



**IEC TC14 Power Transformers
Report to
IEEE Transformers Committee
Fall meeting
Louisville, October 2017**



Meetings and website

- **Last meeting Boston USA 26-27th October 2017**
- **Next meeting India or UK, October 2018**
- **From 1st December new chairman**
 - Dr Christoph Ploetner
- **See Website WWW.IEC.CH/TC14 for a summary of projects and publications**
- **See www.electropedia.org – for a comprehensive IEC electrotechnical vocabulary reference**



Recently published

- **IEC 60076-57-1202 Phase Shifting Transformers**
 - IEC Standards Management Board accepted dual IEC/IEEE references
 - Published May 2017
- **IEC TS 60076-20 Energy efficiency**
 - Published January 2017
- **IEC 60076-10 Determination of Sound Levels**
 - Published March 2016
- **IEC 60076-10-1 Determination of Sound Levels – Application Guide**
 - Published March 2016



New documents in development

- **IEC 60076-22 Transformer and Reactor Fittings**
 - -1 Protective devices (alarms and trips)
 - -2-6 Cooling equipment (split into fans, pumps, radiators, liquid/air and liquid/water coolers)
 - -7 Accessories and fittings
- CDVs on parts 1-4 issued comments returned September 2017
- Working on FDIS for these parts
- Working on CDs for other parts – part 7 nearly finished
- includes gas relays, fans, bags, terminal boxes and valves. Electronic monitoring will be separate proposal



New documents in development

- **IEC TS 60076-23 DC current suppression devices**
 - Final draft TS circulated, comments due back 10th November
- **IEC 60076-24 Voltage Regulating Distribution Transformers**
 - Project transferred from CENELEC,
 - CD circulated Comments due back 8th December 2017.
- **IEC 60076-25 Neutral Grounding Resistors**
 - New work, first meeting October 2017



revisions in progress

- **IEC 60076-3 Dielectric tests**
 - Minor revision (clarification), changes agreed in Boston
 - FDIS to be issued soon
- **IEC 60076-4 Impulse test guide**
 - In progress
 - Working on CD
- **IEC 60076-5 Short Circuit capability**
 - Several meetings held, working on first draft CD could be early next year



Revisions in progress

- **IEC 60076-7 Loading guide for liquid immersed transformers**
 - CDV issued comments received March 2016
 - FDIS finished, circulation expected November
- **IEC 60076-11 Dry type transformers**
 - CDV circulated, positive vote
 - Comments being considered
- **IEC 60076-16 Transformers for wind turbines**
 - Revision with IEEE for future joint standard
 - CDV positive vote
 - FDIS now with IEC for translation expected soon



Revisions in progress

- **IEC 60076-19 Uncertainties in Loss Measurement**
 - CENELEC document circulated as CD
 - Comments received March 2016
- **IEC 60076-21 Step voltage regulators**
 - Joint revision with IEEE in progress
 - CDV circulated closing date 17th November
 - Decided to keep existing IEC/IEEE numbering



Revisions in progress

- **IEC 60214-2 Tap-changers application guide**
 - Work continues on revising this to be a dual logo document,
 - CD circulated and comments received Sept 2017
 - Working on CDV, Meeting here Thursday/Friday
- **IEC 61378-2 (60076-57-129) HVDC converter transformers**
 - Final standard is with IEC following incorporation of editor's and other comments.
 - Expect publication imminently



New Work agreed

- **Revisions**
 - IEC 60076-2 Temperature rise
 - IEC 60076-6 Reactors
 - IEC 60076-14 Transformers using high temperature insulation
 - IEC 60076-1 General
- **Ad Hoc Group 1**
 - Look at functional requirements of liquids for use in transformers. 2 meetings held, reported to TC14, issue is complicated so will continue.



New Work agreed

- **Ad Hoc Group 2**
 - Looking at scope for better functional standardisation to cater for different and new technologies.
 - For example
 - Low fire
 - Power electronics
- **Adoption of C57.142 Switching Transients Induced by Transformer/Breaker interaction**
 - Vote by National Committees 9 in favour 4 against so a new work item will be circulated, but probably wait until revision in IEEE is complete.