

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

Meeting Minutes

Hyatt Regency, Denver, CO
Monday, March 28, 2022

Members Present

David	Blew	Retired (PSE&G)
Douglas	Craig	Richards Manufacturing Co.
Thomas	Dauzat	General Electric
William	Elliott	Prolec GE
Ben	Garcia	SCE (virtual)
Kenneth	Hampton	Baltimore Gas & Electric
John	Harley	FirstPower Group LLC
Ramadan	Issack	American Electric Power
Brad	Kittrell	Consolidated Edison Co. of NY
Brian	Klaponski	Carte International Inc.
Andrew	Larison	Hitachi Energy
Kent	Miller	T&R Electric Supply Co.
Michael	Morgan	Duke Energy
Daniel	Mulkey	Mulkey Engineering Inc.
George	Payerle	Carte International Inc.
James	Ratty	Electronic Technology Inc.
Avijit	Shingari	Pepco Holdings Inc.
Audrey	Siebert-Timmer	IFD Corporation
James	Spaulding	Fort Collins Utilities
Alan	Traut	Howard Industries
Reinaldo	Valentin	Duke Energy
John	Vartanian	National Grid

Guests Present

Alex	Alahmed	Evergy Wolf Creek
*Nabi	Almeida	Prolec GE
Jeff	Benach	Megger
Kevin	Biggie	Weidmann Electrical Technology
Jaroslaw	Chorzepa	ABB
Rhett	Chrysler	ERMCO
Anthony	Coker	M&I Materials
Michael	Dahlke	Central Moloney, Inc.
Herton	De Oliveira Filho	PSE&G
Cesar	Dias	EATON Corporation

Jeffrey	Door	H-J Family of Companies
Sanford	Fong	Georgia Power Co.
Hector	Garza	Orto de Mexico
Ali	Ghafourian	H-J Enterprises, Inc.
Orlando	Giraldo	HJ Family of Companies
Michael	Hardin	H-J Enterprises, Inc.
John	Herron	Raytech USA
Martin	Munoz Molina	Orto de Mexico
*Vinay	Patel	Consolidated Edison Co. of NY
Daniel	Posadas	Prolec
Clemens	Reiss IV	Custom Materials, Inc.
Stefan	Schindler	Maschinenfabrik Reinhausen
Jeffrey	Schneider	Power Partners/Spire Power Sol.
Dan	Schwartz	Quality Switch, Inc.
Jeremy	Sewell	Quality Switch, Inc.
Russell	Sewell	Quality Switch, Inc.
Jaber	Shalabi	VanTran Industries, Inc.
Liz	Sullivan	Dominion Energy
Eric	Theisen	Metglas, Inc.
Timothy	Tillery	Howard Industries
Robert	Vantol	Commonwealth Assoc
Pragnesh	Vyas	Sunbelt Solomon
Shelby	Walters	Howard Industries
Bruce	Webb	Knoxville Utilities Board
Alan	Wilks	Consultant
Malia	Zaman	IEEE
Michael	Zarnowski	Carte International
Kyle	Zemanovic	EATON Corporation
* = requests membership		

The S22 meeting of C57.12.24 was called to order at 4:45 PM on Monday, March 28, 2022 in the Centennial F room of the Hyatt Regency in Denver, CO.

Tom Dauzat filled in for Chair Ben Garcia to run the meeting. Ben was present by way of a speaker phone. George Payerle acted as secretary. Introductions were made.

A member list was presented. C57.12.24 has 38 members. There 21 members present so quorum was achieved. There were 43 guests present. Patent and copyright slides were shown. Michael Zarnowski and Nabi Almeida are new member as of this meeting.

The chair presented an agenda. Will Elliott moved to accept the agenda and Dan Mulkey seconded. The motion passed. Will Elliott moved to accept the minutes of the previous (virtual) meeting from the fall of 2021. Dan Mulkey seconded and the motion was passed.

The main work of the meeting was continuing to revise C57.12.24.

There was discussion about removing reference to dates when standards are cited. This will eliminate the need for standards to be frequently updated to keep the references to other standards current. The users of C57.12.24 will be expected to seek out only the latest revision of C57.12.00. Dan Mulkey made a motion to remove all references to dates where standards are cited. Will Elliott seconded and the motion passed

Dan Mulkey moved to approve changes to the layout of the primary switches and fusing in figure 1, Nabi Almeida seconded, no objection, motion passed.

Simplify table 4 by removing the lower of the alternative HV connector ratings for 95 and 125kVBIL winding insulation levels (i.e. removing the 8.3kV option where the table previously stated "8.3kV or 15.2kV"). Motion was made by Nabi Almeida, Avi Shingari seconded. No objection, motion passed.

7.2.2 row 5 was changed to add the wording 'per ANSI/NEMA CC-1' after "...in accordance Figure 4 through Figure 8." This was in response to the question about dimensional and thickness tolerances of the A, B, C callouts in each figure. Dan Mulkey moved to add 'and ANSI/NEMA CC-1' reference. Dan moved; Nabi Almeida seconded. Motion passed.

Table 5, is a new table added to the standard to summarize all of the previously embedded tables in Figures 4 through 8 and place this consolidated information in one place at the end of the section.

A new table was also created and embedded into Figure 8 to include the thread stud secondary terminal dimensional requirements. This was added to figure 8 to replace the tables for fig 4 to 7 with table 5 showing the size of the stud and spade configuration. Nabe Almeida made the motion, John Vartanian seconded. The motion passed.

Table 5, change was made to the 500 kVA, 240V cell. The original callout for a 4 hole spade but it was changed to 6 hole spade to be consistent with the recommendation stated for the 500kVA, 208Y/120V cell (6 hole spade). Dan Mulkey made the motion. Will seconded. The motion passed.

7.2.3 line 13. The spacing requirement for the neutral bushing ground pad was changed from a minimum of 12" to 6" spacing from the bushing center. This change was made to address Ralph Wegner's comment about there being a lot of components on the cover and how a 12" minimum could be problematic. Mike Zarnowski made the motion to do so, Will Elliott seconded. The motion passed.

7.3.1, line 7, change 'protective cap' to 'protective sealed cap' Brian Klaponski moved, Brad Kittrell seconded. The motion passed.

Stopped at 7.3.1 row 8 re dual voltage switches.

Per the chair, this will be the last working meeting to review and approve new changes. After this meeting, the chair will work with the STNP subcommittee team to submit a clean version of C57.12.24 to RevComm for formal review.

Next meeting Charlotte NC, Oct 16 to 20, 2022. The meeting was adjourned at 6:00 pm MST

Respectfully submitted...

George Payerle, secretary, C57.12.24

March 30, 2022