



IEC TC14 Power Transformers

Chairman: Christoph Ploetner, DE

Secretary: Mick Maghar, UK

**Report to
IEEE Transformers Committee
Spring meeting
Anaheim, March 2019**



General Information TC14

- **Membership**
 - **P - Members:** 36
 - **O - Members:** 12
- **Registered experts** 258
- **Web page for all details and tools** www.iec.ch/tc14
- **Currently active MT, PT, WG, AHG** 11+2 to come
- **Documents maintained / in development** 38
- **Last plenary meeting** Sep 2018 in Glasgow
- **Next plenary meeting** 18-19 Sep 2019 in Paris
- **Joint meeting TC10/TC14** 17 Sep 2019 in Paris



Recently published

- **IEC/IEEE 60076-21 Step voltage regulators**
 - Convener Craig Colopy, US
 - Published December 2018

- **IEC 60076-22-x Transformer and Reactor Fittings**
 - 1 Protective devices**
 - 2 Radiators**
 - 3 Liquid to air coolers**
 - 4 Liquid to water coolers**
 - Convener Gianmarco Ghioldi, IT
 - Published all in January 2019



Revisions in progress

- **IEC 60076-1 General**
 - Convener Paul Jarman, UK
 - Second meeting held in February

- **IEC 60076-2 Temperature rise**
 - Convener Dejan Susa, NO
 - First meeting held in February

- **IEC 60076-4 Guide to LI and SI testing**
 - Convener Thang Hochanh, CA
 - First CD expected 2019



Revisions in progress

- **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
 - Second meeting held recently
- **IEC 60076-19 Uncertainties in Loss Measurement**
 - Convener Anders Bergman, SE
 - Work towards CD2
 - Publication expected in 2020



Revisions in progress

- **IEC/IEEE 60214-2 Tap-changer application guide**
 - Convener Axel Kraemer, GER
 - FDIS approved
 - Publication soon



New documents in development

- **IEC TS 60076-24 Voltage Regulating Distribution Transformers (VRDT)**
 - Convener Michel Heinz, GER
 - CD2 published

- **IEC 60076-25 Neutral Grounding Resistors**
 - Convener Hakam El Assad, FR
 - Work towards first CD



New documents in development

- **IEC 60076-22-x Transformer and Reactor Fittings**
 - 1 **Protective devices** published
 - 2 **Radiators** published
 - 3 **Liquid to air coolers** published
 - 4 **Liquid o water coolers** published
 - 5 **Pumps** CD published
 - 6 **Fans** CD published
 - 7 **Accessories and fittings** CDV in development
 - 8 **Electronic monitoring equipment** NP to file



Continuing Ad Hoc Group

- **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



New Ad Hoc Group

- **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, different types of liquid)
- Decide careful on content that is needed and belongs into standards and what is sufficient to reference to
- First meeting agreed for May 23rd + 24th in Berlin, GER



Upcoming: JAHG 7

- **Joint Ad Hoc Group 7 – SC36 / TC14**

To produce the framework of standard or technical report for dimensional standardization of transformer bushings

- Convener Flavio Mauri, IT
- Call for experts sent out



Upcoming: JWG xx

- **Joint Working Group xx – IEC(TC38/TC14)/IEEE**
Development of an IEC/IEEE Dual Logo standard for Station Service Voltage Transformers (SSVT)
 - IEEE approved common development although PC57.13.8 is already working on such standard – Thank you!
 - IEC approval of work item expected soon – call for experts to circulate afterwards
 - Convener Ross McTaggart, CA



IEC / IEEE Dual Logo Documents

Available dual logo documents: 6

- IEC/IEEE 60076-16 Wind turbine transformers
- IEC 60076-21 – IEEE Std. C57.15 Step voltage regulators
- IEC/IEEE 60076-57-1202 Phase shifting transformers
- IEC 62032 – IEEE C57.135 Guide for Phase shifting transformers
- IEC/IEEE 60076-57-129 HVDC Transformers
- IEC/IEEE 60214-2 Tap changer application guide(soon coming)

Dual logo documents agreed to develop: 2

- IEC/IEEE 60214-1 Tap changer performance requirements
- IEC/IEEE xxxxxxxx Service station voltage transformers (SSVT)

Potential subjects for dual logo documents in near and far future

- Tank rupture mitigation, Submersible transformers, Neutral grounding devices, ...???



IEC / IEEE Dual Logo Documents

Suitable “fields” for dual logo documents

- Special transformers beyond “main stream”
- Specific products
- Specific performance requirements

Observations

- Development process smoothing out
- Maintenance process not yet explored (different life cycle definitions!)
- Separation process not clear (it may become relevant once in a while)

Suggestions

- Do not overstress collaboration with too many projects
- Consider available resources (...that seem to reduce)
- Nevertheless, move carefully forward where and when it makes sense