

# PC57.12.23 – Single Phase Submersible Transformers

Monday, October 28, 2024

11:00 AM

St. Louis, Missouri USA

**Chair: Alan Traut, Howard Industries**

**Vice-Chair: Noah Chesser, Oncor Electric Delivery**

**Secretary: Noah Chesser, Oncor Electric Delivery (acting)**

## **Call to Order**

The meeting was called to order by the Chair at 11:00AM CDT on Monday, October 28, 2024.

## **Essential patent statement and copyright slides**

There was a call for essential patent claims by the Chair. There were none brought forward. The Chair announced if there was one to inform the Chair. The IEEE copyright slides were shown to the WG. No copyright issues were identified in the material presented at the meeting.

## **Chair Report**

Chair is seeking new volunteer for secretary. See chair if interested. C57.12.23 was published in 2018 and will expire in 2028. The present PAR was approved 2-15-2024 and expires 12-31-2028 so there are 7 in-person meetings available to work on the revision. This being the second in-person meeting. The chair is targeting to vote to send the document to ballot in Fall of 2027.

## **Membership & Quorum**

Total attendance was 70, with 28 of 44 members, 42 guests with 16 of those guests requesting membership. Quorum was met. The attendees are listed below.

First Name	Last Name	Company or Affiliation	Role	First Name	Last Name	Company or Affiliation	Role
Nabi	Almeida	Prolec GE	Member	Fernando	Meza	Power Partners	Member
Alex	Ayala	Power Partners	Guest (R)	Charles	Morgan	Eversource Energy	Guest
Jared	Bates	Oncor Electric Delivery	Secretary	Tyler	Morgan	Duke Energy	Member
Piotr	Blaszczyk	Specialty Transformer Components	Member	Daniel	Mulkey	Mulkey Engineering Inc.	Member
Jeffrey	Brooks	Aselundt Eng	Member	Martin	Munoz	Orto	Member
Jim	Cai	JSMP Transformer	Member	Hugo	Murillo	HJ Family of Companies	Guest (R)
Noah	Chesser	Oncor Electric Delivery	Vice Chair	Ismael	Naja	Eaton Corp	Guest (R)
Matthew	Chisholm	IFD Technologies	Guest	Nurudeen	Olayiwola	PECO Excelon	Guest (R)
Paul	Chisholm	IFD Technologies	Guest	Joel	Pacas	IFD Technologies	Guest
Craig	Colopy	Eaton Corp (Retired)	Guest	Tihomir	Pandza	Siemens Energy	Guest
Douglas	Craig	Richards Mfg	Guest	Vinay	Patel	Con Edison of NY	Member
Janet	Crockett	Fayetteville PWC	Guest	George	Payerle	Carte International Inc.	Guest
John	Crotty	Ameren Services	Guest (R)	Goran	Plisic	Siemens Energy	Guest
Tim	Dappen	Cargill	Guest (R)	Ion	Radu	Hitachi Energy	Guest (R)
Thomas	Dauzat	AEP - SWEPCO	Guest (R)	Martin	Rave	IFD Technologies	Guest
Qusai	Elnimri	Vantran Transformer	Guest	Robert	Reepe	Georgia Power Co.	Guest
Sanford	Fong	Georgia Power	Member	David	Rohrer	First Energy	Member
Chris	Franklin	MG Power Associates	Guest	Mason	Rush	Central Moloney	Member
Gilberto	Garza	Prolec GE	Guest	Stefan	Schindler	Mashinenfabrik Reinhausen	Guest
Hector	Garza	Orto	Guest	Joseph	Schumack	Ameren Services	Guest
Carlos	Gaytan	Prolec GE	Member	Jeremy	Sewell	Quality Switch	Guest
Luke	Grandbois	IFD Technologies	Guest	Jaber	Shalabi	Vantran Transformer	Guest (R)
Michael	Hardin	HJ Family of Companies	Guest (R)	Igor	Simonov	Toronto Hydro	Member
Ramadan	Issack	American Electric Power	Member	Chris	Slattery	First Energy	Guest
Rebecca	Kim	Cheryong Electric	Guest (R)	Steve	Snyder	Hitachi Energy	Guest
Brian	Klaponksi	Carte International Inc.	Member	Jim	Spaulding	City of Fort Collins	Guest (R)
Gilbert	Kozer	Northeast Transformer	Member	Tim	Tillery	Howard Industries	Member
Patrick	Kozer	Northeast Transformer	Member	Fernando	Tirado	Prolec GE	Guest
Kang	Lee	Chenyong Electric	Guest	Alan	Traut	Howard Industries	Chair
Angela	Leigl	EATON Corporation	Guest	Reinaldo	Valentin	Duke Energy	Member
Alejandro	Macias	CenterPoint Energy	Member	Jeremy	Van Horn	IFD Technologies	Member
Katherine	Marvlanda	Magnetron	Guest	Joshua	Verdell	ERMCO	Guest (R)
Nader	Masoud	Central Moloney	Guest (R)	Shelby	Walters	Howard Industries	Member
Mohammed	Megdad	IPS	Guest (R)	Bruce	Webb	Knoxville Utilities Board	Member
Tim	Menter	Lincoln Electric System	Guest (R)	Michael	Zarnowski	Carte International Inc.	Member

### Approval of Agenda

The Chair sent out the agenda prior to the meeting for review. A motion was made to approve the agenda (Brian Klaponksi/Nabi Almedia). Agenda was unanimously approved.

### Approval of previous meeting minutes

The Chair presented minutes from that last meeting in Spring 2024. A motion was made to approve the previous meeting minutes (Brain Klaponksi/Mason Rush). The motion passed unanimously.

### Old Business

- **Task Force #1 Report – Dan Mulkey**

Task force #1 was charged with comparing the recently published C57.12.24 (3ph Submersibles) to C57.12.23 and recommend changes to C57.12.23 to keep these two standards aligned. Dan presented the slides from Task Force 1. The slides are posted on the Transformer Committee website.

- **Task Force #2 Report – Carlos Gaytan**

Task force #2 was charged with comparing the recently published C57.12.39 (Tank Pressur Coordination) to C57.12.23 and recommend changes to C57.12.23 to keep these two standards

aligned. Carlos presented the slides from Task Force 2. The slides are posted on the Transformer Committee website.

- **Clause 6.1 Dielectric Tests**

This item is tabled to the next meeting due to lack of time in this meeting.

- **Clause 7.2.2 low-voltage terminals**

This item is tabled to the next meeting due to lack of time in this meeting.

- **Rectangular Tank Design – Dan Mulkey**

Dan presented slides on the PG&E experience with rectangular tank designs (aka horizontals) compared to round tank designs. In the PG&E case, new construction uses the horizontal design. Round tank designs are only used for replacements where the vault size does not permit installation of a horizontal. The slides for this presentation are available on the Transformer Committee website.

The Chair will incorporate the recommendations from Task Force 1 & 2 into the next draft for approval by the WG.

### **New Business**

- **Proposal to change scope to 500kVA and Below**

A motion was made to change the scope of the standard to 500kVA and Below (Alex Macias/Jared Bates). The motion failed with 6 members for, 18 opposed, and 7 abstentions. CenterPoint Energy and Oncor Electric Delivery were among the only two utilities present who currently purchase 1PH submersible transformers greater than 250kVA. Both utilities only buy them for replacements, not new installations.

- Thomas Dauzat made a proposal recommending to use stainless fittings to reduce the effects of galvanic corrosion between the fitting and enclosure as stated below. Not sure which underground xfmr standard to start with, but would like to introduce new business with regards to if a user decides to go with the option of copper bearing steel or 304 stainless instead of 316L stainless enclosure to do the following:

- Externally screwed on fittings such as bolts, nuts, valves, pressure relief devices, samplers, schrader valves, thermometers, etc. need not to be made of copper alloy, but preferably made of stainless or molded material (environmentally suited) to reduce the effects of galvanic corrosion between the mating surfaces.
- If there's no alternative stainless version of the silicon bronze fitting, user may use with 'extreme caution' assuming the entire fitting is coated/painted after assembly to the enclosure.  
As for as a 316L stainless enclosure, still it's best to use stainless fittings utilizing anti-seize thread coating to prevent thread galling.
- Reference C57.12.53 corrosion guide for subsurface xfmr and protector applications, material compatibility, water chemistry, and material validation testing.

We ran out of time in this meeting so this item is tabled to the next meeting.

### **Next Meeting Announcement**

March 23 - 27, 2025 in Denver, Colorado USA

### **Adjourn**

The meeting adjourned at 12:25PM CDT