

IEEE/PES Transformers Committee Working Group on Requirements
For Three-Phase Submersible Transformers (C57.12.24)

Meeting Minutes

Hyatt Regency Jacksonville, Riverfront Hotel; Jacksonville, FL
Tuesday, October 16, 2018

Grand Ballroom 1

Members present

Giuseppe Termini – (Chairman) PECO (Exelon)
Jason Attard – ConEd
Israel Barrientos – Prolec GE
Piotr Blaszczyk, The Specialty Switch Co.
David Blew – PSE&G
Rhett Chrysler, ERMCO
Douglas Craig – Richards Mfg
Thomas Dauzat – GE
Craig DeRouen - ERMCO
Will Elliott – GE
Carlos Gaytan – Prolec GE
Said Hachichi – Hydro Quebec
Mike Hardin – H-J Enterprises
Brian Klaponski - CARTE International Inc.
Alejandro Macias - CenterPoint Energy
Cory Morgan – Eversource Energy
Dan Mulkey – Mulkey Engineering Inc.
George Payerle – Carte International Inc.
Jarrod Prince- ERMCO
James Ratty – Electronic Technologies. Inc.
Pedro Salgado – Electronic Technology Inc.
Igor Simonov - Toronto Hydro
Babanna Suresh – Southwest Electric Co.
Mike Thibault – PG&E
Alan Traut – Howard Industries
Jeremy Van Horn – IFD

Guests present

*Glenn Andersen – Fayetteville PWC
*Daniel Berler – ZTZ Services International
Kevin Biggie – Weidmann Electrical Technology
Alan Boege – Orto de Maxico
*Eric Bradford – GE
Danny Diaz – Commonwealth Associates
Alexander Ebbert – ZTZ Services International
Pam Edwards – Central Moloney
Matthew Enders – Oncor Electric Delivery
Yamille del Valle – NEETRAC
Mike Faulkenberry - Retired
Sanford Fong – GA Power
Jean-Francois Gagnon – Siemens
Fred Friend – AEP
John Garrity – Tagup Inc.
Jorge Gonzales de la Vega – Orto de Mexico
*Ken Hampton – BGE
*Jack Harley – FirstPower Group LLC
*Brad Kittrell – ConEd
Brian McBride -- Cargill
Justin Minikel – Eaton
*Michael Morgan – Duke Energy
Tim Morris – Walton EMC
Roger Owens – Central Moloney

*Juan Ramirez -- CELECO
Jeremy Sewell – Quality Switch
Russ Sewell – Quality Switch
*Liz Sullivan – Dominion Power
Philip Sullivan – Power Partners Inc.
Tim Tillery – Howard Industries
*Reinaldo Valentin - Duke Energy
Shelby Walters – Howard Industries
Lee Wellingham – Central Moloney
Alan Wilks – Wilks Consulting
* = requests membership

The meeting was called to order at 1:45 pm on Tuesday, October 16, 2018 in the Grand Ballroom 1 of the Hyatt Regency Riverfront Hotel in Jacksonville, FL. George Payerle acted as recording secretary.

Introductions were made. The Chair stated that the membership stands at 38. With 26 members in attendance there was a quorum at this meeting. There were 34 guests in attendance. Ten (10) guests requested membership. The chair stated that adjustments to the membership will be made based on attendance. The chair asked if there were any essential patents to be disclosed. There were none.

An agenda was presented. Brian Klaponski moved to accept the agenda and Jeremy Von Horn seconded the motion. The motion passed unanimously. The minutes of the previous meeting held on March 27, 2018 in Pittsburgh, PA were presented. Dan Mulkey moved to accept the minutes as presented and Al Traut seconded the motion. The motion passed unanimously.

The latest revision of C57.12.24 was published in 2016 and will expire in 10 years and to officially start the next revision process of the standard, a Project Authorization Request (PAR) will be submitted early next year.

The action items from the previous meeting in Pittsburgh were discussed. Tom Dauzat presented the results of the Task Force on material compatibility between the transformer tank and the hardware and/or components that are either attached or welded to the tank; e.g.: parking stands, drain valves, PRVs, etc. The presentation consisted of transformer photos submitted by various users. Tom made recommendations on how to determine which materials were compatible with each other and how to make choices. For example, the combination of silicon bronze hardware on copper bearing steel tank will generate corrosion. In general, galvanic potential should not exceed 0.2 volts between two (2) dissimilar materials. The recommendation of the Task Force regarding material requirements for the tank, hardware and components was summarized in the Submersible Transformer Galvanic Application Compatibility (STGAC) chart. The chart details material recommendation for hardware and components based on the transformer tank material. The presentation along with the STGAC chart will be posted in the IEEE Transformer Committee website under the Subsurface Transformers and Network Protector Subcommittee page. The WG recommended that the Task Force continues the work to finalize the STGAC chart so that it can be incorporated in the next standard revision. It was also agreed to expand the scope of the Task Force to address tank material as it relates to corrosion. Tom Dauzat will continue to lead the Task Force; Will Elliott, Alex Macias, Babanna Suresh and Cory Morgan will assist Tom in finalizing the chart and address tank material.

Jeremy Van Horn summarized the results of the review of the Metric and English values shown in Table 6 of the standard. Jeremy mentioned that the number of decimal values for both Metric and English were not consistent. Two (2) options were presented to correct this discrepancy. The WG recommended that Jeremy Van Horn and Israel Barrientos continue to work on the Metric and English values and make recommendations to correct Table 6. The recommendation should include using values that are consistent with industry requirements for steel material thickness and be in compliance with IEEE standard C57.144.

Under new business, the Chair stated that the WG participants, both members and guests, should review the standard and submit changes for inclusion in the next standard revision. For example, the Chair stated that the requirements for the accessories shown in the standard should be reviewed and perhaps expanded similar to the requirements proposed in C57.12.34, Standard for Pad-Mounted, Compartmental-Type, Self-Cooled, Three-Phase Distribution Transformers

The Chair asked for volunteers to review any section of the standard and to determine if any changes need to be made. Israel Barrientos, Tom Dauzat, Will Elliot and Dan Mulkey volunteered to review the standard for any possible changes. Brian Klaponski volunteered to have his engineering staff at CARTE review the standard for any possible changes. Any changes suggested will be coordinated through the Chair for review at the next WG meeting.

The Purpose and Scope of the standard were reviewed. After a discussion to expand the Scope of the standard from 3750 KVA to 5000 KVA, it was agreed to keep the Scope as is. Dan Mulkey moved to accept the Purpose and Scope, for the PAR submission, as they are. Cory Morgan seconded and the motion it was approved.

The meeting was adjourned at 3:00 PM. The next meeting will be in Anaheim, CA on March 26, 2018.

Respectfully Submitted by: Giuseppe Termini, Chairman C57.12.24 Working Group