IEC TC14 Power Transformers

Report to IEEE Transformers Committee
November 2011 Boston
Paul Jarman Chairman IEC TC14

- Last meeting Melbourne, Australia 23-24th October 2011
- Next meeting Manchester, United Kingdom 20-21st September 2012
- Website **WWW.IEC.CH/TC14**
  Summary of projects and publications
- **www.electropedia.org** - comprehensive electrotechnical vocabulary reference

Newly issued transformer standards

- **60076-1 Power transformers - General**
  - Edition 3 Issued April 2011
- **60076-2 Temperature rise tests**
  - Edition 3 Issued Feb 2011
- **61378-1 Converter transformers - Transformers for industrial applications**
  - Edition 2 issued July 2011
- **60076-16 Transformers for wind turbine applications**
  - Edition 1 published August 2011

Revisions in progress

- **60076-3 Dielectric tests**
  - Second draft issued, comments received.
  - Comments discussed in Melbourne and draft for voting to be produced early 2012
  - Document has been simplified and many conflicts with IEEE removed - substantial change – many comments
- **60076-10 Determination of Sound Levels**
  - First committee draft complete and circulated comment deadline 9th December
- **60076-14 Transformers using high temperature insulation materials**
  - Comments on first draft of revision received
- **61378-3 Converter transformers – Application Guide**
  - Revision started first draft expected June 2012
- **IEC 60214 Tap changers**
  - First committee draft expected April 2012

New documents in progress

- **60076-17 Evaluation of electromagnetic fields**
  - Technical report based on a CENELEC document awaiting revision and publication. Expected early 2012
- **60076-18 Measurement of Frequency Response**
  - Draft for vote circulated and positive result received. Expect to complete final draft in December 2012
- **60076-19 Rules for the determination of uncertainties in loss measurement**
  - First draft based on an existing CENELEC circulated and comments received
- **60076-20 Energy efficiency**
  - Work started, first draft expected 2012.

IEC / IEEE documents

- **IEC 60076-21 C57.12.15 step voltage regulators**
  - Approved for publication as a dual-logo standard
  - Should be published this year

- **IEC 62032 Phase shifting transformers**
  - TC14 agreed to adopt revised IEEE C57.135 and re-issue 62032 dual-logo guide Awaiting approval from Standards Management Board and National Committees
  - Hope to start joint work on a standard

- **IEC 60076-16 Transformers for wind turbine applications**
  - Proposal accepted by TC14 to start revision of this document jointly with IEEE. Requires approval by National Committees

New work

- **IEC 60076-22 Transformer and Reactor Fittings**
  - Publish EN 50216 as an IEC
  - Ad hock group proposed structure
    - Part 1 Protective devices
    - Part 2 Cooling equipment
    - Part 3 Basic accessories

- **IEC 61378-2 Transformers for HVDC applications**
- **IEC 60076-15 Gas insulated transformers**
- **IEC 60616 Terminal markings**
  - Revisions will start

CIGRE A2 Transformers

- Last meeting Kyoto Japan Sept 11-16 2011
  - Maintenance, monitoring, diagnostics, testing
  - Materials
  - Transient phenomena and testing
- Next meeting Paris August 26-31 2012
  - Transformers in the network of the future
  - Transformer eco design eco use
  - Transformer magnetic circuit
- www.cigre.org www.cigre-a2.org

Completed work

- WG A2.34 Maintenance
  - **Brochure 445** Guide for transformer maintenance
- WG A2.35 Alternative fluids
  - **Brochure 436** Experiences in service with new insulating liquids
- www.e-cigre.org

Existing Working groups

- WG A2.33 Transformer fire safety practices
- WG A2.36 Procurement process guide
- WG A2.37 Transformer reliability survey
- WG A2.38 Thermal modelling
- WG A2/C3 39 Transient interaction
- WG A2.40 Copper sulphide mitigation and risk assessment
- WG A2/D1.41 HVDC insulation - oil conductivity
- WG A2.42 Transportation guide
- WG A2.43 Bushing reliability
- WG A2.44 Intelligent condition monitoring

New groups

- WG A2.45 Transformer failure investigation and post-mortem analysis
- WG A2/D1.46 Field experience with transformer solid insulation ageing markers
- Reactors
- Asset Health Index