

## PCS TF C57.12.90 Unapproved Meeting Minutes for Fall 2020 Virtual Meeting

Oct 20, 2020

8:00 AM – 9:15 AM Central Time, US TF PCS Cont. Rev. to Test Code C57.12.90 PCS, Session 6

Chair Hakan Sahin Secretary Pugazhenthii Selvaraj

Chair Opened the meeting at 8:03 am central time and welcomed the group and reviewed the general guidance of the virtual meeting, followed by the copyright policy.

First poll results showed:

88 participants attended the meeting. 33 members, 31 guests, 14 requested membership. Needed 43 for meeting quorum. Quorum not met. Decided to do another poll 10 minutes into the meeting.

Chair discussed the agenda and provided the update on the poll survey results of the three surveys sent out through PCS from the old business meeting. All the three survey results came in favor with acceptance. However, the Comments received with “unapproved “ status for related Ratio test & frequency revision survey and the LTC testing survey were significant enough that Chair informed the group that it was worth reviewing all comments and deciding where to go with these old businesses even though mathematically they could be considered approved thru PCS survey.

Second poll was performed, and the group did not achieve a quorum. Meeting continued.

Bob Ganser commented that he is a member but didn't see his name on the members' list. Chair agreed to add his name as member.

Larry Dix had the similar comment as above and Chair will double check Larry's membership and add him as member.

Chair commented that this presentation has so much valuable information with especially all the survey comments that he would like to share with the TF for their reference. Sue McNally commented that she can post it. Steve Antosz commented that the chair has no restriction, and it would be a good thing to share the presentation.

The old businesses which were surveyed were:

A. Winding resistance test requirement on wye connected transformers with neutral bushing brought out, section 5.4.1

B. Ratio tests voltage and frequency section 7.1.2

C. New proposed test sections 8.7 & 9.6 for OLTC tests

Chair shared the sections for each section, showed the surveyed results and reviewed the comments.

A. For winding resistance test the chair's decision is to make the editorial correction submitted by Steve Anstosz thru the survey and give the clause to PCS as approved business since it was already approved in PCS survey as well.

B. For ratio test, even though the survey results were passing, 2 comments were valuable enough for the TF to re-consider the revision of this clause.

Below are the discussion comments on the Ratio test frequency survey.

- Kris. Neild commented that the limits on the frequency may not be appropriate
- Alexander commented that the frequency higher limit not required to be restricted and the left "as is" in the standard.
- Dharam, Vir suggested to make the change in the upper limit of the frequency to be inline with IEC.

Chair's final decision communicated to the TF was to revise the clause in respect to higher end frequency limit and send to TF for survey before the next meeting. If passes, this clause will be handed over to PCS for their consideration.

#### C. LTC tests

Chair mentioned that we have been working on these 2 sections to be added to C57.12.90 since 2015. Even though the survey results passing, there were many great comments

Below are the discussion comments on LTC testing survey

Chair reviewed every comment that was received during the survey. Additional comment came from Shamun Hakim suggested a sequence of LTC functional test. He recommended to consider LTC functional tests at the end of dielectric tests

Final conclusion was to re-work these 2 sections with respect to all comments, and volunteers agreed to help the chair. These volunteers were Rainer Frotscher, Joe Foldi, Craig Colopy and couple others.

#### Old Business:

Chair shared the old business on "Short Circuit number of tests" and told the group that this is still being worked on but not much was accomplished in the last 8 months and promised that more off line work will be done before the next meeting.

## Discussion on New businesses

### New Business 1

John.Herron proposed the new business of revising the section 7.3 of C57.12.90 to include transformer ratio test method.

- Robert Ganser commented that the accuracy requirements of the test methods need to be considered.
- Larry Dix remarked that the C57.12.100 provides tolerance requirement details
- Bertand Pollin clarified the difference between the tolerance requirement and the accuracy of test measurements. Chair also agreed that there is a difference between accuracy vs tolerances and the tolerances are defined in C57.12.00
- Shumun Hakim remarked that the accuracy of instruments are traceable to NIST standards

Chair commented that we will continue working on this new business to modernize the section 7.3. This doesn't mean to eliminate the current methods, but maybe to add the transformer turns ratiometer method as an additional method.

### New business 2

Chair presented the proposal of Haytam Saeed on Low voltage determination of Zero Sequence impedance for power Transformer

- Bertrand Poulin recommended to consider this test method as a guide than test standard. He also suggested to consider this as test for field testing
- Krish Vijayakumar provided his remarks in chat note that whether this test can be included in the test section of tertiary stabilization winding since this test is more specific to units with tertiary.
- Daniel Blaydon suggested to consider including this test in C57.152 field test guide

Since there was no quorum, there was no agreement to whether to consider this as new business in our TF or not.

Meeting adjourned at 9 02 AM central time

Pugazhenthil Selvaraj  
Secretary

Hakan Sahin  
Chair

ALL ATTENDED TO THE MEETING LIST

Participant Name	Affiliation
Jarrold Prince	Ermco
Axel Krämer	Reinhausen
Kevin C. Sullivan	Duke
Anastasia O'Malley	Coned.Com
Nik Dillon	Dominionenergy.Com
Steve Jordan	Tva.Gov
Gilles Bargone	Independent
Neil Strongosky	Mlgw
Steve Antosz	Consultant
Troy Tanaka	Burnsmcd
Alwyn VanderWalt	Pnm
Philip Hopkinson	Hvolt
Sanjay Patel	Smitusa
Daniel Weyer	Nppd
Shawn Gossett	Ameren
Scott Digby	Duke
Anthony Franchitti	Exeloncorp
Mats Bernesjo	Hitachi-powergrids
Ramsis Girgis	Hitachi-powergrids
Ed Davis	Burnsmcd
Craig Colopy	Eaton
Kris Zibert	Amce
Weijun Li	Beld
Bill Li	Bchydro
Samragni Dutta Roy	Siemens
William Boettger	Consultant
Ryan Musgrove	Consultant
Jos Veens	Sgb-smit
mark lachman	Doble
shamaun Hakim	Weg
John Foschia	Spx
Mike Spurlock	Retired
Shibao Zhang	Independent
John Reagan	Oncor
Dinesh Sankarakurup	Duke
Ajith Varghese	Spx
Tom Melle	Consultant
Shankar Subramany	Kema

Bruce Forsyth	Consultant
Monty Goulkhah	Kinectrics
yang baitun	Uptegraff
Paul Jarman	Manchester AC
Rich Von Gemmingen	Dominionenergy
Ryan Thompson	Burnsmcd
Ulf Radbrandt	ABB
DANIELA EMBER BACIU	Hydro Quebec
Markus Schiessl	Sgb Smit
Larry Dix	Qualityswitch
Daniel Blaydon	Bge
scott dennis	Hitachi-powergrids
Chris Slattery	Firstenergycorp
George Jr Partyka	Ptitransformers
Kris Neild	Megger
Sukhdev Walia	Consultant
Robert Ganser	Neo
Bertrand Poulin	Hitachi-powergrids
Jorge Cruz	Ptitransformers
Roger Verdolin	Shaw
Joe Foldi	Consultant
HAKAN SAHIN	Independent
Dharam Vir	Spx
Raj Ahuja	Consultant
John K John	Vatransformer
Danny Schwartz	Qualityswitch
akash joshi	Consultant
Mike Warntjes	Atc LLC
Chris Baumgartner	We Energies
Kyle Knous	Eaton
Joe Watson	Fpl
Craig Colopy	Eaton
Brian Penny	Atc LLC
Leopoldo Rodriguez	Consultant
Curtiss Frazier (Ameren)	Ameren
Fernando Leal	Consultant
Jean-Noel Berube	Rugged monitoring
Rod Sauls	Southernco
suresh babanna	Spx
Juan Carlos Cruz Valdes	Prolecge

J.Dennis Marlow	Consultant
John Herron	Raytect
Alexander Winter	Highvolt
Mark Perkins	Consultant
orlandog	H-J
Sanjay Patel	Smitusa
Rainer Frotscher	Reinhausen
Krishnamurthy Vijayan	Ptitransformers
Shankar Nambi	Bechtel
Marc Taylor	Cogentpowerinc
Nick Walder	Eaton
bill griesacker	Consultant
Susan McNelly	Xcelenergy
Jason Varnell	Consultant
Pugal Selveraj	Vatransformer
Javier Arteaga	Hitachi-powergrids
Duvier Bedoya	Hitachi-powergrids
Gregory Anderson	Consultant
Nick Podany	Usbr Gov
Eric Schleismann	Southernco

TOTAL MEMBERSHIP LIST

Raj	Ahuja	Shamaun	Hakim	Markus	Schiessl
Tauhid	Ansari	John	Herron	Cihangir	Sen
Stephen	Antosz	Thang	Hochanh	Hemchandra	Shertukde
Elise	Arnold	Mohammad	Iman	Kushal	Singh
Javier	Arteaga	Marion	Jaroszewski	Kenneth	Skinger
Donald	Ayers	John	John	Steven	Snyder
Christopher	Baumgartner	Akash	Joshi	Yong Tae	Sohn
Daniel	Blaydon	Gary	King	William	Solano
William	Boettger	Peter	Kleine	Mike	Spurlock
Sanket	Bolar	Mark	Lachman	Craig	Stiegemeier
Jeffrey	Britton	Fernando	Leal	Robert	Stinson
Steven	Brzoznowski	Terence	Martin	Shankar	Subramany
Arup	Chakraborty	Vinay	Mehrotra	Liz	Sullivan
Eun	Cho	David	Murray	Janusz	Szczechowski
Jorge	Cruz	Ali	Naderian	Susmitha	Tarlapally
Thomas	Dauzat	Aniruddha	Narawane	Ed	teNyenhuis
Everton	De Oliveira	Kristopher	Neild	Ajith	Varghese
Scott	Dennis	Sanjay	Patel	Jason	Varnell
William	Elliott	Verena	Pellon	Kiran	Vedante
Reto	Fausch	Brian	Penny	Rogério	Verdolin
Hugo	Flores	Harry	Pepe	Krishnamurthy	Vijayan
Joseph	Foldi	Mark	Perkins	Dharam	Vir
John	Foschia	Bertrand	Poulin	David	Walker
Anthony	Franchitti	Ion	Radu	Matthew	Weisensee
Rainer	Frotscher	Marnie	Roussell	Daniel	Weyer
Eduardo	Garcia Wild	Hakan	Sahin	Dr. Alexander	Winter
Ramsis	Girgis	Amitabh	Sarkar	Baitun	Yang
Bill	Griesacker	Daniel	Sauer	Waldemar	Ziomek

MEMBERSHIP AT THE TIME OF VOTING

Vote#2 Membership Status?

A. Member 33/95 ( 35%)

B. Guest 31/95 ( 33%)

C. Guest Requesting Membership 14/95 ( 15%)

No Answer 17/95 ( 18%)

A B C

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Fernando Leal	X			
Chris Baumgartner	X			
Jorge Cruz	X			
Bill Li		X		
J.Dennis Marlow				
William Boettger				
mark lachman	X			

Gilles Bargone			X	
Raj Ahuja	X			
scott dennis	X			
Juan Carlos Cruz Valdes			X	
Dharam Vir	X			
edavis		X		
Krishnamurthy Vijayan	X			
George Jr Partyka		X		
Ajith Varghese				
Jean-Noel Berube				
Sukhdev Walia				
HAKAN SAHIN	X			
bill griesacker				
orlandog		X		
yang baitun	X			
Weijun Li			X	
Pugal Selveraj				
Nik Dillon		X		
Bertrand Poulin	X			
Scott Digby		X		
Sanjay				
akash joshi	X			
Danny Schwartz		X		
Jason Varnell	X			
Leopoldo Rodriguez			X	
Gregory Anderson				
John Herron				
Samragni Dutta Roy			X	
Shibao Zhang			X	
Mike Spurlock	X			
Philip Hopkinson			X	
John Herron				
Daniel Blaydon	X			
Dinesh Sankarakurup		X		
John K John	X			
Jarrod Prince				
Sukhdev Walia			X	
Sanjay	X			
Ramsis Girgis	X			
John Herron	X			
Tom Melle			X	
Robert Ganser	X			



Ryan Thompson			X		
Brian Penny		X			
Mark Perkins		X			
Kris Zibert				X	
Daniel Weyer		X			
Anthony Frantuchi		X			
Bruce Forsyth			X		
Susan			X		
Steve Jordan			X		
Kyle Knous			X		
Mike Warntjes			X		
Curtiss Frazier Ameren			X		
Nick Walder			X		
John Foschia		X			
Chris Slattery FirstEnergy				X	
shamaun Hakim		X			
Larry Dix		X			
Markus Schiessl		X			
Rainer Frotscher		X			
Alexander Winter		X			
Shankar Subramany		X			
Axel Krämer			X		
Jos Veens			X		
Paul Jarman					
Kris Neild		X			
Steve Antosz					
Shawn Gossett				X	
Anastasia O'Malley			X		
Mats			X		
Kevin C. Sullivan			X		
Marc Taylor			X		
DANIELA EMBER BACIU			X		
Joe Watson			X		
Troy Tanaka					
Alwyn VanderWalt			X		
John Reagan			X		
Nick Podany			X		
Shankar Nambi			X		
musgrorj			X		
suresh babanna				X	
Eric Schleismann			X		
Duvier Bedoya			X		