# Chairman: George Payerle Vice-Chair: Tony Reiss Meeting Date: March 22, 2023 Location: Milwaukee, WI Time: 11:00 – 12:15

**Meeting Administration:**

* Sign In - 2 rosters, 1 from the front and 1 from the back
* Chairman’s Comments
  + Invite to Memberplanet has gone out - 1 profile per person no matter how many groups you are involved with. 1 primary e-mail as well and secondary and tertiary
  + Will allow for lists again. Should be active in the fall but rosters will still be used for the foreseeable future.
  + Bruce Forsythe would like WG chairs to consider individuals who have been key contributors so they can be recognized in the future
  + WG training was downgraded from required to optional
  + Reminder that going to ballot prior to PAR expiration will help get PAR extensions - shows group is actively working
* Quorum Determination, member list
  + Show of hands that 24 members were in attendance - 18 required for quorum.
* Present agenda for approval
  + Motion by Brian Klaponski to accept, 2nd by Dan Mulkey - Accepted Unanimously
* Approval of the Fall 2022 minutes
  + Motion by Mike Zarnowski to accept, 2nd by Al Trout - Accepted Unanimously
* Announce new members as of S23
  + None announced
* Does anyone request SC membership? Indicate on roster.

# Working Groups Report:

* **C57.12.23 Single-Phase Submersible Transformers** working group –

# NOT MEETING AT THIS TIME

Alan Traut, Chairman,

* + Revision due date: 12/31/2028
  + PAR Approval Date:

Stage:

* PAR Expiration Date:

Presented by Al Trout -Al plans to have a PAR study group meeting at F23 and plans to submit a PAR request in Spring of 2024. Doesn’t appear that PAR scope needs to be changed unless there were objections. None were stated during the meeting. Al said to reach out if needed after the meeting.

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

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

* + - Approved: **12/7/2016**
    - Revision Due Date: 12/31**/2026**
    - PAR Approval Date:
    - PAR Expiration Date: **12/31/23 in ballot resolution**

### Stage: Recently Approved

IEEE/PES Transformers Committee Working Group

Three-Phase Submersible Transformers (C57.12.24)

**Meeting Minutes**

Hyatt Regency Hotel, Milwaukee, WI

Monday, March 20, 2023

|  |  |  |
| --- | --- | --- |
| Members Present | | |
|  |  |  |
| Nabi | Almeida | Prolec GE |
| Piotr | Blaszczyk | Specialty Transformer Comp. |
| David | Blew | Retired |
| John | Chisholm | IFD Corporation |
| Douglas | Craig | Richards Manufacturing Co. |
| Thomas | Dauzat | AEP Swepco |
| William | Elliott | AEP Swepco |
| Benjamin | Garcia | Southern California Edison |
| John | Harley | FirstPower Group LLC |
| Ramadan | Issack | American Electric Power |
| Alejandro | Macias | CenterPoint Energy |
| Kent | Miller | T&R Electric Supply Co. |
| Daniel | Mulkey | Mulkey Engineering Inc. |
| Vinay | Patel | Consolidated Edison Co. of NY |
| George | Payerle | Carte International Inc. |
| Jarrod | Prince | ERMCO |
| James | Ratty | Electronic Technology Inc. |
| Pedro | Salgado | Electronic Technology Inc. |
| Avijit | Shingari | Pepco Holdings Inc. |
| James | Spaulding | Fort Collins Utilities |
| Christopher | Sullivan | Westmark Partners |
| Alan | Traut | Howard Industries |
| John | Vartanian | National Grid |
| Michael | Zarnowski | Carte International |
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|  |  |  |
| Guests Present | | |
|  |  |  |
| Brian | Baumann | Cargill, Inc. |
| Sanford | Fong | Georgia Power Co. |
| Miguel | Garda | Hitachi Energy |
| Hector | Garza | Orto de Mexico |
| Michael | Gonzalez | Southern California Edison |
| Carlos | Hernandez | Delta Star |
| Traci | Hopkins | H2Scan |
| Jason | Lambert | JST Power |
| Martin | Munoz Molina | Orto de Mexico |
| Hugo | Murillo | H-J Enterprises |
| Tyler | Parenti | Cargill, Inc. |
| Daniel | Posadas | Prolec-Celeco |
| Clemens | Reiss IV | Custom Materials, Inc. |
| Christopher | Rutledge | Dynamic Ratings, Inc. |
| Fernando | Salinas | Power Partners |
| Stefan | Schindler | Maschinenfabrik Reinhausen |
| Jeremy | Sewell | Quality Switch, Inc. |
| Russell | Sewell | Quality Switch, Inc. |

The S23 meeting for C57.12.24 was called to order at 4:45 pm in the Milwaukee room of the Hyatt Regency in Milwaukee. Introductions were made. The meeting achieved quorum with 24 of 39 members present plus 18 guests.

The chair presented the meeting’s agenda. Mike Zarnowski made a motion to accept the agenda and Alex Macias seconded; approval was unanimous.

The chair presented the minutes for the Fall 2022 meeting in Charlotte. Tom Dauzat made a motion to accept the minutes as presented and Nabi Almeida seconded; approval was unanimous.

The chair presented the patent and copyright slides. No patent issues were brought up.

The chair thanked the comment resolution team for their help. Then proceeded to review comments made on the standard, starting with editorial comments. While reviewing an editorial change on lines 215 and 216, the IEEE Liaison advised the Chair that if column T is being “ACCEPTED” that column U should be blanked out. The WG also advised the chair that only non-editorial comments needed to be reviewed.

The following technical changes from Draft 11 were discussed and accepted by the WG.

* **Line 321:** The sentence *“Except as modified in this standard, transformer terminology found in IEEE Std C57.12.80 shall apply”* was requested by the reviewer to be removed from the document since no definitions were being modified. The chair asked the WG if they wanted to keep or delete it. The WG decided to keep the language in lines 321/322 just in case it was needed in the future. The WG rejected this comment.
* **Line 339:** A comment was made by a reviewer to consider revising wording from section “5.2 Kilovolt-ampere ratings” of C57.12.24 to be more consistent with published wording from section “5.2 Kilovolt-ampere ratings” of C57.12.23. The WG decided to stick with the wording in C57.12.24 from Draft 11 and not make any changes to this section. The WG rejected this comment.
* **Line 346:** C57.105 was referenced on line 346 (Section 5.2 of Draft 11) but was not listed in the Normative Reference section. The WG will add C57.105 to the Normative Reference section between lines 313 and 314. The standard will be listed as follows: *“IEEE Std C57.105TM, IEEE Guide for Application of Transformer Connections in Three-Phase Electrical Systems.”* The WG accepted this comment.
* **Line 350:** Draft 11 showed footnote “4” at the end of Note 1, Table 1. However, no corresponding footnote description was detailed at the bottom of the page. Footnote “4” from the published 2016 revision stated, *“Notes in text, tables, and figures are given for information only and do not contain requirements needed to implement the standard.”* After reviewing this statement with the WG, it was decided to just delete footnote “4”. The WG accepted a revised version of this comment.
* **Line 350:** A commenter suggested that the WG add phase-to-neutral voltages for each grounded-wye voltage listed in Table 1/Column 1 for consistency within the document. The WG discussed changing e.g. 22 860 to 22 860GrdY/13 200 but decided that for clarity purposes not make that change. The WG rejected this comment but suggested to revisit it during the next PAR revision.
* **Line 368:** During balloting, a comment was made to consider revising wording from “6.2 Reference Temperature” in C57.12.24 to match “5.5 Reference Temperature” published in C57.12.23. The WG decided to leave Section 6.2 as shown in Draft 11 as-is; no changes will be made at this time. The WG rejected this comment but suggested to revisit it during the next PAR revision.
* **Line 370:** A commenter suggested that only SS 316 be called for in 7.0 Construction. The group felt manufacturers/users should be given flexibility on material selection based on needs of the customer. The WG rejected this comment, the chair will work with D. Mulkey to revise wording on the spreadsheet.
* **Line 458:** Commenter suggested that the WG add the word “de-energized” before “tap changer.” Line 458 will now read *“If a* ***de-energized*** *tap changer is specified, each tap changer position and the associated tap voltage shall be clearly identifiable by reference to nameplate information.”* The WG accepted this comment.
* **Line 464:** Commenter suggested that the WG add the word “de-energized” before “primary taps” in the heading of Table 6. The group decided this was an unnecessary change since the heading of Section 7.3.1, where Table 1 resides is titled “De-energized Tap Changer.” The WG rejected this comment.
* **Line 567:** Commenter suggested that the WG add the word “rectangular” between the words “long axis of the” and “transformer.” The entire sentence will now read *“The transformer base structure shall consist of bars parallel to the long axis of the* ***rectangular*** *transformer.”* The WG accepted this comment.
* **Line 645:** The commenter suggested that the WG remove the reference to IEEE 386 in the bibliography (lines 645 and 646) since this information already resides in the Normative reference section (lines 300 and 301). The WG accepted this comment.
* **Line 543:** The commenter suggested that the WG consider revising wording in section “7.5.2 Tank Integrity” from Draft 11 to wording published in C57.12.39 section “4.2.1 Tank Integrity.” The WG decided to delete all wording from section 7.5.2 in Draft 11 and replace it with *“Requirements for nominal pressure, tank integrity, and rapid transient pressure, including design tests for fault current capability, are defined and shall be in accordance with IEEE Std C57.12.39.”* The WG accepted a revised version of this comment. This wording was provided to the WG by the chair of C57.12.20 and is consistent with is published in their standard.
* **Line 622:** The commenter suggested that the WG consider replacing wording in C57.12.24 Annex A with wording from C57.12.39 Annex B.3. The WG decided to maintain wording from C57.12.24 Draft 11. The WG rejected this comment.
* **Line 552:** Based on the change from line 543 above, the entire text from section 7.5.2 will be deleted except for *“Requirements for nominal pressure, tank integrity, and rapid transient pressure, including design tests for fault current capability, are defined and shall be in accordance with IEEE Std C57.12.39.”* The WG accepted a revised version of this comment.

The following general changes from Draft 11 were discussed and accepted by the WG.

* **Line 220:** The reviewer requested that 2009 revision information be placed back into the standards introduction section. The chair said he will add that information back, but a comment from the WG suggested that the old information could be and should be deleted. The WG agreed to not restore the old information. The WG rejected this comment.
* **Line 273:** The chair discussed the use of the terms “High Voltage” and “Low Voltage” as opposed to “Primary Voltage” and “Secondary Voltage” in the title and scope of C57.12.24. For the purposes of this publication cycle, the WG decided to leave the wording as-is. The WG rejected this comment, however they suggested that a task force be created between the Distribution Transformer and STNP sub-committees to harmonize wording across all impacted standards.
* **Line 442:** A reviewer asked whether Table 5 should include stud size along with the number of spade holes for kVA sizes 750-3750kVA. The WG rejected this comment.
* **Line 611:** A reviewer asked why line 611 includes a reference to C57.12.90 when line 612 is Table 8 which lists “Audible Sound Levels.” The WG stated that the mention of C57.12.90 was the reference that details how to do these tests and is required. The WG rejected this comment.
* **Line 611:** A reviewer asked the WG to add “…and in accordance with C57.12.00” into the draft. The WG agreed with the proposed change. Line 611 will not read *“Sound levels shall not exceed values detailed in Table 8, the transformer shall be connected and energized in accordance with IEEE Std. C57.12.00 and tested in accordance to IEEE Std. C57.12.90.”* The WG accepted a revised version of this comment.

Dan Mulkey moved to accept all technical and general changes discussed at this meeting. Paul Chisholm seconded the motion. The motion was approved unanimously by the WG.

The chair will update the redline and send the ballot out for recirculation ASAP.

The chair asked the WG to allow the comment resolution team permission to resolve non-technical comments in the future re-balloting. There were no objections.

The WG suggested the chair request a 2-year PAR extension for safety. The chair agreed and will do so.

The chair stated that if things go well, we probably won’t meet in Kansas City. Meeting was adjourned at 5:45 pm.

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

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

John Vartnian, Chairman, Dan Schwartz, Secretary

* + - Published 2017
    - Revision due date: **12/31/2027**
    - PAR Approval Date: 8/31/2012
    - PAR Expiration Date: **12/31/2023, PAR extension pending**

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

IEEE Transformers Committee

**C57.12.40**

**Secondary Network Transformer Working Group**

**Spring 2023 Charlotte Meeting Minutes**

**Hyatt Regency, Milwaukee, WI**

**Lakeshore Ballroom (1)**

## 11:00 AM CST March 21, 2023

# Members Present Company

John Vartanian (Chair) National Grid

Dan Schwartz (Secretary) Quality Switch

Nabi Almeida Prolec GE Waukesha

Piotr Blaszczyk Specialty Transformer Components LLC

Dave Blew Retired (Former PSE&G)

Douglas Craig Richards Manufacturing Co.

Tom Dauzat Prolec GE

William Elliott Crescent Power Systems

Mark Faulkner Eaton Corporation

Brian Klaponski Carte International Inc

Alex Macias CenterPoint Energy

Dan Mulkey Mulkey Engineering Inc.

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

Mike Zarnowski Carte International Inc

# Guests Present Company

Florin Faur Prolec GE Waukesha

Sanford Fong Georgia Power Co.

Hector Garza Orto de Mexico

\*Gilbert Kozer Northeast Transformer Services

\*Patrick Kozer Northeast Transformer Services

Angela Leigl Eaton Corporation

Brian McBride Marx Associates, Inc.

\*Barry McGlew Cargill, Inc.

Tim Menter Lincoln Electric Systems

Kent Miller T&R Electrical Supply

Martin Munoz Molina Orto de Mexico

Hugo Murillo The HJ Family of Companies

\*Daniel Posada Prolec Celeco

Tony Reiss Custom Materials, Inc.

Stefan Schindler Reinhausen

\*Jaber Shalabi VanTran Industries, Inc.

Bruce Webb Knoxville Utilities Board

\*William Whitehead H2Scan Corporation

Malia Zaman IEEE

\*Requested Membership

1. The group met on Tuesday, March 21, 2023 at 11:00 AM CST with 22 members and 19 guests. Six (6) guests requested membership. Quorum was achieved with 22/27 (81%) 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 Dave Blew and seconded by Mark Faulkner. The agenda was approved unanimously.
5. The minutes of the October 18, 2022, meeting in Charlotte were reviewed. A motion to approve was made by Dave Blew and seconded by Jeremy Sewell. The minutes were approved unanimously.
6. The Chair reviewed that the PAR was approved and became active May 21, 2019 and expires December 31, 2023. The Chair has applied for a two-year PAR extension on January 20th, 2023 prior to expiration of the current PAR. Expected PAR extension approval in April 2023.
7. Old Business - The Chair reviewed the previous meetings list of topics to be addressed in the next revision of C57.12.40:
   1. **Update of Table 5/6 and wording in Section 5.2.1**.
   2. **Removal of Table 7 and reference to Figures 3 & 4 instead in Section 5.6**
   3. **Removal of Table 9 and update of Table 8 to reflect both units and remove reference to other fluids**
   4. **Update of Section 6.2.2.3 in regards to primary switch testing**
8. Moving the updated document into the balloting process was discussed. A motion was made by Tom Dauzat and seconded by Nabi Almeida to move into the balloting process. The motion passed unanimously. John Vartanian will make a motion in the SC to moved C57.12.40 into the ballot process.
9. Creation of a Comment Resolution Group (CRG) was discussed. A motion was made by Dave Blew and seconded by Jeremy Sewell to create a CRG. The motion passed unanimously.
10. Volunteers for the CRG were requested. The CRG will consist of:
    1. John Vartanian
    2. Dan Schwartz
    3. Mike Zarnowski
    4. Brian Klaponski
    5. Nabi Almeida
    6. Avijit Shingari
    7. Jeremy Sewell
11. The meeting was adjourned at 11:40 AM CST with the next meeting set for Kansas City, MO on October 24, 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**
    - PAR Expiration Date: **12/31/22, has PAR extension**

### Stage: Being revised

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| **Document #:** | **C57.12.44** |

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| **Document Title:** | **STANDARD REQUIREMENTS FOR SECONDAY NETWORK PROTECTORS** |

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| **Chair:** | **Mark Faulkner** | **Vice-Chair** | **n/a** |
| **Secretary** | **Alex Macias** |  |  |

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| **Current Draft Being Worked On:** | **DRAFT 12** | **Dated:** | **January 2023** |

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| **Meeting Date:** | **March 20, 2023** | **Time:** | **1:45PM – 3PM CT** |

**Meeting Attendance**

Activity Name: C57.12.44 WG Secondary Network Protectors  
Activity ID:   
Number of Members in Activity = 19  
Number of Members Present = 11  
Quorum Present = 58%  
Number of attendees = 20

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| Piotr Blaszczyk | The Specialty Switch Co. | guest |
| Brian Klaponski | Carte | member |
| Pedro Salgado | ETI-NJ | member |
| George Payerle | Carte | member |
| James Ratty | ETI-NJ | member |
| Jeremy Sewell | Quality Switch | member |
| Travis Spoone | Eaton | member |
| Russell Sewell | Quality Switch | guest |
| Alex Macias | CenterPoint Energy | member |
| Doug Craig | Richard Mfg. | member |
| John Vartanian | National Grid | member |
| Mark Faulkner | Eaton | member |
| Avijit Shingari | Pepco Holding Inc. | member |
| Malia Zaman | IEEE | guest |
| David Blew | Consultant | guest |
| Vinay Patel | ConEd | guest |
| Nabi Almeida | Prolec GE | guest |
| Dan Schwartz | Quality Switch | guest |
| Michael Zarnowski | Carte International | guest |
| Sanford Fong | Georgia Power Co. | guest |
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**Meeting Minutes:**

The minutes shall record the essential business of the Working Group, including the following items at a minimum:

1. Meeting called to order
   1. 1:48 PM
2. Quorum Verification
   1. Quorum was confirmed via Member names and show of hands
3. Membership
   1. No new members will be added due to in Ballot Process
   2. Dropping Jason Attard due to lack of attendance
4. Confirmation of the essential patent statement and responses
   1. No conflicts; presented to group
5. Copyright requirements were reviewed by the Chair
   1. No conflicts; presented to group
6. Approval of minutes of the previous meeting
   1. Minutes presented to group
   2. Motion to approve George Payerle, 2nd Jeremy Sewell
   3. Minutes approved unanimously
7. Approval of agenda for this meeting.
   1. Agenda presented to group
   2. Agenda approved unanimously
8. Meeting Discussion – WG input on comments rejected on initial Ballot
   1. Attendees Informed
      1. Par extension was approved and now expires 12/31/2023.
      2. Comment Resolution Group (CRG) reminder are Mark Faulkner, Doug Craig, Dan Mulkey and Cory Morgan
   2. The following were addressed during the meeting
      1. Page 12 – Section 2: Pass a motion to remove the publication year of Standards reference year; readers can obtain the latest version or seek an older version as required
      2. Page 15 – Section 5.1: Temperature rise comment on Table A.1 was rejected
      3. The following sections involved comments asking to duplicate (aka reference) test conditions contained in the subsequent clause. The response proposed to address these comments will be: “**The test condition listed in the following “insert section/clause” does not need to be repeated within the same clause or CRG will address with approval from WG”**
         1. Page 26 – Section 7.1
         2. Page 28 – Section 7.4
         3. Page 33 – Section 9.2
         4. Page 17 – Section 5.22
         5. Page 20 – Section 5.2.6
         6. Page 22 – Section 6.1.1
         7. Page 23 – Section 6.2.1
      4. Page 28 – Section 7.4 Table (figure): It was determined that figure does not need any clarity and is legible in the standard.
         1. Note: Douglas Craig did volunteer to attempt to enlarge figure and present to Working Chair
         2. Time expired
            1. WG approved (poll taken) to TG to continue with review and addressing comments; Technical issues may be addressed with WG when necessary.
9. (IEEE Guest) Malia requested to be given an opportunity to review all the comments and the resolutions to the comments plus a redline of the revised Standard before resubmitting to RevCom.
10. Meeting adjourned at 2:35 pm
11. Fall meeting
    1. Kansas City, Missouri, USA
    2. Date: October 22-26, 2023

Submitted by: Mark Faulkner

Date: 03/22/2023

1. **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: **6/14/2018**
  + PAR Expiration Date: **12/31/2022**

## Presented by Josh Verdell. Josh read a summary from Mike Thibault since Gary Hoffman was not at this meeting. Ballot recirculating after submitting to RevCom in spring of 2023. Brian Klaponski repeated a request he made at Fall 2022 meeting to have a presentation that could benefit smaller utilities

**PC 57.12.53 Guide for mitigating corrosion on subsurface transformers**

Will Elliott, Chair; Avijit Shingari, Vice-chair; Audrey Siebert-Timmer, secretary PA R Approval Date: **2/23/2022**

* + PAR Expiration Date: **12/31/2026**

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| **Document #:** | **PC57.12.53** |

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| **Document Title:** | **C57.12.53 Guide on Mitigating Corrosion on Subsurface Transformers and Network Protectors** |

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| **Chair:** | **Will Elliott** | **Vice-Chair** | **Avijit Shingari** |
| **Secretary** | **Audrey Siebert-Timmer** | **Percent Complete** | **75%** |

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| **Current Draft Being Worked On:** | **Draft 2** | **Dated:** | **March 21, 2023** |

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| **Meeting Date:** | **March 21, 2023** | **Time:** | **1:45 PM CDT** |

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| **Attendance:** | **Members** | **16** |
|  | **Guests** | **21** |
|  | **Total\*** | **37** |

**\* For details of attendance, please refer to AMS system of the Transformers Committee**

**Attendance:**

|  |  |
| --- | --- |
| **Members (Name & Company)** | **Guests (Name & Company)** |
| Nabi Almeida, Prolec GE | Paul Chisholm, IFD Corporation |
| Dave Blew, Consultant | Daniel Crockett, Ameren |
| Douglas Craig, Richards Manufacturing Co. | Eric Euvrard, RHM International |
| Thomas Dauzat, AEP-SWEPCO | Benjamin Garcia, Southern California Edison |
| Will Elliott, AEP-SWEPCO | Hector Garcia, Orto de Mexico |
| Brian Klaponski, Carte International Inc. | Michael Gonzales, Southern California Edison |
| Tyler Morgan, Duke Energy | Saif Hossain, Trench Limited |
| Daniel Mulkey, Mulkey Engineering Inc. | Qasim Khan, NEETRAC - Georgia Tech |
| George Payerle, Carte International Inc. | Martin Munoz, Orto de Mexico |
| Dan Schwartz, Quality Switch, Inc. | Vinay Patel, Consolidated Edison Co. of NY |
| Adam Sewell, Quality Switch, Inc. | Miguel Plascenwa, PG&E |
| Jeremy Sewell, Quality Switch, Inc. | Daniel Posadas, Prolec Celeco |
| Avijit Shingari, Pepco Holdings Inc. | Jarrod Prince, ERMCO |
| James Spaulding, City of Fort Collins | James Ratty, Electronic Technology Inc. |
| John Vartanian, National Grid | Clemens Reiss IV, Custom Materials |
| Michael Zarnowski, Carte International Inc. | Pedro Salgado, Electronic Technology Inc. |
|  | Russ Sewell, Quality Switch, Inc. |
|  | Timothy Tillery, Howard Industries |
|  | Reinaldo Valentin, Duke Energy |
|  | Mike Waldrop, Memphis Light, Gas & Water |
|  | Shelby Walters, Howard Industries |

**Meeting Minutes:**

1. Will Elliott called the meeting to order at 1:45 PM CST.
2. Opening remarks and announcements.
   1. AMS system has been discontinued. Paper rosters were circulated.
3. Membership changes were noted:
   1. Added: **Douglas Craig, George Payerle and John Vartanian**
   2. Changed to Guest: **Brad Kittrell**
4. Quorum was verified. The working group consisted of **20** members, requiring **11** for quorum. **12** members were counted at the start of the meeting. Attendance records later confirmed **16** members attended.
5. Will Elliott reviewed IEEE SA Copyright Policy and Essential Patent Claims. No issues were raised.
6. Will Elliott requested approval of the Spring 2023 Agenda. **Mike Zarnowski made a motion to approve the Spring 2023 Agenda. Second by Dan Mulkey. Motion was unanimously approved.**
7. Will Elliott requested approval of the Fall 2022 Minutes. **Tom Dauzat made a motion to approve the Fall 2022 Minutes. Second by George Payerle. Motion was unanimously approved.**
8. Old Business:
   1. Will Elliott reviewed editorial changes made to the draft including:
      1. Cleaned bibliography, and added references throughout the draft
      2. Grammar changes throughout the document
      3. Add reference to the USGS for the salinity categories
   2. Will Elliott highlighted technical points that members may want to consider changes:
      1. 6.2.2 stainless steel section was discussed. Several members suggested listing 316 and 316L explicitly and listing the minimum composition for chromium and molybdenum.
      2. Section 8 submersible equipment enclosure material validation testing changes were discussed, but no changes were made. Members were asked to include further comments when they comment on the draft document. Points of discussion included:
         1. Sample sizes
         2. Test temperature
         3. Changes to salinity during testing
         4. Maximum corrosion depth criteria evaluated by 3D CT scan
   3. Will Elliott presented the cathodic protection taskforce findings: evaluation of cathodic protection criteria according to NACE SP0169 standard.
      1. Proposed changes to Cathodic Protection Section
      2. Additional definitions
         1. Cathodic polarization
         2. Polarized potential
      3. Added potential measurement figure into the draft to show the electrical connection diagram.
      4. Changes to cathodic protection criteria, including both polarized potential and cathodic polarization.
   4. **Tom Dauzat made a motion to approve these changes. Second by Nabi Almeida. Motion was unanimously approved.**
   5. The group discussed the next steps:
      1. Members and guests were asked to review the draft and submit comments by September 1st for further discussion in the Fall meeting.
9. New Business:
   1. No new business was brought up.
10. Next meeting: October 24, 2023, in Kansas City, MO USA
    1. The following attendees requested membership and will be added to membership for the Fall 2023 meeting: **Vinay Patel**
11. The meeting was adjourned at 3:00 PM CDT.

Submitted by: Avijit Shingari Date: 03/21/2023

# Old Business:

*No old business*

# New Business:

***Reminder:*** *IEEE Collabratec - https://ieee-collabratec.ieee.org/*

It is free for IEEE members, and only requires login using your IEEE account.

Comment by Dan Mulkey RE: IEEE document review after MEC review. For the most part very good with grammar, formatting, etc by 3rd party, but by the time it comes back it is too late in the process. Malia said that MEC process is limited to 30 days. 3rd party review is much longer.

Suggestion was made that the document could be submitted up to a year in advance for 3rd party review prior to MEC submission. It would lead to a better document. Mali said that is cur- rently done by request, primarily for WG where English is a second language.

# Next meeting:

* + - October 22 to 26, 2023 in Kansas City, MO Adjourn: 11:36 AM CST

Respectfully submitted by George Payerle, chair Submersible Transformers and Network Protectors Subcommittee April 13, 2023