Subsurface Transformers and Network Protectors Subcommittee Meeting Minutes Fall 2022 Charlotte NC

Chairman:	George Payerle		
Vice-Chair:		Tony Reiss	
Meeting Date:	10/19/2022	Location: Charlotte, NC Time: 11:00 – 12:15	

Meeting called to order at 11:02 EST

Members present

Nabi	Almeida	Prolec GE	
Douglas	Craig	Richards Manufacturing Co.	
Thomas	Dauzat	General Electric	
Larry	Dix	Quality Switch, Inc.	
William	Elliott	Crescent Power Systems	
Mark	Faulkner	EATON Corporation	
Benjamin	Garcia	Southern California Edison	
Carlos	Gaytan	Prolec GE	
Ramadan	Issack	American Electric Power	
Brian	Klaponski	Carte International Inc.	
Alejandro	Macias	CenterPoint Energy	
Vinay	Patel	Consolidated Edison Co. of NY	
Daniel	Posadas	Prolec-Celeco	
James	Ratty	Electronic Technology Inc.	
Clemens	Reiss IV	Custom Materials, Inc.	
Pedro	Salgado	Electronic Technology Inc.	
Dan	Schwartz	Quality Switch, Inc.	
Jeremy	Sewell	Quality Switch, Inc.	
Adam	Sewell	Quality Switch, Inc.	
Avijit	Shingari	Pepco Holdings Inc.	
Alan	Traut	Howard Industries	
John	Vartanian	National Grid	
Joshua	Verdell	ERMCO	
William	Whitehead	H2scan Corporation	
Michael	Zarnowski	Carte International	

Guests present

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Gregory	Ante	Southern California Edison	
Kevin	Biggie	Weidmann Electrical Technology	
Anthony	Coker	M&I Materials	
Michael	Cook	Dominion South Carolina	
Rich	Cryer	Digital Grid	
Michael	Dahlke	Central Moloney, Inc.	
Zhu	Fang	RE Uptegraff	
Sanford	Fong	Georgia Power Co.	
Jason	Lambert	JST Power	
James	McGee	H2Scan	
Tim	Menter	Lincoln Electric Systems	
Justin	Minikel	EATON Corporation	
Curtis	Moore	Digital Grid	
Fernando	Salilnas	Power Partners, Inc.	
Albert	Sanchez	Knoxville Utilities Board	
Russell	Sewell	Quality Switch, Inc.	
*Travis	Spoone	EATON Corporation	
Bruce	Webb	Knoxville Utilities Board	
Leon	White	H2scan	

Requests membership - *

Meeting:

- Sign In
 - o 2 rosters circulated, please note if you are interested in becoming a member of the sub-committee
- Chairman's Comments
 - o Please remember if it is not in the minutes, it didn't happen
 - o Leaders need to remember to do the required training by the end of the year
- Quorum Determination, member list
 - o 34 members need 17 for quorum
 - o 25 members in attendance quorum achieved. 19 guests in attendance.
- Introductions
- Present agenda and approval
 - Motion by Chair to approve
 - Approved unanimously
- Approval of the Spring 2022 minutes
 - o Motion to approve Gary Hoffman, 2nd by Dan Schwartz
 - o Approved unanimously
- Announce new members as of S22
 - o Ramadan Issack, Nabi Almeida, Vina Patel

Working Groups Report:

- C57.12.23 Single-Phase Submersible Transformers working group —
- NOT MEETING AT THIS TIME

Alan Traut, Chairman,

o Revision due date: 12/31/2028

PAR Approval Date:PAR Expiration Date:

Stage: On break

Presented by Alan Trout

On Hiatus, plan for PAR in Jan/24 and start work at the Spring 2023 meeting in Milwaukee

• **C57.12.24 Three-Phase Submersible Transformers** working group –

Ben Garcia, Chairman; Tom Dauzat, Vice Chair; George Payerle, Secretary

o Approved: **12/7/2016**

o Revision Due Date: 12/31/**2026**

o PAR Approval Date:

o PAR Expiration Date: 12/31/23 in MEC review

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

Meeting Minutes

Sheraton/Le Meridien Hotel Charlotte NC Monday, October 17, 2022

Members Present

Nabi	Almeida	Prolec GE
Piotr	Blaszczyk	Specialty Transformer Co LLC
Dave	Blew	Retired
John	Chisholm	IFD Corporation
Douglas	Craig	Richards Manufacturing Co.
Thomas	Dauzat	General Electric
William	Elliott	Crescent Power Systems
Benjamin	Garcia	Southern California Edison
Ramadan	Issack	American Electric Power
Andrew	Larison	Hitachi Energy

Alejandro	Macias	CenterPoint Energy	
Kent	Miller	T&R Electric Supply Co.	
Vinay	Patel	Consolidated Edison Co	
George	Payerle	Carte International Inc.	
James	Ratty	Electronic Technology Inc.	
Pedro	Salgado	Electronic Technology Inc.	
Avijit	Shingari	Pepco Holdings Inc.	
Audrey	Siebert-Timmer	IFD Corporation	
Alan	Traut	Howard Industries	
John	Vartanian	National Grid	
Michael	Zarnowski	Carte International	

Guests Present

Sanford	Fong	Georgia Power Co.
Hector	Garza	Orto de Mexico
Javier	Hernandez	Orto de Mexico
Gilbert	Kozer	Northeast Transformer LLC
Jason	Lambert	JST Power
Tim-Felix	Mai	Siemens Energy
Martin	Munoz Molina	Orto de Mexico
Clemens	Reiss IV	Custom Materials, Inc.
Fernando	Salinas	Power Partners
Dan	Schwartz	Quality Switch, Inc.
Jeremy	Sewell	Quality Switch, Inc.
Russell	Sewell	Quality Switch, Inc.
Adrian	Silgardo	IFD Corporation
William	Whitehead	H2Scan
Malia	Zaman	IEEE
Fang	Zhu	RE Uptegraff

The F22 meeting of C57.12.24 was called to order at 4:45 PM on Monday, October 17, 2022 in the Mecklenburg Room of the Sheraton/Le Meridien Hotel in Charlotte, NC.

The meeting opened with the Chair informing the WG that the PAR for C57.12.24 expires in December 2023 and that we would like to get this standard to ballot after this meeting.

Attendance was taken and introductions were made. 21 members were present and 16 guests were present; quorum was achieved (21 members of a possible 40 person membership). There was one new member recognized, Vinay Patel.

The Fall 2022 meeting agenda (Charlotte, NC) was presented and unanimously approved by the WG.

The Spring 2022 meeting minutes (Denver, CO) were presented and unanimously approved by the WG.

The mandatory patent slides were presented and the chair asked if there were any existing patents that needed to be disclosed. No patents were identified.

The IEEE Copyright slide was also presented and discussed.

For the reminder of the meeting, the chairman presented proposed changes to address MEC review concerns. Here are the highlights:

- Copyright year was updated on the first page of standard and at the bottom of every page.
 In addition, the project year, draft number and draft date were also updated at top of each page.
 - o Tom Dauzat moved to accept the change, Will Elliott seconded, passed unanimously.
- The MEC review identified a second Table 7 floating around in the draft and asked for it to be removed. This was left in error by the chairman because he wanted to discuss how the WG wanted to edit Table 7. The two options presented were to (1) change the mm value to its most accurate representation, i.e. 8mm goes to 7.9mm (3/16") or (2) to just add a 0 to the tenths decimal place after the existing mm value, i.e. 8mm goes to 8.0mm (3/16"). The WG decided to go with Option 1; to replace the existing metric values (6, 8, 10 and 13mm) with their most accurate representations (i.e. 6.4, 7.9, 9.7 and 12.7mm respectively).
 - Tom Dauzat moved to accept the change, Nabi Almeida seconded, passed unanimously.
- The word 'mitigate' is discouraged. The chairman revised the following section:
 - **5.2:** "To reduce the probability of this tank heating, refer to C57.105 for mitigation and proper design methods."
 - o No other usage of the word 'mitigation' was found in the standard.
 - Will Elliott moved to accept the change, Paul Chisholm seconded, passed unanimously.
- The word 'prevent' is discouraged. The chairman revised the following sections:
 - 7.3.5: The transformer shall be shipped with protective covers on the high-voltage connectors. The protective covers shall be ultraviolet (UV) light resistant, water tight and shall be secured to prevent reduce the chance of loss or damage during transportation, transit, and storage.
 - o **7.5.9:** All threaded holes in steel shall be equipped with a non-corrosive bolt or plug to prevent reduce the chances of the steel rusting of the steel during storage.

- Annex A: Since submersible transformers can have a continuously operate while unattended operation while and completely submerged under a head of 3 m (10 ft) of water over the top of the tank, the use of an automatic pressure relief valve or plug shall have an opening or operating pressure set above the maximum allowable working pressure (MAWP). This ensures such that the relief valve it ewould only operate to prevent reduce the chance of unsafe overpressure conditions associated with severe (unsafe) overloading, or on high impedance internal faults. When completely submerged in water, and prior to the manual operation of the pressure relief valve or plug, it is required that the water level be lowered.
- Al Traut moved to accept the changes, Paul Chisolm seconded, passed unanimously
- The MEC review identified front matter in the draft standard that was not up to date. The chair deleted the out of date front matter and replaced it with the most up to date front matter
 - Will Elliott moved to accept the changes, Audrey Siebert-Timmer seconded, passed unanimously
- The MEC review requested that the WG add a new section to the draft called 'Word Usage' either after 1.1 Scope or 1.2 Purpose. The Word Usage content was added in a new Section 1.3.
 - Paul Chisholm moved to accept the change, Will Elliott seconded, passed unanimously
- The MEC review suggested that the WG add a metric unit in front of the "1/2 in NPT or UNC" reference in Section 7.3.2. Thanks to the assistance of Dan Mulkey, the WG doesn't have to make this change. Dan pointed out that thread dimensions are one of the exclusions from metrification as they physically will not function correctly if followed. No changes were made by the WG to this section of the draft standard.

Now that the MEC review is complete, Al Traut moved to send C57.12.24 Draft 10 to the STNP SC for ballot request. Avi Shingari seconded. The motion passed unanimously.

To streamline the review process, the chair asked for WG volunteers to assist in ballot resolution. Mike Zarnowsky, Nabi Almieda, Avi Shingari and Audrey Siebert-Timmer volunteered to be a part of this task force. The TF was given permission by the WG to resolve editorial changes without having to come back to the larger WG. All technical changes will be summarized and presented to the WG in March 2023 for approval.

C57.12.24 was adjourned at 5:15pm and is scheduled to meet again in Milwaukee, WI in March 2023.

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

• **C57.12.40 Secondary Network Transformer** working Group –

Dave Blew, Chairman, Dan Schwartz, Secretary

o Published 2017

Revision due date: 12/31/2027
PAR Approval Date: 8/31/2012
PAR Expiration Date: 12/31/2023

Stage: Submitted to Revcom on RevCom Agenda 04-May-2017

Presented by Dan Schwartz

 George Payerle announced that Dave Blew was not in attendance and would not continue as Chairman. John Vartanian has agreed to take over the position. Dan Schwartz will stay on as Secretary

IEEE Transformers Committee

C57.12.40

Secondary Network Transformer Working Group

Fall 2022 Charlotte Meeting Minutes Sheraton/Le Meridian, Charlotte, NC Mecklenburg 1,2

11:00 AM EST October 18, 2022

With the company	Members Present	Company
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Dave Blew (Chair) Consultant (Retired PSE&G)

Dan Schwartz (Secretary) Quality Switch

Piotr Blaszczyk Specialty Transformer Components LLC

Douglas Craig Richards Manufacturing Co.

Tom Dauzat Prolec GE
Larry Dix Quality Switch

William Elliott Crescent Power Systems

Mark Faulkner Eaton Corporation
Brian Klaponski Carte International Inc
Alex Macias CenterPoint Energy

Vinay Patel Consolidated Edison Co. of NY

George Payerle Carte International Inc.

James Ratty Richards Manufacturing Co.
Pedro Salgado Electronic Technology Inc.

Adam Sewell Quality Switch
Jeremy Sewell Quality Switch
Russell Sewell Quality Switch

Avijit Shingari Pepco

Travis Spoone Eaton Corporation

John Vartanian National Grid

Mike Zarnowski Carte International Inc

<u>Guests Present</u>
*Nabi Almeida

Company
Prolec GE USA

Gregory Ante Southern California Edison

Rich Cryer DigitalGrid, Inc Sanford Fong Georgia Power Co.

Johnny Guerrero Consolidated Edison Co. of NY

Gary Hoffman Advanced Powertech

Gilbert Kozer Northeast Transformer Services

James McGee H2Scan

Curtis Moore DigitalGrid, Inc Tony Reiss Custom Materials, Inc

Alfons Schrammel Siemens Energy Michael Shannon Rea Magnet Wire Nick Walder Eaton Corporation

*Requested Membership

- 1) The group met on Tuesday, October 18, 2022 at 11:00 AM EST with 21 members and 13 guests. One (1) guest requested membership. Quorum was achieved with 21/30 (70%) of members present.
- 2) A call for patents was made; none were mentioned.
- 3) Copyright requirements were reviewed by the Chair.
- 4) An agenda was presented for approval. Motion to approve was made by George Payerle and seconded by Brian Klaponski. The agenda was approved unanimously.
- 5) The minutes of the March 29, 2022, meeting in Denver were reviewed. A motion to approve was made by Mike Zarnowski and seconded by Jeremy Sewell. The minutes were approved unanimously.
- The Chair reviewed that the PAR was approved and became active May 21, 2019 and expires December 31, 2023. The Chair will apply for a two-year PAR extension in the spring of 2023 prior to expiration of the current PAR.
- Johnny Guerrero and Vinay Patel from Consolidated Edison Co. of NY presented on work that Consolidated Edison is currently doing with regards to bushings and bushing failures. The presentation was very informative and provided insight into potential material in this standard.
- 8) Old Business The Chair reviewed the previous meetings list of topics to be addressed in the next revision of C57.12.40 and the following items were discussed:
 - a. **Primary Switch Testing** Previously approved wording was reviewed in the context of the standard.
 - b. **Update of Tables 8 & 9** The updated Table 7 was approved. Table 7 replaces Tables 8 & 9 after the previous Table 7 was removed (see Old Business part c).

- c. **Tank and Throat Sizing** Modified wording and removal of Table 7 was presented in context of the standard
- d. **Enclosure Top** New enclosure top wording addition to Section 5.2.1 was reviewed. A motion was made to approve the wording by Tom Dauzat and seconded by Alex Macias. The motion passed unanimously.
- e. A new motion was made to approve items a-e by Brian Klaponski and seconded by Avijit Shingari. The motion passed unanimously.
- f. **Bushing Standardization** It was decided that updates for bushing standardization should be put on hold pending current investigations within the utility industry to provide pertinent guidance.
- 9) New Business The Chair opened the discussion on any new items the group felt needed to be addressed in the next revision.
 - a. Updates to Tables 5 & 6 were discussed to round the wall thickness to the nearest tenth to match C57.12.24. A motion was made to accept the modification by Tom Dauzat and seconded by Jeremy Sewell. The motion passed unanimously.
 - b. Dan Schwartz to provide D1 draft for next meeting.
 - c. Dave Blew will no longer continue as the working group Chair. John Vartanian (National Grid) has agreed to take Dave's place starting in Milwaukee.
- 10) The meeting was adjourned at 12:09 PM MDT with the next meeting set for Milwaukee, WI on March 21, 2023.

Respectfully submitted, D. Schwartz, Secretary

• C57.12.44 Secondary Network Protectors working group –

Mark Faulkner, Chairman, Alex Macias, Secretary

Revision due date: 12/31/2024
 PAR Approval Date: 3/26/2015

o PAR Expiration Date: 12/31/22, has extension

Stage: Being revised

Presented by Mark Faulkner

- No meeting due to standard being in balloting.
- Par extended to 12/31/2023
- Plan for S23 meeting

No questions for Mark

• C57.167 Guide for Monitoring Distribution Transformers working group – Gary Hoffman,

Chairman, Mike Thibault, Secretary o Revision due date: N/A – new standard

PAR Approval Date: 6/14/2018PAR Expiration Date: 12/31/2022

Presented by Gary Hoffman

- 29 members quorum achieved
- Ballot processing
 - o 231 comments being resolved by Ballot Resolution Committee
 - o 10-3-22 recirculating resulted in 4 comments and 92% approval
 - Plan on 2nd recirculating on 10-10-22 which will include the rosters
 - January 2023 to RevCom
 - Plan on PAR extension request just in case
- Question asked by Brian Klaponski in regards to Utility acceptance
 - o Impression that not many due to costs involved
 - Suggestion of a potential tutorial at future meetings

Document #:	PC57.12.53				
Document Title:	Guide on Mitigating Corrosion on Subsurface Transforme				
Chair:	Will Elliott	Vice-Chair		Avijit Shingari	
Secretary	Audrey Siebert- cretary Timmer		plete	0	
Current Draft 1	O	Draft 1	Dated:	Oct 18, 2022	
Meeting Date:	Oct 18, 2022	Time:		1:45 PM EST	
Attendance:	Members	12			
	Guests	30			
	Total*	42			
	* For details of attendance, pl	ease refer to AMS system of the Trans	formers Committee		

Attending Members:

Name & Company Nabi Almeida, Prolec GE Dave Blue, Consultant Thomas Dauzat, Prolec GE Will Elliott, Crescent Power Systems Brian Klaponski, Carte International Inc.

Tyler Morgan, Duke Energy Jeremy Sewell, Quality Switch, Inc.

Name & Company Avijit Shingari, Pepco Holdings Inc.

Dan Schwartz, Quality Switch, Inc.

Adam Sewell, Quality Switch, Inc.

Audrey Siebert-Timmer, IFD Corporation

Michael Zarnowski, Carte International Inc.

Attending Guests

Name & Company

Greg Ante, Southern California Edison

Alex Ayala, Power Partners

Edwin Betancourt, Siemens Energy

Douglas Craig, Richards Manufacturing Co.

Rich Cryer, Digital Grid, Inc.

Jeffrey Door, The H-J Family of Companies

Sanford Fong, Georgia Power Co.

Benjamin Garcia, Southern California Edison

Hector Garcia, Orto de Mexico

Johnny Guerrero, Consolidated Edison Co. of NY

Michael Hardin, HJ Family of Companies

Javier Hernandez, Orto de Mexico

AS Jhala, T&RID Ltd.

Joaquin Martinez, Siemens Energy

Curtis Moore, Digital Grid, Inc.

Name & Company

Martin Munoz, Orto de Mexico

Joe Nims, Allen &Hoshall, Inc

Vinay Patel, Consolidated Edison Co. of NY George Payerle, Carte International Inc.

Verena Pellon, FPL

Jarrod Prince, ERMCO

James Ratty, Electronic Technology Inc.

Fernando Salinas, Power Partners

Oliverio Sanchez, Pacific Gas & Electric

Russ Sewell, Quality Switch, Inc. Timothy Tillery, Howard Industries Reinaldo Valentin, Duke Energy

Jeremy VanHorn, IFD Corporation

John Vartanian, National Grid

Mike Waldrop, Memphis Light, Gas & Water

PA R Approval Date: 2/23/2022 • PAR Expiration Date: 12/31/2026

Meeting Minutes:

1. Will Elliott called the meeting to order at 1:45 PM EST.

- 2. Opening remarks and announcements.
 - i. No announcements were made.
- 3. Quorum was verified. The working group consisted of **18** members, requiring 10 for quorum. 12 members were counted at the start of the meeting. Attendance records later confirmed **12** members attended.
- 4. Will Elliott reviewed Fall 2022 Agenda. **Tom Dauzat made a motion to approve the Fall 2022 Agenda. Second by Adam Sewell. Motion was unanimously approved.**
- 5. Will Elliott reviewed IEEE Essential Patent Claims and SA Copyright Policy. No issues were raised.
- 6. Will Elliott requested approval of the Spring 2022 Minutes. Nabi Almeida made a motion to approve the Spring 2022 Minutes. Second by Mike Zarnowski. Motion was unanimously approved.
- 7. Old Business:
 - i. Will Elliott reviewed comments made on Draft 0

- a. Section 4.2.3: suggestion to clarify compounding inequalities
 - 1. Group discussed that compound inequalities is okay for lower corrosion risk and higher corrosion risk but inequalities should be separated for severe corrosion risk.
 - 2. Nabi Almeida made a motion to accept proposed changes with exception to severe corrosion risk where inequalities should be separated as outlined in the point above. Second by Michael Zarnowski. Motion pass unanimously.
 - 3. Will Elliott to make change in the draft.
- b. Section 4.3.2: suggestion to use ISO corrosivity categories per ISO 12944-2 and ISO 9223 and eliminate proposed corrosion risk classification in the draft.
 - 1. Group discussed and decided to not make a motion to include this in this draft.
- c. General comments on terms including
 - 1. Water chemistry instead of electrolyte chemistry
 - 2. Inclusion of telluric current
 - 3. Microbial influenced corrosion instead of microbial corrosion
 - 4. Stainless-steel instead of stainless steel
 - 5. Various grammar and wording clarification sections
- ii. Will Elliott reviewed proposed changes in Draft 1, Section 1 through 7
 - a. General edits to terms and grammar
 - b. Section 5.1: addition of the word significant
 - 1. Group discussed that significant indicates some level of bare metal is allowable and what that allowable level is not clearly defined. Furthermore, the section title states elimination of all bare metal.
 - 2. Group decided to not make a motion to include this in this draft.
 - c. Section 5.4: changed "prevent" to "reduce likelihood of"
 - d. Section 5.5: removed lines 4-7 for as it was not applicable to all systems
 - e. Section 6.2.2: addition of "due to high chloride concentrations in the water"
 - 1. The group discussed if there is a need to add heat treatment after welding stainless-steel to prevent stress corrosion cracking.
 - 2. The group discussed blasting media used on stainless-steel needs to be separate from blasting media used on carbon steels.
 - 3. Will Elliott suggested group to review this section in detail and provide wording recommendations.
 - f. Mike Zarnowski made a motion to accept proposed changes a, c, d, and e listed above. Second by Nabi Almeida. Motion passed unanimously.
- iii. Will Elliott reviewed proposed changes in Draft 1, Section 8
 - a. General edits to terms and grammar
 - b. Section 8.7: changed test duration to "one year" from "half year".

- c. Section 8.9.2: addition of pass criteria where "remaining material thickness should exceed 0.05 inches or 25% of original material thickness, whichever is greater"
 - 1. Group discussed what is the requirements for the pass criteria. Is it the requirement for the enclosure to withstand a pressure withstand test? If so, are these normal operating pressures or fault event pressures? Could we run tests?
 - 2. Group discussed that pitting corrosion vs general corrosion may results in different strength results.
 - 3. The group discussed that 0.05 inches may be redundant as the minimum thickness for stainless-steel is 0.25 inches and 0.05 would be 20% (which is smaller than 25%).
 - 4. Will Elliott asked the group to review this section in more detail and to come back with suggestions.
- d. Section 8.9.5: split equation into multiple equations, clearly defined corrosion rate (r_{corr}) and time variable exponent (b)
- e. Section 8.9.7: addition of long-term field exposure analysis by taking test samples from corroded submersible equipment and performing 3D CT scan analysis.
- f. Nabi Almeida made a motion by to keep the changes proposed in Section 8 for the group to review and discuss next meeting. Second by Dan Schwartz. Motion pass unanimously.

iv. Will Elliott reviewed proposed changes in Draft 1, Section 9

- a. General edits to terms and grammar
- b. Section 9.2: normalized terminology with NAC SP0169, combined section 9.2.3 and removed section 9.2.4.
 - 1. Galvanic Potential measurements to Potential Measurements.
 - 2. Galvanic Potential [Shift] to Polarized Potential [Shift].
- c. Section 9.2.3: combined with section 9.2.2
- d. Section 9.2.4: removed as further work is needed to ensure criteria is properly reflected
- e. A taskforce was formed to evaluate cathodic polarization criteria according to NACE SP0169 standard. Taskforce members include Nabi Almeida and Will Elliott. Will Elliott will also request involvement from Herton De Oliveiro Filho and Bill Byrd.
- f. Tom Dauzat made a motion by Adam Sewell to keep the changes proposed in Section 9 for the group to review and discuss next meeting. Second by Dan Schwartz. Motion pass unanimously.

8. New business

i. No new business was brought up

- 9. Next meeting: is planned for March 21, 2023 in Milwaukee, WI USA
 - i. The following attendees requested membership and will be added to membership for the Spring 2023 meeting: **Douglas Craig, John Vartanian, and George Payerle.**
- 10. The meeting was adjourned at 3:00 PM EST.

Submitted by: Audrey Siebert-Timmer

Date: 10/18/2022

Old Business:

None

New Business:

Comment by Al Trout in regards to C57.138 - Routine Impulse Test Recommendations

• Not many distribution manufacturers are in attendance. More should attend

Next meeting:

Milwaukee - Spring 2023

Adjourned at 11:30 EST

Respectfully submitted

George Payerle

Chair STNP Subcommittee 11/3/2022