improved MFCC and VQ |
| 13 | TD0347 | Study on Quality Fuzzy Synthetic Evaluation Method for Power Transformer |
| 14 | TD0359 | Transformer Oil DGA Monitoring Technology Study 2015 |
| 15 | TD0387 | Special Instrument Transformers for Renewable Energy and Rural Electrification |
| 16 | TD0423 | A Comprehensive Diagnostic Evaluation of Power Transformers via Dissolved Gas Analysis |
| 17 | TD0453 | Life Time Analysis of Distribution Transformer Using Experimental Design |
| 18 | TD0456 | Impact of Smart Home Management Strategies on Expected Lifetime of Transformer |

6.2.2 2016 IEEE/PES General Meeting

On Oct 12, 2015 the paper submission website was opened to authors for 2016 General Meeting. It will be open until November 9, 2015. Papers will be peer reviewed and accept/reject decision made by Feb 15, 2016.

We (The Transformers Committee) will be sponsoring a Panel Session at the 2016 GM. The topic will be Transformer Physical Security (Resiliency). More information will be provided later.

Respectfully,

Stephen Antosz

Vice Chair

# Secretary’s Report – Susan McNelly

The following people were asked to stand up for recognition as new members of the Main Committee.

|  |  |
| --- | --- |
| Tauhid Ansari | Jimmy Rasco |
| Don Dorris | Amitabh Sarkar |
| Jeff Golarz | Vijay B. Tendulkar |
| Robert Kinner | Mark Tostrud |
| Krzysztof Kulasek | Kiran Vedante |
| David B. Murray | Krishnamurthy Vijayan |
| Aniruddha Narawane | Sukhdev S. Walia |
| Dwight Parkinson | Deanna Woods |
| Sanjay Patel |  |

In addition to the above, Past Committee Member, Scott Reed has been reinstated as a Committee Member.

Susan indicated with deep regret the passing of an active participant in the Committee, Martin Heathcote. More will follow in the Awards Luncheon on Tuesday.

## Membership Review

Voting Committee Members – three new committee members were approved and added at the Spring 2015 San Antonio meeting as shown in the table below:

| **Name** | **Affiliation** | **Sponsor #1** | **Sponsor #2** | **Sponsor #3** | **Membership Category** |
| --- | --- | --- | --- | --- | --- |
| Josh Herz | Qualitrol LLC | Carlos Gaytan Cavazos  Distr. WG PC57.12.39 (2 yrs) | Peter Zhao  Power WG PC57.156 (5 yrs incl. TF) | Gary Hoffman  WG PC57.12.10 (2 yrs) | Producer |
| George Payerle | Carte International Inc. | GiuseppeTermini UGTNP WG C57.12.24 (3 yrs) | Brian Klaponski  Distr. WG C57.12.40 (3 yrs) | Dan Mulkey  UGTNP SC (3 yrs) | Producer |
| Shibao Zhang | PCORE Electric | Peter Zhao  Bushing SC (8 yrs) | Tommy Spitzer  WG C57.19.100 (8 yrs) | Scott Digby  WG C57.19.04 (3.5 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**. Anyone can join the 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. Details of the application requirements and approval process by the Administrative Subcommittee are outlined in our O&P manual.

The following table contains a count of the participants grouped by the three general categories (CM totals do not include those requesting membership at this meeting).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Membership Status** | **Mar-13** | **Oct-13** | **Mar-14** | **Oct-14** | **Apr-15** | **Nov-15\*** |
| Interested Individual | 1277 | 1376 | 1381 | 1386 | 1362 | 1462 |
| Interested Individual - IEEE Life Member | 8 | 16 | 12 | 10 | 9 | 11 |
| **Total Interested Individuals** | **1285** | **1392** | **1393** | **1396** | **1371** | **1473** |
|  |  |  |  |  |  |  |
| Active Participant | 173 | 178 | 192 | 201 | 205 | 240 |
| Active Participant - IEEE Life Member | 5 | 5 | 5 | 6 | 6 | 7 |
| **Total Active Participants** | **178** | **183** | **197** | **207** | **211** | **247** |
|  |  |  |  |  |  |  |
| Committee Member | 186 | 170 | 166 | 170 | 173 | 161 |
| Committee Member – Emeritus | 6 | 3 | 09 | 10 | 10 | 10 |
| Committee Member - IEEE Life Member | 31 | 25 | 21 | 20 | 22 | 23 |
| **Total Committee Members** | **223** | **198** | **196** | **200** | **205** | **194** |
| Past Committee Member |  |  | 15 | 18 | 19 | 28 |
| Past Committee Member - IEEE Life Member |  |  | 6 | 6 | 7 | 6 |
| **Total Past Committee Members** |  |  | **21** | **24** | **26** | **34** |
|  |  |  |  |  |  |  |
| **TOTAL IN AMS DATABASE** | **1686** | **1773** | **1810** | **1827** | **1813** | **1948** |
| \*Nov-15 data is as of 10/27/2015 |  |  |  |  |  |  |

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

## New Member Applications

Eighteen new applications for Committee Membership were received for approval at the Fall 2015 Memphis meeting. Two applications (Hakim and Tendulkar) are missing required information and did not respond to requests to provide the missing information. These two requests will be deferred to next Spring for review.

| **Name** | **Affiliation** | **Sponsor #1** | **Sponsor #2** | **Sponsor #3** | **Membership Category** |
| --- | --- | --- | --- | --- | --- |
| Tauhid Ansari IEEE/PES/SA status confirmed | ABB Inc. | Ed teNyenhuis  Performance Char. SC  (3 yrs) | Ramsis Girgis  Audible Sound  (3 yrs) | Pierre Riffon  Rev to Impulse Tests  (3 yrs) | Producer |
| Don Dorris IEEE/PES/SA status confirmed | Nashville Electric Service | Jane Ann Verner  WG Field Tests  C57.152 (2 yrs) | David Wallach  IFSC  (2 yrs) | Tom Prevost  IFSC Consolidation of oil guides  (1 yr) | User |
| Jeff Golarz IEEE/PES/SA status confirmed | Luma Sense Technology | Tom Prevost  Moisture in Insul.  C57.162 (1.5 yrs) | David Wallach  DGA in LTC  C57.139 (2+ yrs) | Joe Watson  Power TR SC (2 yrs) | Producer |
| Shamaun Hakim IEEE status confirmed, PES/SA missing | CG Power Systems | Michael Franchek  Dielectric Test SC  (3 yrs) | Bertrand Poulin  WG Ext Dielectric Clearances  (3 yrs) | Pierre Riffon  WG Rev to Test Code  C57.12.90 (3 yrs) | Producer |
| Robert Kinner IEEE/PES/SA status confirmed | First Power Group | Guiseppe Termini  C57.12.24 (2 yrs) | Paul Boman  C57.155 (3 yrs) | David Wallach  IFSC / DGA in LTC  C57.139 (2 yrs) | General Interest |
| Krzysztof Kulasek IEEE/PES/SA status confirmed | ABB Inc. | Ed teNyenhuis  Performance Char. SC  (4 yrs) | Peter Zhao  WG PC57.156 (6 yrs) | Enrique Betoncort  WG PC57.158 (4 yrs) | Producer |
| David B. Murray IEEE/PES/SA status confirmed | TN Valley Authority | Mark Perkins  WG Rev to Test Code  C57.12.90 (4 yrs) | Peter Zhao  Bushing SC  (5 yrs) | Jane Ann Verner  WG Field Tests  C57.152 (4 yrs) | User |
| Aniruddha Narawane IEEE/PES/SA status confirmed | ABB Inc. | Hemchandra Shertukde  DPV Grid TR PC57.159 (3 yrs) | Phil Hopkinson  DETC Funct. Life  PC57.157 (3 yrs) | Ed teNyenhuis  Performance Char. SC  (3 yrs) | Producer |
| Dwight Parkinson IEEE/PES/SA status confirmed | Cooper Power Systems by Eton | Ron Stahara  C57.12.34 (4 yrs) | Jerry Murphy  C57.12.36 (4 yrs) | Stephen Shull  Distribution SC (4 yrs) | Producer |
| Sanjay Patel IEEE/PES/SA status confirmed | SMIT TRs | Hemchandra Shertukde  DPV Grid TR PC57.159 (3 yrs) | Raj Ahuja  60076-57-1202 (3 yrs) | Ed teNyenhuis  Performance Char. SC  (3 yrs) | Producer |
| Jimmy Rasco IEEE/PES/SA status confirmed | Ergon, Inc | Bob Rasor  Oil Guide  C57.106 (4 yrs) | C Patrick McShane  C57.147 (4 yrs) | David Wallach  IFSC  (4 yrs) | Producer |
| Amitabh Sarkar IEEE/PES/SA status confirmed | CG Power Systems | Hemchandra Shertukde  DPV Grid TR PC57.159 (2+ yrs) | Phil Hopkinson  DETC Funct. Life  PC57.157 (2+ yrs) | Joe Watson  Power TR SC (3 yrs) | Producer |
| Vijay B. Tendulkar IEEE/PES/SA status confirmed | Onyx Power Inc. | Hemchandra Shertukde  DPV Grid TR PC57.159 (3 yrs) | Tim Holdway  C57.12.01 (3 yrs) | Phil Hopkinson  60076-16 (3 yrs) | Producer  Missing SC Chair signaturer |
| Mark Tostrud IEEE/PES/SA status confirmed | Dynamic Ratings | Tom Jauch  TR Paralleling Guide  C57.153 (6 yrs) | Hemchandra Shertukde  DPV Grid TR PC57.159 (4+ yrs) | Joe Watson  Power TR SC  (6 yrs) | Producer |
| Kiran Vedante IEEE/PES/SA status confirmed | ABB Inc. | Hemchandra Shertukde  DPV Grid TR PC57.159 (2+ yrs) | Jane Ann Verner  WG GMD  C57.163 (6) mo. | Ed teNyenhuis  Performance Char. SC  (2 yrs) | Producer |
| Krishnamurthy Vijayan IEEE/PES/SA status confirmed | CG Power Systems | Richard Marek  C57.154 (4 yrs) | Ramsis Girgis  Audible Noise Test Code (3 yrs) | Peter Zhao  Bushings SC (8 yrs) | Producer |
| Sukhdev S. Walia IEEE/PES/SA status confirmed | Brookfield Power | Hemchandra Shertukde  DPV Grid TR PC57.159 (2+ yrs) | Phil Hopkinson  DETC Funct. Life  PC57.157 (10 yrs) | David Buckmaster  60076-16 (5+ yrs) | User |
| Deanna Woods IEEE/PES/SA status confirmed | Alliant Energy | Tom Prevost  Moisture in Insul.  C57.162 (2 yrs) | Mike Lau  Installation Guide  C57.93 (2+ yrs) | David Wallach  IFSC (2+ yrs) | User |

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 link to the Membership Application form can be found on the TransformersCommittee.org homepage in the Committee Information Box. 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.

## 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. The 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.

## 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).

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

## Committee Membership Maintenance

The following 12 members were revised to the status of Past Committee Member: Dennis Allan, Bill Darovny, Alan Darwin, Marcel Fortin, Saurabh Ghosh, Dave Harris, Joseph Kelly, Dennis Marlow, Dan Perco, Paulette Powell, Timothy Raymond, and Vallamkonda Sankar. Robert Olen was removed as he has not attended for several years and is no longer in the AM System. There are several other members who have not attended for several meetings. Notices have been sent and their status will be changed unless they respond with intentions of attending/participating in the Committee.

Scott Reed has requested reinstatement of his membership status from Past Committee Member to Committee Member. Mr. Reed has attended the last two meetings and is registered for the Fall 2015 Memphis Meeting. Approval by the Administrative Committee will be required.

## 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 the Fall 2015, Memphis meeting, most people indicated No to the Patent question. There were 6 people who answered YES that they were aware of an essential patent claim. Of these, 3 provided no details and were therefore not considered any further. The remaining 3 were reviewed:

1. referred to C57.139 - Letter of Assurance sent to IEEE Jan 2013,
2. referred to PC57.147 Guide for Acceptance and Maintenance of Natural Ester Insulating Fluids in Transformers and Other Electrical Equipment, Insulating Fluids SC, Eaton/Cooper,
3. referred to PC57.147 and C57.155 (Insulating Fluids Sub) deal with Essential Patent Claims for which there is no LOA by Eaton Corporation, the patent holder. If there has been an informal agreement between the Transformers Committee and Eaton/Cooper, in lieu of a LOA, can we be told about it, to determine if we, the users and writers of these guides can be held liable for infringement of the subject patents?

## 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 an attendees 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 am a consultant, and I represent myself at this meeting.”

## Meeting Minutes

The minutes of the Spring 2015 meeting in San Antonio were posted to the committee website in August of 2015.

Subcommittee Chairs are requested to submit their SC Minutes for the San Antonio meeting before **Jan 1**, **2016**. It is important to have timely submittal and review of the minutes while the activities are still fresh in member’s minds. This helps ensure that accurate minutes are

The minutes should be submitted via e-mail to the Committee Secretary, Susan McNelly [sjmcnelly@ieee.org], who will also make sure that they are posted on the Committee website.

The submittal file should be saved as a Word document formatted Similar to this document. Attendance, indication of quorum, names of members making any motion, seconding any motion, and the result of any votes (affirmative and negative count) for each SC, WG, and TF meeting are to be included in all minutes.

Respectfully submitted,

***Susan McNelly***

Secretary

IEEE PES Transformers Committee

October 31, 2015

# Treasurer’s Report – Gregory Anderson

Greg thanked everyone for their patience as we worked through the new RFID check in process.

Greg mentioned that the committee funds are in very good shape. He indicated that we have a ridiculously low registration fee and that there is tremendous value in what is gotten for that fee.

Greg asked that meeting minutes include the date and time, attendance, and whether you plan to meet at the next meeting. It is needed for him to plan the schedule and room size for the next meeting.

Greg did a quick overview of the committee funds status.

The finances of the Committee are in good condition. As of 31st of August 2015 (end of this reporting period), the balance was $53,501.80.

FYI: August 31st is essentially a "snap-shot" in time after all income & expenses are resolved from the previous San Antonio Meeting, and before we start spending significant funds for the Memphis Meeting.

No significant assets (PC projectors, etc.) were purchased during this reporting period.

The loss incurred at the San Antonio Meeting (loss of $29,682), vs. the gain at the previous DC Meeting (gain of $28,702) was primarily due to difference in costs between the two hotel brands; i.e., the Hyatt Regency in San Antonio, vs. the Sheraton in DC. We also incurred an expense of ~$10,000 for RFID technology at the San Antonio Meeting.

See attached summary of the balance of this reporting period, and the previous periods.

# IEEE/PES TRANSFORMERS COMMITTEE

**Treasurer's Report - Fall 2015**

## (for reporting period 03/01/2014 to 08/31/2015)

|  |  |  |
| --- | --- | --- |
| **AAAAA** | **Balance before Fall 2013 Meeting , as of 08/01/2013** | **$55,388.96** |
| **AAAA** | **Balance before Spring 2014 Meeting , as of 01/31/2014** | **$72,586.57** |
| **AAA** | **Balance before Fall 2014 Meeting , as of 08/31/2014** | **$68,054.50** |
| **AA** | **Balance before Spring 2015 Meeting , as of 02/28/2015** | **$93,166.09** |
|  | **Misc Income, not related to a specific meeting** |  |
|  | -- interest, approx 6 months | $140.82 |
|  | -- misc income (shirt sales, CD-ROM sales, book sales, etc.) | $2,118.12 |
| **B** | Total Misc Income, not meeting related | $2,258.94 |
|  | **Misc Expenses, not related to a specific meeting** |  |
|  | -- 123Signup subscription fee, for approx 6 months | $1,465.00 |
|  | -- awards | $0.00 |
|  | -- equipment purchases, major assets (projectors & cases, etc.) | $0.00 |
|  | -- technology (RFID tech, meeting app, WiFi equip, printers & ink, cables, etc) | $10,261.74 |
|  | -- conferences, remote meetings, etc. | $635.00 |
|  | -- other misc expenses (shirts, CD-ROMs, books, office suppies, namebadges, etc.) | $0.00 |
| **C** | Total Misc Expenses, not meeting related | $12,361.74 |
|  | **Fall 2014 Meeting** |  |
|  | -- 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), Fall 2014 Meeting | $0.00 |
|  | -- reported prelim. gain/(loss), as of 02/28/2015, from previous Treasurer's Report | $28,702.18 |
|  | Actual Gain/(Loss), Fall 2014 Meeting (between 08/31/2014 and 02/28/2015) | $28,702.18 |
|  | **Spring 2015 Meeting** |  |
|  | -- income, meeting registration | $183,137.45 |
|  | -- income (coffee break sponsors) | $7,500.00 |
|  | -- meeting expenses | $218,531.44 |
| **E** | Income minus expenses, Spring 2015 Meeting (between 02/28/2015 and 08/31/2015) | ($27,893.99) |
|  | -- meeting expenses, before 02/28/2015, from previous Treasurer's Report | $1,787.70 |
|  | Preliminary Total Gain/(Loss), Spring 2015 Meeting | ($29,681.69) |
|  | **Expenses, Future Meetings (deposits paid, etc)** |  |
|  | -- meeting expenses, Fall 2015 Meeting | $1,667.50 |
|  | -- meeting expenses, other future meetings | $0.00 |
| **F** | Total Expenses, future meetings, paid between 02/28/2015 to 08/31/2015 | $1,667.50 |
| **G** | **Net Income (loss), between Spring 2015 and Fall 2015 meetings (B - C + D + E** | **($39,664.29)** |
| **A** | **Balance before Fall 2015 Meeting , as of 08/31/2015 (AA + G)** | **$53,501.80** |

Gregory W. Anderson,

Treasurer IEEE/PES Transformers Committee

# Recognition and Awards Report – Bill Chiu

The Awards will be presented at the Tuesday Awards Luncheon. No report was made at the Monday General Session.

NO REPORT SUBMITTED

# Administrative Subcommittee Meeting Report

Don indicated that it is important that the work we do is documented. He indicated that we need to record the why we chose to do something or not do something as we develop our standards and guides. The WG is being requested to provide a short summary of the decisions.

A question was asked whether this change would be documented in the Operations Manual. Don responded that yes it would be added.

Don also mentioned that there needs to be a better editorial review of documents prior to there going to ballot. Also, he indicated that if you join a ballot pool, you need to read the document and provided comments if you find grammatical, spelling, punctuation errors as well as items that are not technically correct. He provided examples of recent documents that had errors that were not caught prior to publication.

Don also talked about Ballot Resolution Groups (BRG). He asked if that is treated any differently than appointment of a task force (TF). TFs are required to report back to the Subcommittee or Working Group that they are under. He indicated that the work done by the BRG should be no different. The WG should have the opportunity to review any majer technical comments or changes made as a result of comments received.

## Introduction of Members and Guestse

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.

Members Present:

Chair Donald Platts

Vice Chair Stephen Antosz

Secretary Susan McNelly

Treasurer/ Meetings Planning SC Gregory Anderson

Standards Coordinator William Bartley

Awards/Past Chair Bill Chiu

Bushings Eric Weatherbee for   
Peter Zhao

Dielectric Tests Michael Franchek

Distribution Transformers Stephen Shull

Dry Type Transformers Robert “Casey” Ballard for   
Chuck Johnson

HVDC Converter Transformers & Reactors Michael Sharp

Instrument Transformers Ross McTaggart

Insulating Fluids David Wallach

Insulation Life Bruce Forsyth

Performance Characteristics Ed teNyenhuis

Power Transformers Joe Watson

Underground Transformers & Network Protectors Dan Mulkey

Guests Erin Spiewak, Jodi Haasz, Anasthasie Sainvilus (IEEE SA), Juanita Lewis (IEEE SA), Tim Holdway

## Approval of Previous Meeting Minutes

The Chair asked for comments from the Spring 2015 San Antonio Administrative Subcommittee meeting minutes. Hearing no comments or requests to change the draft minutes. Bill Bartley made a motion to approve the minutes and it was seconded by Steve Shull. There were no objections to approval, therefore the minutes were approved.

## Additions to and/or Approval of the Agenda

The Chair reviewed the draft agenda with the attendees. The Standards Report was moved up in the Agenda for visitor Mike Thompson’s benefit. There were no other changes or additions.

**Approved Agenda**

1. Introduction of Members and Guests (:05) All
2. Approval of Spring 2015 Minutes from San Antonio (:03) D. Platts
3. Additions to and/or Approval of the Agenda (:02) D. Platts
4. Chair’s Report (:05) D. Platts
5. Vice Chair’s Report (:05) S. Antosz
6. Secretary’s Report & New Committee Membership Approval (:10) S. McNelly
7. Treasurer’s Report (:05) G. Anderson
8. Recognition & Awards Report (:05) B. Chiu
9. Standards Report (:30) B. Bartley
10. IEEE Staff Update (:10) E. Spiewak
11. Meeting Planning (:10) G. Anderson
    1. Memphis Meeting Update
    2. Future Meetings

***Break & Time Check – 3:30 pm***

1. Old Business
   1. WG Data – Confidentiality, Storage, Access, & Use (:10) S. McNelly/E. Spiewak
2. New Business
   1. Routine Working Group and Task Force Standards Development   
      Reports D. Platts/P. Balma

***Time Check – 4:30 PM***

1. Subcommittee Reports – Roundtable (not intended to indicate order of reporting)

Bushings (:03) P. Zhao

Dielectric Test (:03) M. Franchek

Distribution Transformers (:03) S. Shull

Dry Type Transformers (:03) Robert “Casey” Ballard for C. Johnson

HVDC (:03) M. Sharp

Instrument Transformers (:03) R. McTaggart

Insulating Fluids (:03) D. Wallach

Insulation Life (:03) B. Forsyth

Performance Characteristics (:03) E. teNyenhuis

Power Transformers (:03) J. Watson

Underground Transformers & Network Protector (:03) D. Mulkey

1. Adjourn

## Chair’s Report – Donald Platts

Refer to Section 5.0 for a complete “Chair’s Report.”

*Highlights:*

Don mentioned that we need to use the term submersible instead of underground transformers.

He asked for contact information for the changes to include solid state transformers into our Committee. No information from SA has yet been provided. Until more information is provided, no further actions for integration of these type transformers will be made.

Looking for opportunities to coordinate with DOE.

Don indicated that the officers met this morning and topics from that meeting will be brought up during New Business.

Don mentioned that he needs some help with succession planning from the SC Chairs. He mentioned that we are also looking for a Vice Chair for Meetings Planning SC and as a back-up for the website.

Don mentioned that an email was sent to PES indicating that PES does not acknowledge the Transformers Committee Meeting. As a result, the technical committee meetings are now identified on the PES website.

Don announced that Bruce Forsyth will be taking on the role of Committee Secretary January 1, 2016 and Tim Holdway will take over the role of Standards Coordinator January 1, 2016.

## Vice Chair’s Report – Stephen Antosz

Refer to Section 6.0 for a complete “Vice Chair’s Report.”

*Highlights:*

Steve mentioned that he is looking for reviewers of approximately 14 papers for the T&D Conference in May. He indicated that the deadline for paper submissions for the General Meeting is fast approaching and he will need reviewers for those as well.

A panel session will be sponsored at the 2016 General Meeting on Transformer Security.

## Secretary’s Report – Susan McNelly

Refer to Section 7.0 for a complete “Secretary’s Report.”

*Highlights:*

There were eighteen applications for membership received. Sixteen had the required memberships and met the application requirements. Two were missing information or had missing memberships . The application from Vijay B. Tendulkar was discussed and Casey Ballard indicated that he has been active in the Dry-Type SC and that the missing SC Chair sign-off could be provided. There were a couple of applications listing less than the required 2 year participation. Administrative SC members came forward for each of these and verified that those people had been active in various WG for at least the required 2 year period. It was noted that the Secretary Report did not indicate a SC Chair signature for Sukhdev S. Walia. However, this had been verified and was not corrected prior to submittal of the report.

Therefore, only 1 application , that from Shamaun Hakim, will be rejected and will be re-reviewed once the required memberships have been provided. The remaining 17 applications were approved.

In addition to the above, a request for reinstatement to Committee Member from Past Committee Member, Scott Reed was received. There were no objections to this reinstatement.

There were six positive responses to the essential patent claim question on the registration form. Of those, only three provided any further detail and were noted in the full report.

## Treasurer’s Report – Gregory Anderson

Refer to Section 8.0 for a complete “Treasurer’s Report.”

*Highlights:*

The balance was last reported was $93,166.09 . As of August 31, 2015, the balance was $53,501.

He mentioned that it is typical to have ups and downs in the balance and to have meetings that gain or lose money.

## Recognition & Award’s Report – Bill Chiu

Refer to Section 9.0 for a complete “Recognition & Award’s Report.”

*Highlights:*

The Recognition & Awards Chair presented

There will be 2 Outstanding Contributors presented at the Memphis Meeting. There was a plan to award a Distinguished Service Award, but the recipient will not be in attendance, therefore it will be delayed to a future meeting.

There will be one standard (C57.163) that will be recognized.

Bill indicated that he will be initiating an “Oscars” type award that will be presented to the best SC meeting from the Spring 2015 meeting.

There will also be a short tribute to Active Participant, Martin Heathcote. Martin passed away September 23 at the age of 77.

## Standard’s Report – William Bartley

Refer to Section 11.0 for a complete “Standards Report.”

*Highlights:*

The Standard Coordinator presented.

There were 3 new standards approved (C57.163, C57.130\*, and C57.157\*) \*Approved by REVCOM, but not SASB yet.

There was 1 new amendment approved (1538a, Guide for Determination of Max Winding Temp Rise in Liquid Transformers – Amendment 1) .

There were 5 revisions the transformer standards approved (C57.12.34, C57.12.37, C57.12.59, C57.125, and C57.637) .

There are 5 transformer standards on the December Standards Board RevCom Agenda (PC57.12.00, PC57.12.90, PC57.139, PC57.106, and PC57.32).

There was 1 new PAR request for a new standard (PC57.12.70-2011 Corrigendum 1).

There were 3 PARs requested for revisions (approved in 2015, expire Dec 31, 2019) (PC57.12.32, PC57.12.60, and PC57.12.58).

There were no PAR modifications requested.

There were 2 PAR extensions approved (PC57.140 and PC57.138\*) \*Approved by REVCOM, but not SASB yet.

There was 1 PAR for revision that was deferred until Dec 2015 (PC57.12.38)

There were 4 requests for PAR extension that are on the Dec 2015 agenda ( PC57.156, PC57.12.24, PC57.19.04, and PC57.12.36)

The deadline for submittal to REVCOM for Standards expiring in 2016 will be October 17, 2016.

*Discussion:*

A question was asked whether withdrawn standards and guides needed to be left on the lists for each SC. It was commented that this is useful as a reference of when a document was withdrawn and there have been instances where the document has been brought back after withdrawal.

## IEEE Staff Update – Erin Spiewak

Erin introduced Anasthasie Sainvilus (IEEE SA Contracts Licensing Manager) and Juanita Lewis (IEEE SA Finance Group) who were attending and observing the meeting.

**Public Review**

–Monday Standards Luncheon presentation

–Go live: July 6th

Public Review process is up and running.

**IEEE/IEC Update – Transformers Committee (report presented by Haasz)**

This report is an update on the activities taking place under the IEC/IEEE Dual Logo Agreement. Jodi announced that she will no longer be attending the meetings but will still be coordinating with Erin on the Transformers Committee work with IEC.

Adoption of IEEE Transformer Committee Standards under the IEC/IEEE Dual Logo Agreement

* IEEE C57.15™-2009 (IEC 60076-16:2011-12) – Guide for the Application, Specification and Testing of Phase-Shifting Transformers
* IEEE C57.135™-2011 (IEC 62032 Ed.2:2012-06) – Guide for the Application, Specification and Testing of Phase-Shifting Transformers

Maintenance of IEEE Transformer Committee Standards adopted under the IEC/IEEE Dual Logo Agreement

* IEEE PC57.15/IEC 60076-57-15 (previously IEC 60076-21), Guide for the Application, Specification and Testing of Phase-Shifting Transformers

Status – The PAR to revise the standard was approved on 27 March 2014. Currently undergoing draft development.

Joint Development of standards with IEC

Published Standards

* IEC/IEEE 65700-19-03:2014, Standard Requirements, Terminology, and Test Code for Bushings for DC Applications Rated 110 kV BIL and Above

Standards Under Development

* IEC/IEEE 60076-16, Standard Requirements for Wind Turbine Generator Transformers

Status – The IEEE sponsor ballot completed on 27 February 2015. The IEC Committee Draft and the IEC Committee Draft closed on 3 July 2015. Currently undergoing comment resolution.

* IEC/IEEE 60076-57-1202, Standard Requirements for Liquid Immersed Phase-Shifting Transformers

Status – The IEEE sponsor ballot recirculation closed on 28 June 2015 and the IEC Committee Draft Vote (CDV) closed on 17 July. Currently undergoing comment resolution.

* IEC/IEEE 60214-2, Tap-Changers - Part 2: Application Guide

Status – The IEEE PAR was approved on 12 June 2014. The document is undergoing draft development.

* IEC/IEEE 60076-57-129 (previously IEC/IEEE 61378-2), Convertor transformers - Part 2: Transformers for HVDC applications

Status – The IEEE PAR was approved on 10 December 2014. The document is undergoing draft development.

## Meeting Planning Report – Gregory Anderson

No written report provided.

*Highlights:*

Greg asked that SC/WG/TF minutes include the date and time of the meeting (not just time), number of attendees (members & guests), and whether or not the group will be meeting at the next meeting.

There was considerable discussion regarding recording attendance at each SC/WG/TF. There is a list of everyone that registered for the meeting with their affiliations at the beginning of the main meeting minutes. Further information and direction will be provided on what will be required to be included in the minutes for each group and what can be provided in AMS. Keeping attendance information in the AMS will be required and SC Chairs should make sure that WGs and TFs under their SC are doing so.

Craig Swinderman, from Mitsubishi , host for the Memphis meeting talked about the meeting so far.

Alan Traut from Power Parners, Inc. gave a brief synopsis of the meeting that will be held in Atlanta in March of 2016.

Greg indicated he is still working on the Fall 2016 meeting location and date.

Greg also did a demo of the RFID technology that will be in place for the Memphis meeting and discussed the plan for expanding this at future meetings to provide real time quorum information.

## Old Business

### WG Data Confidentiality – E. Spiewak

Erin indicated that she talked to Rick Ladroga and the spreadsheet for data information that was previously provided was still valid. Erin indicated that they would need to know what queries would be needed and what fields could under no circumstances could not be included in any of the queries.

The non-disclosure agreement will still be used, and depending on what information is requested, a second non-disclosure may be necessary.

The database will likely be done using Microsoft Access.

## New Business

### Draft Transformers Committee Operation Manual – Peter Balma

Don indicated that a draft of this was sent out recently. After review of this, Don indicated he felt there were several items within the document that need to be updated and for the AdCom members to review the entire document and review the SC Scope at their SC meeting if needed.

Don indicated the process of building a standard needs to be included in the P&P and eliminate the overlap. This may mean that reapproval of the documents in the next year will be necessary. The documents will then be posted on the website as reference to the members.

### Topics from Officers Meeting

1. Documenting what goes into our standards and why it is there or why it was changed.

Don indicated that documentation of why something was changed, what options were looked at and why it was changed be provided. This companion document /report of this information would then be provided with the document sent to ballot and for future reference. Don indicated that he would be making this recommendation at the Monday General Session. This information would be provided to the SC when the document is brought forward for approval at the SC and to be included in information provided with ballot.

1. Ballot Resolution Groups (BRG)

Is the appointment of a BRG different from the process of appointing a TF to look at an issue. Does or should the WG have an opportunity to review the resolution to ballot comments? Erin indicated that the proper procedure would be for the ballot resolution to be reviewed and approved by the WG prior to recirculation. Also, the BRG should be a balanced representation of the WG to avoid any appearance of collusion.

Erin indicated that the meeting minutes need to document the people that will make up the BRG and that it be open to anyone that is interested in participating.

Don indicated that based on the discussion, there appears to be a procedural issue that needs to be resolved on how this process should be done.

There were comments that some of the SCs schedule documents to go out to ballot a year prior to it expiring so that they have at least two meetings for ballot resolution.

A question was asked of Erin on whether it is a requirement that only a clean copy be provided on the first ballot of a document. The concern is that with limited time available to review documents, knowing what was changed in a document would be very helpful to balloters.

1. WG Editorial Review

Don indicated it would be helpful to clean up many of the editorial issues prior to a document going out to ballot. It would help reduce the number of editorial comments that need to be resolved after a document goes out for ballot if this review is done by the WG ahead of time.

Another option raised would be to have a group responsible for an Editorial review. Erin indicated the MEC is not a grammatical review, it is a style and legal review only.

Erin indicated that IEEE follows the Chicago Manuals Style, which dictates things like the use of dashes, etc.

There was considerable discussion the best way to have a better grammatical/punctuation/ sentence structure review done on documents prior to them going out to ballot.

It was suggested that we make the WGs aware that the MEC does not do this type of document review and that they are responsible for looking at the grammatical, spelling, etc.

1. Transformers Committee CD of Standards

A question was asked whether a new CD would be made available. Don indicated that one was made available this year, but at a much higher cost than what had previously been provided. It was discussed that maybe a compiled CD could be provided with the recently approved Standard at the Spring 2016 Meeting.

## Subcommittee Reports

| **Subcommittee** | **Report/Hot Topic** |
| --- | --- |
| Bushings – P. Zhao, reported by Eric Weatherbee | The recently formed Task Force that was assigned to look at Composite Bushings, with the help of Doble Engineering sent out a survey to determine what the current definition of composite bushing is within the industry. The results will be discussed during the Tuesday morning. The TF is also looking at all the bushing standards to see if they adequately address the recent technologies that have been brought to the marketplace. |
| Dielectric Test – M. Franchek | * New task force on limits for winding insulation power factor and resistance will be meeting in Memphis. * WG C57.138 Revision of impulse test for distribution transformers will not meet, document is in ballot. |
| Distribution Transformers – S. Shull | Nothing to report. |
| Dry Type Transformers – R. Ballard for C. Johnson | * C57.12.60 is starting up as a WG to revise the dry-type insulation system thermal aging document * C57.12.50/51 are being combined to reduce future maintenance as they were both old ANSI documents that had the copyright given to IEEE. * C57.124 –technical experts in partial discharge are needed to help us out on this dry-type transformer partial discharge guide.  Relevant experience with the testing equipment is where there is a severe lacking of information with the current SC participation.  A WG chair for this activity is also being sought. |
| HVDC – M. Sharp | The only active working group reporting to the HVDC Converter Transformers and Smoothing Reactors subcommittee has created a first draft for a dual logo standard, 60076-57-129, for HVDC converter reactors. The details will be reviewed at the SC meeting. A volunteer to chair a working group to update IEEE 1277 for HVDC Smoothing Reactors is needed. |
| Instrument Transformers – R. McTaggart | C57.13 has not yet been submitted, C57. 13.7 is ready to go to ballot after SC approval, and at least one standard will be discussed to start a new WG for revision (C57.13.5). |
| Insulating Fluids – D. Wallach | There are four WG documents wrapping up this year and are either published or on the December REVCOM agenda.  A look ahead will be done to see which documents might need to begin revision cycle.  Also David brought up a question about a gentleman from Uruguay seeking opinions on transformer DGAs.  ADCOM members confirmed that we cannot provide any sort of consulting.  If volunteers were asked to comment back rather than IEEE, it could be seen as commercial activity.  David will send a reply noting we cannot support his request and suggest he refer to IEEE C57.104 |
| Insulation Life – B. Forsyth | * The WG for PC57.162 is meeting to continue development of the new Guide for Moisture in Insulation Systems.  There are currently nine task forces working and a tenth will be introduced at this week’s meeting. * At the last meeting a task force was established to prepare a scope for a guide for Winding Temperature Indicators.  After several meetings, the TF is recommending expanding the scope to cover the more general topic of temperature measurements.  The TF Chair (David Wallach) will present the proposal during the SC meeting on Wednesday. |
| Performance Characteristics – E. teNyenhuis | * New WG chair for C57.120 is Rogerio Verdolin * 2015 PAR is C57.32 and this is now with Revcom * 2016 PAR’s are C58.158, P600076-16, C57.120 and C57.159 – they are on track * Sheldon Kennedy will be Chair to restart C57.18.10 (first meeting is in Memphis) * New TF on Short circuit current criteria – Chair will be David Buckmaster |
| Power Transformers – J. Watson | Nothing new to report. |
| Standards SC – W. Bartley | The C57.12.00 and C57.12.90 have been submitted to REVCOM. C57.12.70 will need a corrigenda to correct an issue found. The GMD guide C57.160 was approved. The comparison between IEC and IEEE has been moved to the protected portion of the web. |
| Underground Transformers & Network Protector – D. Mulkey | Some interest has been expressed in reactivating C57.12.57 – Dry Type Network Transformer working group, however the people most interested could not get approval to attend this meeting. |

## Adjournment

The meeting was adjourned at 5:25pm.

Submitted by:

TR Committee Secretary

Susan McNelly

November 3, 2015

# Standards Report – William Bartley

Bill mentioned that this would be his last report as Standards Coordinator. He mentioned that it has been a privaledge to serve in this capacity. Bill provided a summary of the status of documents since the last meeting.

Bill acknowledged the efforts of several individuals for the efforts that were made to get documents ready for the December REVCOM meeting.

The semi-annual Standards Report is included as **Attachment 2**.

# Editor’s Report

Respectfully Submitted,

Sanjib Som

Editor, IEEE Transactions on Power Delivery from Transformer Committee

Between Spring 2015 meeting and this meeting a total of 68 papers were in editorial review in the transformer area was under review of IEEE Transactions on Power Delivery for possible publication. For all of these papers the recommendations were as follows:

Accept: 13

Revise and Resubmit: 23

Reject: 23

Under review 9

The above numbers include reviews managed by all editors.

The papers which were accepted for publication are shown below:

| **Number** | **Paper ID** | **Title** |
| --- | --- | --- |
| 1 | TPWRD-01369-2014.R1 | Duality-Based Transformer Model Including Eddy Current Effects in the Windings |
| 2 | TPWRD-00527-2014.R4 | Modeling, Analysis and Detection of Internal Winding Faults in Power Transformers |
| 3 | TPWRD-01304-2014.R2 | Resonance Behavior and Sensitivity to Detect Mechanical Change in Transformer Winding: Shunt Current versus Neutral Current |
| 4 | TPWRD-00668-2014.R4 | Influences of Different Ratios of AC-DC Combined Voltage on Internal Air-gap Discharge in Oil-pressboard Insulation |
| 5 | TPWRD-01346-2014.R2 | A Novel Off-line to On-line Approach to detect Transformer Inter-Turn Fault |
| 6 | TPWRD-00816-2014.R3 | Fault Interpretation Algorithm Using Frequency Response Analysis of Power Transformers |
| 7 | TPWRD-01456-2014.R2 | Enhanced Analytical Method for the Calculation of the Maximum Inrush Currents of Single-Phase Power Transformers |
| 8 | TPWRD-00073-2015.R3 | The Research of Stray Losses Calculation in Structural parts For HVDC Converter Transformers Based on TEAM Problem 21 Family |
| 9 | TPWRD-00079-2015.R2 - | New Analytical Formula for Temperature Assessment on Transformer Tanks |
| 10 | TPWRD-00903-2015.R1 | Evaluation of FRA and VM measurements complementarity in the field conditions |
| 11 | TPWRD-00091-2015.R1 | “Wide-Band Transformer Modeling Including Core Non-Linear Effects” |
| 12 | TPWRD-01348-2014 | Inter-turn Faults Detection of Transformers by Diagnosis of Neutral Current |
| 13 | TPWRD-00807-2015 | Vibration characteristics of a disk-type winding simulated by coupled concentric rings |

Two significant changes in favor of paper continue to be practice.

Firstly, on first submission three reviewers are required compared to earlier practice of four.

Secondly, IEEE overall has changed its policy to allow for up to 40% commonality in comparison to earlier publication.

The first step has made the process faster while the second step allows authors to convert their ideas faster into papers.

It is important for all interested individuals to follow the norm for writing papers as provided in IEEE; the link is http://www.ieee.org/publications\_standards/publications/authors/authors\_journals.html and the link to upload the paper is <http://mchelp.manuscriptcentral.com/gethelpnow/training/author/>.

I would like to thank all of the reviewers who volunteered for this effort and donated their time, and would like to encourage everyone associated with IEEE Transformers Committee activities to consider becoming a Reviewer. I would like to encourage those Reviewers that already have an account on IEEE Manuscript Central to keep their profile information updated and complete the areas for key words and areas of interest. We need more reviewers and I encourage any of you that have not signed up as reviewers to sign up per the instructions at the end of this document.

Please inform me at sanjib.som@siemens.com as soon as you do sign up so that we are able to utilize your efforts as reviewer.

* I would also like to take this opportunity to personally acknowledge the reviewers involved in the transformer committee who have been regularly and consistently reviewing papers. This is an important contribution since it maintains the high standards for our papers and it gives back to the industry their expert knowledge.

Special mention must also go out to the editors who have worked hard to make this possible; they are Dr Kulkarni, Dr. Francisco De Leon, and Dr. Wilsun Xu.

Respectfully Submitted,

Sanjib Som

Editor, IEEE Transactions on Power Delivery from Transformer Committee

All members and attendees of the IEEE Transformer Committee are invited to review technical papers. Please sign up at: https://mc.manuscriptcentral.com/tpwrd-pes

INSTRUCTIONS FOR SIGNING UP TO REVIEW IEEE TRANSACTIONS PAPERS

1. Before you create a new account, please check for an existing account by clicking on: "Check for Existing Account"
2. Assuming that you do not get an existing account notification email, click on "Create New Account" and enter in your information.
3. Please specify any “Specialty / Area of Expertise” according to the 5 numerical codes below:

13a: Power and Instrument Transformers

13b: Insulating fluids category

13c: Dielectric Testing

13d: Audible Noise and Vibration

13e: Transformer Modeling Techniques

1. Please specify any “Key Words” such as: distribution transformers, core losses, oil DGA, or thermal, for example.
2. Submit your information.
3. Click on "Request Reviewer Status" to be enabled as a reviewer.

# New Business

No new business was brought forth.

# Unfinished (Old) Business

No old business was discussed.

# Monday General Session Adjournment

The meeting adjourned at 9:15am.

Thursday General Session

# Chair’s Remarks and Announcements

Don introduced a topic for discussion that there has been a filing with FERC challenging the technical content of the GMD Guide. There is no quorum to make any decisions at this meeting, a separate request will be sent out in the coming week to the Committee Members regarding a response on the filing.

The authors of the Docket made the following statements to FERC:

* “The results presented in the IEEE Guide are a false and misleading narrative of the potential vulnerability to EHV transformers that are exposed to GIC flows”
* “The new IEEE Guide makes serious errors and underestimates in the two heating related behaviors of transformers exposed to GIC. It even erroneously reports actual measurements from transformer tests conducted by various parties, making them lower than actually observed.”

Gary Hoffman, the Vice Chair of the C57.163 working group, provided some background on the issue. He indicated that the IEEE Stds development and ballot process is consensus driven, balanced, fair and open to all with a material interest. He also indicated that the authors of the docket chose not to participate in the standards development process or balloting for C57.163.

A statement from individuals of the C57.163 WG, with the assistance and review of the IEEE staff, has been drafted to explain the errors that the docket authors made. A 2/3 majority vote to send this statement on behalf of the Committee is needed.

Don indicated that due to not having a quorum at the Thursday meeting, a separate electronic vote will be necessary. Don indicated that he would be sending full information after the meeting requesting review and a vote to either approve or disapprove the Committee position statement.   If members choose to vote “Disapprove”, they are requested to please provide an explanation of the changes required before they would agree to change their vote. A 2/3 majority approval will be required before a response to the docket can be submitted from the Transformers Committee.

The response that will be sent to the Committee Members for consideration will be as follows:

*The Transformers Committee is one of the largest and most active of the 16 technical committees of the Institute of Electrical and Electronic Engineers (IEEE) Power and Energy Society (PES). The Committee is comprised of technical and managerial representatives from manufacturers, consultants, vendors, and endusers of electrical transformers and components. The continuing scope of the Committee is to develop and update standards and guidelines for the design, testing, repair, installation, operation, and maintenance of transformers, reactors, and associated components that are used within the electric utility and industrial power systems. One of the Committee's responsibilities is to produce and maintain documents contained in the IEEE C57 Standards Collection.*

*The Transformers Committee was the sole Sponsor for the development of IEEE C57.163, Guide for Establishing Power Transformer Capability while under Geomagnetic Disturbances. The Working Group followed the Working Group Policy & Procedures for standards development, and was guided by the five principles of IEEE-Standards Association: due process, openness, consensus, balance and right of appeal.*

*Following these principles ensured fairness and good standards practice throughout the development of C57.163.*

*The C57.163 Working Group was an open group where all materially interested parties had the opportunity to participate. The Working Group worked collaboratively to reach consensus in order to move the project to IEEE-SA Sponsor Ballot. The IEEE-SA Sponsor ballot consisted of a balanced ballot group made up of a variety of interest classifications such as users, manufacturers, producers, etc. The Guide had 130 balloters with all 285 comments resolved and a 94% approval rating. Once this consensus was achieved from the balloting process, the document was submitted to IEEE-Standards Associations (SA) for final review and approval. C57.163 was approved by the IEEE Standards Association Standards Board on September 3, 2015.*

*Upon publication of IEEE C57.163, a FERC filing (RM15-11-000) was made by Messrs. Kappenman and Birnbach. Below are the three errors that the authors of the Docket made in this filing:*

*1. When the authors of the Docket compared current harmonics and temperatures in different graphs of the Guide, they apparently did not know that transformers of different designs can have very different magnitudes of response to the same level of Geomagnetic Induced Current (GIC). The Guide actually demonstrated this fact in a number of Figures and included text on the design parameters that cause this variability.*

*2. When the authors of the Docket compared temperatures presented in Figure 7 of the Guide (Figure 11 of the Docket), to those in Figure 8 of the Guide (Figure 12 of the Docket), they did not realize that they were comparing one that showed temperatures of Tie – Plates with the one which showed temperatures of top Yoke – Clamps. These transformer components respond differently to the same GIC.*

*3. When the authors of the Docket compared the temperatures of a Tie-Plate from Figure 13 in the Guide to those presented in the reference paper B33, they did not know that the paper has temperatures measured at the middle of the Tie–Plate while Figure 13 has temperatures measured at the top end of the Tie–Plate. Transformers in operation (under load) have their highest tie plate hot spot temperatures at the top end of the tie plates; caused by the much higher top oil temperatures.*

*In conclusion the IEEE Power and Energy Society Transformers Committee stands by the technical content of the Guide as published.*

Don indicated that a link to the FERC filing will be included in the information sent for review.

A question was asked regarding what authority or position the authors of the docket were testifying for.

Gary indicated that there are two phases of the FERC order. One phase is already approved by the sstandards commission, which is basically an outline of procedures by utilities. The second phase was a standard for the mitigation and assessment TPL007-1. The docket objects to the second phase because the authors don’t feel TPL007-1 fits the narrative provided in the Spectrum article that they wrote.

Don indicated that due to time limitations, the liaison reports may not be able to be presented. He indicated that they would all be posted as well as included in the minutes and that if time permitted, would fit in as many as possible before time runs out.

# Meetings Planning SC Minutes & Report – Gregory Anderson

Greg welcomed everyone to Memphis and introduced the meeting host for the Memphis Meeting Craig Swinderman. Greg asked everyone to give them a hand. Craig thanked everyone for attending and indicated it was an honor and privilege to be a host of this meeting. Craig introduced and thanked the members of his team.

Greg provided meeting attendance numbers for the Memphis meeting. He indicated that this is by far the largest meeting so far. There were 579 attendees (591 registered) and 70 spouse/companions.

Greg introduced Alan Traut from Power Partners, Inc. the meeting host for the next meeting in Atlanta, Georgia on March 20-24, 2016. Greg indicated that the link for the hotel would be available in the next day or two.

Greg indicated that a lot of effort goes into planning the meetings and working around other industry events and meetings and that they are not always successful in not conflicting with other events.

He indicated that he is looking for locations for future meetings, but that we have outgrown many venues.

Greg indicated that Tom Prevost is looking for tutorial subjects and that Joe Watson was taking over organization of the meeting break sponsorships.

Greg thanked David Wallach for his work on the meeting APP, Sue McNelly for her work on the web, Craig Stiegemeier for help with the routers. He indicated he is looking for help with the projectors and the new RFID device set-up.

Greg welcomed Ewald Schweiger as his Meeting Planning Vice Chair.

# Reports from Technical Subcommittees (decisions made during the week)

Reports from each Technical SC were presented. Their minutes are included in full in the attached Annexes.

## Insulation Life SC:

Bruce Forsyth presented:

Bruce announced the changeover in SC leadership with Sheldon Kennedy taking over as SC Chair as Bruce moves up into the Committee Secretary position starting January 1. He indicated that there is a lot of activity going on in the moisture insulation systemsWG and that they had a good meeting.

## Performance Characteristics SC:

Ed tNyenhuis presented:

There are 15 TF and WGs. One WG has its PAR expire in 2015, C57.32, which is in good shape. There are 4 PARs expiring in 2016, C57.159 and P60076-16, which are both in good shape. C57.158 and C57.120 will need to go to ballot and are on a fast track for approval by the end of next year. Further out for 2018 and 2019, there are 5 standards that are in good shape at this time.

## Power Transformers SC:

Joe Watson presented:

Joe indicated that they had a quorum with 73 members present. The joint IEEE/IEC 60076-57-1202 is in ballot discussion. C57.12.10 met and work is in progress. A motion was made and approved to return DETCs as a standard requirement when no LTC is specified. Work on C57.93 is in progress. C57.131 and IEC 60214-1 have been very active and having joint IEC meetings outside the country. PC57.140 is in progress. C57.148 did not meet but will be making the first revision to this guide starting in Atlanta. C57.150 will be starting up next year either in the spring or at the fall meeting. C57.157 has been going on for a long time and has finally been published.

There was a motion made to work together on a joint TF with the Distribution and Standards SC on a definition of a power transformer versus distribution transformers particularly in the area of renewable transformers. This was approved and they awill be working together on this topic.

## Underground Trans & Network Protectors SC:

Dan Mulkey presented:

The SC has 4 WG. C57.12.23 is working on updating the sizes to a 250kVA single-phase submersible. C57.12.24 has Draft 5 in ballot and a PAR extention is in the works. C57.12.40 is adding an annex about bushings and how they are affected by short circuit currents for switches installed in most network transformers and is adding stainless steel thickness to the copper bearing steel. C57.12.44 is starting a new revision and Bill Wimmer is stepping down as Chair and Mark Faulkner the current Secretary has agreed to take on the role of Chair.

## Bushings SC:

Eric Weatherby presented for Peter Zhao:

There were 28 of 39 members and 102 guests present.

There are currently two PARs in progress for which the Chairs presented reports to the Subcommittee.

- PC57.19.01 (Standard Performance and Dimensions) expires at the end of 2017

- PC57.19.04 (GSU) expires at the end of this year; the extension request will be reviewed in the December meeting.

It was noted that C57.19.00 (General Requirements and Test) was approved in 2004 and expires in 2020 as such it was decided a small group will look over the standard to see if there are any obvious areas that require updating and will report back to the SC at the Atlanta meeting. – Unfinished Business

There were two Task Force reports given to the Subcommittee.

- Distribution Transformer Bushings.

- Composite Bushings.

There were several topics discussed during the new business section of the meeting. The liveliest was brought up by a Transformer OEM in regards to PD in bushings that occur frequently after heat run testing or other aggressive processes. His comments were echoed by several OEM and utility personnel. There was discussion of the causes by several bushing manufacturing people and suggestion for them to seek out the paper on Bubble Evolution at Doble.

There was also a suggestion that a section be added to the application guide and or a possible task force group should be formed to examine the issue closely and offer a suggestion to the SC on the correct approach. – This will be moved to unfinished business to be discussed in Atlanta.

## Dielectric Test SC:

Mike Franchek presented:

There were 68 of 104 members present.

The low frequency test WG reviewed results of three surveys, the first was on tap changer position during induced test, the second was the application of pressure inside the transformer during induced test, and the third was ground core gassing issues on distribution transformers and proposed aproposed new design tests. All three had positive results but there were negatives on them that will reviewed and the documents will be resurveyed before the next meeting.

As new business, a proposal for an althernative method of performing the applied voltage test. This will be circulated as a survey before the next meeting. The revision of impulse test survey results on impulse test front time test parameters and tolerances were presented. The approval rate was 83% but there was a negative. In order to resolve the negative, it was agreed to add an informative note saying that the determination of the impulse waveshape paramaters shall be based on the test voltage curve.

Also as new business, a proposal for a new way to measure the chop wave climb during the chopped wave test was discussed. This will be surveyed before the next meeting.

A brand new TF on winding power factor and insulation resistance met for the first time and was well attended and covered different sections of different standards.

There was discussion on changes to the SC scope. The Chair will frame the scope and survey the members.

## Distribution Transformers SC:

Steve Shull presented:

There was a quorum.

C57.12.20 current PAR expires at the end of next year. C57.28, 29, 30, 31, & 32, all but 32 are inactive. C57.12.34 is approved. C57.12.36 has balloted and the WG is working to resolve ballot comments. A recirculation is planned, however because the PAR expires at the end of this year, a PAR extention will be requested. C57.12.37 has been approved. C57.12.38 WG will apply for a corrigendum to add back in an omitted note above the bushing height dimension stating 167kVA and 250kVA above that was found after approval. C57.12.39 expires at the end of 2016. A motion was approved to move the latest draft forward for SC approval.

60076-57-15 Draft 1.2 was approved by the WG to be sent to the SC for approval to ballot.

## Dry Type Transformers SC:

Casey Ballard for Charles Johnson presented:

There were or will be four PARs submitted for approval and for meetings to start at the Atlanta meeting (C57.12.01, C57.12.91, C57.124, and C57.16).

C57.12.59 did not meet. C57.12.58 had a TF put together to review and felt it was in good shape. C57.94 is through balloting and will wrap up shortly.

## HVDC Converter Transformers SC:

Mark Sharp presented:

There were 13 members and 15 guests present.

There was only one WG that met. 61378-57-129 provided a summary of the work done at the last meeting. The PAR expires the end of 2018.

## Instrument Transformers SC:

Ross McTaggart presented:

The C57.13 was balloted and sent to REVCOM. C57.13.7 was voted to go to Sponsor ballot. C57.13.8 is progressing well and expects to have a 3rd draft before the spring meeting. The CVT standard being transferred from PSCC is expected to have a TF meet at the Atlanta meeting. A decision was made to start a WG for C57.13.5 and it will have a PAR filed prior to the spring meeting. A discussion on C57.13.2 (conformance teston instrument CTs) was held and needs work to start on this soon, but first a determination needs to be made on whether it is still needed.

## Insulating Fluids SC:

David Wallach presented:

There were 28 members and 48 guests present. A quorum was achieved.

C57.104 – Confidentiality agreements has continued to delay progress on the document. The PAR expires at the end of 2017.

The following documents balloted this year and are on the Dec 2015 REVCOM agenda: C57.106 & C57.139. The following two documents were published this year: C57.130 and C57.637. C57.147 revision is nearing completion and the latest draft received approval to go to ballot from the WG and SC.

The TF for consolidation of oil guides met and a lot of work to develop conceptual table of limits combined into one table. A PAR is expected to be developed soon.

The Particle Count TF stopped for a while, but a draft TF report has been developed and will be sent to members for review. Afterwhich, it will be filed on the website.

# Reports from Standards SubCommittee and Standards (Issues from the week)

Bill indicated that there is nothing significant to report other than that starting the first of the year, Tim Holdway would be taking over as the Standards Coordinator.

The Standards SC activities reported by Bill Bartley:

A quorum was achieved.

C57.12.00 and C57.12.90 have balloted and are on the December REVCOM agenda. C57.12.70 did not meet this week. A revision will be needed. C57.12.80 (Definitions) will have a TF formed to determine if revision of the document is needed. The Power TR SC and Distribution TR SC were invited to also participate in this TF. Jim Graham will chair the TF.

# Liaison Reports

Reports were not presented, but will be posted on the website

## Cigre Report – Paul Jarman

Paul indicated that CIGRE is a world wide organization that covers large networks. The last meeting was in Shanghai, China. The next meeting will be in Paris in August of 2016. A full report will be included as **Attachment 4** to the minutes.

## IEC TC14 – Paul Jarman

Included as **Attachment 3** to minutes

## Standards Coordinating Committee, SCC No. 18 (NFPA/NEC) – Ned Brush No report provided

## Standards Coordinating Committee, SCC No. 4 (Electrical Insulation) – Don Platts for Paulette Payne Powell No report provided

# New Business

No new business was raised.

Don indicated that he considered it to be a privilege and an honor and privilege to be able to serve as Chair of the Transformers Committee because it is such an incredible group of people. Don indicated that he cherishes the personal and professional relationships that he has developed. He thanked everyone and asked for support for the incoming Chair.

Susan McNelly expressed both her and Steve Antosz’s appreciation for all Don had done for the committee over the past two years.

# Thursday General Session Adjournment

The meeting was adjourned at 12:00PM.