

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

Virtual Meeting Minutes

Tuesday, April 27, 2021

Members Present

Glenn	Andersen	Fayetteville PWC
Piotr	Blaszczyk	Specialty Transformer
John	Chisholm	IFD Corporation
Rhett	Chrysler	ERMCO
Douglas	Craig	Richards Manufacturing Co.
Michael	Dahlke	Central Moloney, Inc.
Thomas	Dauzat	General Electric
Larry	Dix	Quality Switch, Inc.
William	Elliott	General Electric
Benjamin	Garcia	Southern California Edison
Carlos	Gaytan	Prolec GE
Said	Hachichi	Hydro-Quebec
Kenneth	Hampton	Baltimore Gas & Electric
Michael	Hardin	H-J Enterprises, Inc.
John	Harley	FirstPower Group LLC
Ramadan	Issack	American Electric Power
Robert	Kinner	FirstPower Group LLC
Brad	Kittrell	Consolidated Edison Co. of NY
Brian	Klaponski	Carte International Inc.
Andrew	Larison	Hitachi ABB Power Grids
Alejandro	Macias	CenterPoint Energy
Kent	Miller	T&R Electric Supply Co.
Michael	Morgan	Duke Energy
Daniel	Mulkey	Mulkey Engineering Inc.
George	Payerle	Carte International Inc.
Jarrood	Prince	ERMCO
Juan	Ramirez	CELECO
James	Ratty	Electronic Technology Inc.
Pedro	Salgado	Electronic Technology Inc.
Avijit	Shingari	Pepco Holdings Inc.
Audrey	Siebert-Timmer	IFD Corporation
Igor	Simonov	Toronto Hydro
James	Spaulding	Fort Collins Utilities
Christopher	Sullivan	Westmark Partners
Michael	Thibault	Pacific Gas & Electric
Alan	Traut	Howard Industries
Jeremy	Van Horn	IFD Corporation
John	Vartanian	National Grid

Guests Present

C57.12.24 Meeting Minutes April 27, 2021

Scott	Abbott	PPG
Nabi	Almeida	Prolec GE USA LLC
Angela	Amador	EATON Corporation
Gregory	Ante	Southern California Edison
Kevin	Biggie	Weidmann Electrical Technology
Jeffrey	Door	H-J Family of Companies
Ali	Ghafourian	H-J Enterprises, Inc.
Zoran	Goncin	PTI Transformers
Jeffrey	Gragert	Xcel Energy
Kendrick	Hamilton	Power Partners, Inc.
Didier	Hamoir	Transformer Protector Corp
Gary	King	Howard Industries
Olivier	Lejay	Huaming USA Corp.
Christopher	Lianides	Southern California Edison
Gerald	Paiva	Consultant
Vinay	Patel	Consolidated Edison Co. of NY
Chris	Pitts	Howard Industries
Clemens	Reiss IV	Custom Materials, Inc.
Albert	Sanchez	Knoxville Utilities Board
Manish	Saraf	Hammond Power Solutions
Dan	Schwartz	Quality Switch, Inc.
Jeremy	Sewell	Quality Switch, Inc.
Adam	Sewell	Quality Switch, Inc.
Jaber	Shalabi	VanTran Industries, Inc.
Stephen	Shull	BBC Electrical Services, Inc.
Edward	Smith	H-J Family of Companies
Radoslaw	Szewczyk	Specialty Products Poland Sp. z o.o.
Joseph	Tedesco	Hitachi ABB Power Grids
Giuseppe	Termini	PECO Energy Company
Timothy	Tillery	Howard Industries
Joshua	Verdell	ERMCO
Duy	Vo	Central Maine Power (AVANGRID)
Shelby	Walters	Howard Industries
Bruce	Webb	Knoxville Utilities Board
Helena	Wilhelm	Vegoor Tecnologia Aplicada
Alan	Wilks	Consultant
Michael	Zarnowski	Carte International

The S21 Webex meeting was called to order at 9:25 AM CT with Ben Garcia as chair, Tom Dauzat as vice-chair and George Payerle as secretary. There were 38 members and 37 guests in attendance. Total membership is 51 so there was a quorum. Four guests requested membership.

Membership requirement for 12.24 is that you have attended 2 meetings in a row or 3 of the last 5. Four guests requested membership at the F20 meeting. Christopher Sullivan, Audrey Siebert-Timmer, and Ramadan Issack met membership requirements and were members at the S21 meeting. Kyle Zemanovic did not qualify due to the 3 in 5 meeting requirement. Dan Mulkey mentioned that Fred Friend had retired and will no longer be attending meetings.

Previously three people qualified and became members at the F20 virtual meeting -- Larry Dix, Fredric Friend and James Spaulding.

George Payerle moved to approve the agenda and Ken Hampton seconded. The motion passed unanimously. Ken Hampton moved to accept the minutes of the fall 2020 virtual meeting Dan Mulkey

C57.12.24 Meeting Minutes April 27, 2021

seconded. The minutes were approved unanimously. The chair called for essential patents. There were no disclosures. The chair showed and explained the copyright slides.

Work on the PAR was begun at the S19 Anaheim meeting. The PAR will expire December 31, 2023. We have 3 working meetings to finalize the draft and get it to review and resolve comments.

Since the F20 meeting, the chair held 2 interim meetings to continue work on the standard. Ben acknowledged the help of the WG members who participated in this effort.

Old Business – the revision of Table 6 was originally meant to reconcile the English and metric dimensions. This has been done. Then it was decided to also address minimum thicknesses of the tank wall, coolers, tank cover, and tank bottom. Once further input from the corrosion task force is received, this work will continue. Will Elliott talked about what will be presented at the corrosion task force meeting.

Next the chair reviewed the items that were discussed at the interim meetings. There was discussion about whether to include the publishing date when citing another standard. Steve Shull pointed out that if we refer to a specific part of a standard, we must include the publishing date since standards are changed over time and the reference might no longer be valid if the standard cited is revised.

Section 5.2 kVA ratings – there was a discussion on the wording of this section as it relates to nonsymmetrical unbalanced loads of wye-wye connected units. Larry Dix said he had seen shunt bundles on small units. Andrew Larison of ABB said that they used 5 leg cores for wye-wye units. Gary King said in smaller units in smaller tanks there would be a tendency to use 3 leg cores.

A motion was made to resolve the issue by referring to C57.105 for information and proper design methods. Brian Klaponski made the motion and Mike Thibault seconded. The motion was passed without objection.

Table 1 was revised to include applied voltage test and induced voltage test. Ken Hampton made a motion to approve the revision and Brian Klaponski seconded. The motion was passed without objection.

Section 5.4 Insulation levels – A suggestion was made by the taskforce to remove the second sentence (stating that BIL ratings are specified in C527.12.00-2015) as it was in direct conflict with the first sentence (stating that BIL ratings are specified in Table 2). The second sentence was deleted.

Brian moved to make the change in the first sentence and delete the second sentence. The motion was approved without objection.

Table 2 was revised to include 16,340 and 17,200 voltages. George Payerle moved and Ken Hampton seconded a motion to make those changes and it was passed without objection.

Section 6.2 editorial change was made adding the word ‘voltage’ in front of “regulation”.

Section 7.1 several non-technical editorial changes were made to this section.

A comment was made during the meeting that parking stand material should match that of the tank. Will Elliott commented that parking stands are required to be stainless steel because it is bare metal (won't be painted) and is required for corrosion resistance.

Figure 1: Brian K. moved to add a diagram of a round tank to be placed alongside the pre-existing rectangular tank diagram showing dimensional callouts related to the maximum dimension table below. Will E. seconded. It was passed without objection.

There was no new business.

George P made a motion to adjourn which was seconded by Tom D

Next meeting October 17 to 21 (hopefully) I Milwaukee

Respectfully Submitted by: Ben Garcia, Chairman C57.12.24 Working Group