

**U.S. National Committee of the International Electro technical Commission,
A Committee of the American National Standards Institute
Technical Advisory Group for IEC TC 14**

TAG Administrator:
National Electrical Manufacturers Association
1300 North 17th Street, Suite 900, Rosslyn, VA 22209
Tel: 703-841-3231

Minutes

PLACE OF MEETING: Hyatt Regency Jacksonville Riverfront Hotel;
Jacksonville, Florida USA
Meeting Room: River Terrace 2

DATE AND TIME: Wednesday October 17, 2018
7:00-8:30AM (Breakfast meeting)

PRESIDING OFFICER: P. Hopkinson, Technical Advisor
SECRETARY: D Schwartz, Quality Switch (filling in for G Winstanley, NEMA)
ATTENDEES:

Member	Organization
Kevin Biggie	Weidmann Electrical Technology Inc
Jeff Britton	Phenix Technologies
Edward Casserly	Ergon
Craig Colopy	Eaton
Eric Davis	Burns & McDonnell
Joseph Foldi	Foldi & Associates
David Geibel	ABB Inc
Phil Hopkinson	HVOLT Inc
Sheldon Kennedy	Niagara Transformer Corporation
Scott Reed	MVA Diagnostics
Dan Sauer	Eaton
Vijay Tendulkar	PDI
Dharam Vir	SPX Transformer Solutions

Observer	Organization
Casey Ballard	DuPont
Gilles Bargone	FISO Technologies Inc
William Boettger	Boettger Transformer Consulting LLC
James Borowitz	Eversource Energy
Florin Faur	ABB Inc
John John	Virginia Transformer Corporation
Axel Kraemer	Reinhausen
Mike Lau	Weidmann Technology Inc
Tim-Felix Mai	Siemens
Bruno Mansuy	France
Arnaud Martig	Trench Limited
Aniruddha Narawane	PDI Corp
Dan Schwartz	Quality Switch
Yukiyasu Shirasaka	Hitachi
David Stankes	3M
Shankar Subramany	Kema Laboratories
Radoslaw Szewcayk	DuPont
Troy Tanaka	Burns & McDonnell
Joseph Tedesco	ABB Inc
Ed teNyenhuis	ABB Inc

13/27 Voting Members in Attendance (No Quorum)

20 Guests

33 – Total Attendance

1 Call to Order (Hopkinson)

Call to order, review meeting guidelines, and record attendance. Introductions and welcoming remarks.

2 Approval of the Agenda (Hopkinson)

The agenda was approved as submitted

3 Approval of Previous Minutes

The minutes of the March 28, 2018 meeting were approved as submitted.

4 USTAG TC14 MEMBERSHIP

The USTAG TC14 roster (members and guests) was circulated for attendance and distributed with the agenda. Potential members are encouraged to contact the Chairman or Secretary.

5 2017 Plenary Meeting

The IEC TC 14 Plenary meeting was held in Glasgow, UK on September 20-21, 2018. The following update was provided by IEC TC14. All in attendance were provided opportunity to update/comment.

5.1 Recently Published Documents

- **IEC 60076-11:2018 Dry-type transformers**
 - Convener: Michel Sacotte, FR
 - Published August 2018
- **IEC/IEEE 60076-16:2018 Transformers for wind turbine applications**
 - Convener: Tom Breckenridge, UK
 - Published September 2018
- **Report of AHG 1 – Functional requirements of insulating liquids for use in power transformers**
 - Convener: Kevin Rapp, US
 - Decided to publish the report as IEC TR 60076-XX

5.2 Revisions in Progress

- **IEC 60076-1 General**
 - Convener: Paul Jarman, UK
 - First meeting held recently
- **IEC 60076-4 Guide to the LI and SI testing**
 - Convener: Thang Hochanh, CA
 - First CD expected 2019
- **IEC 60076-5 Ability to withstand short circuit**
 - Convener: Jean-Christophe Riboud, FR
 - Major revision – Eight meetings held so far.
 - First CD expected in 2019
- **IEC 60076-6 Reactors**
 - Convener: Rob Verhoeven, NL
 - First meeting recently held
- **IEC 60076-19 Uncertainties in Loss Measurement**
 - Convener: Anders Bergman, SE
 - Work towards CD2
 - Publication expected in 2020
- **IEC/IEEE 60076-21 Step voltage regulators**
 - Convener: Craig Colopy, US
 - Unanimous positive FDIS vote - publication before year end
- **IEC/IEEE 60214-2 Tap-changers application guidelines**
 - Convener: Axel Kraemer, GER
 - FDIS in final circulation
 - IEEE circulation by end of year
 - Publication expected 2019

5.3 New Documents in Development

- **IEC 60076-22 Transformer and Reactor Fittings**
 - **1 Protective devices** Awaiting publication
 - **2 Radiators** Awaiting publication
 - **3 Liquid to air coolers** Awaiting publication
 - **4 Liquid to water coolers** Awaiting publication
 - **5 Pumps** CD in development
 - **6 Fans** CD in development
 - **7 Accessories and fittings** CD in development
 - **8 Electronic monitoring equipment** NP to file
- **IEC TS 60076-24 Voltage Regulating Distribution Transformers (VRDT)**
 - Convener: Michel Heinz, GER
 - CD2 to be circulated before year end
- **IEC 60076-25 Neutral Grounding Resistors**
 - Convener: Hakam El Assad, FR
 - Work towards first CD

5.4 Upcoming Revisions

- **IEC 60076-2 Temperature rise for liquid-filled transformers**
 - Convener: Dejan Susa, NO
 - Call for experts sent out
 - Revision to start with first meeting on 12/13 February 2019 in London

5.5 Ad Hoc Groups

- **Ad Hoc Group 1 – Functional requirements of liquids for use in transformers**
 - Convener: Kevin Rapp
 - Report on the framework for a new standard development on additional test requirements for liquids beyond current standard requirements
 - First draft circulated and comments received
- **Ad Hoc Group 35 - Functional classification of power transformers**
 - Convener: Angelo Baggini, IT
 - Report on classification of power transformer technologies in terms of functionality; include new technologies (power electronics...)
 - Report on the need to amend the scope and strategic business plan of TC 14
- **Ad Hoc Group 36 - Coordination of thermal requirements in existing standards**
 - Convener: Rick Marek, US
 - Develop a new structure for future IEC TC14 thermal standards
 - Consider entire material in existing standards
 - Consider latest developments and industry interests (high and low temperature)
 - Decide careful on content that is needed and belongs into standards and what is sufficient to reference

6 Next IEC TC 14 plenary meeting

In conjunction with TC10 in Paris on September 18-20, 2019.

7 New Business

No new business was identified during this meeting.

8 Schedule Next Meeting

The next meeting of the USTAG TC14 is tentatively scheduled for Wednesday, March 27th 2019 in conjunction with the IEEE Transformer Committee meeting in Anaheim, CA.

9 Adjourn

The meeting was adjourned at 8:00 AM