Unapproved Minutes

IEEE/PES Transformers Committee
Standards Subcommittee Meeting
November 2, 2011 Boston, MA

1. Opening Remarks

The Chair, William Bartley opened the meeting and summarized the recent activities of the Transformer Standards activity for the seven-month period of April 2011 through October 2011, one new Standard, and three Revisions were approved by RevCom. Also, NesCom approved two PARs for new standards, four PARs for Revisions, four PAR modifications, but no PAR extensions. The Transformer Committee is responsible for almost 100 standards, plus over 55 PARs, projects for new standards and revisions. For the full STANDARDS REPORT see the TC website via the following link:

http://www.transformerscommittee.org/meetings/F2011_Boston/Minutes/F11-StandardsReport.pdf

An overview of the upcoming new 10 year maintenance cycle change presented at the Standards Luncheon was given. The change will extend the revision (reaffirmation) cycle from 5 years to 10 years after the last date of approval or maintenance action. The Chair stressed there would be no extensions. It is suggested to review the full presentation at:

http://www.transformerscommittee.org/info/F11/F11-IEEE-StndsPolicyChanges.pdf

2. Meeting Attendance

The Standards Subcommittee met on Wednesday, November 2, 2011, at 4:30 PM. A role call showed over 25 members in attendance constituting a quorum. Overall there were 106 attendees, with 29 members, with 77 guests, including 15 that requested membership upon tabulation of the circulated rosters.

(Postscript note for the 13 of the members that were unable to attend, and now have missed two or more, consecutive meetings, please expect to be changed to guest role prior to the S12 meeting).

3. Approval of previous meeting minutes

The Chair asked if there were any comments or corrections to the previous meeting minutes, and motioned for approval. There where no comments to the meeting minutes of the Spring 2011 meeting in San Diego, California; and the minutes were approved.

4. Working group reports.

- **Cont. Revision of C57.12.00 – Steve Snyder** reported the following:

  This is essentially a working group of one person. There are no meetings.

  The purpose of this WG is to keep track of, and compile, all the work being done in various TF/WG/SC's for inclusion in the continuous revision of C57.12.00 in a consistent manner. This WG coordinates efforts with the companion Standard C57.12.90 so that they publish together. The goal is to issue new Standards every 2 to 3 years.

  Standard C57.12.00 was published September 2010. A new PAR was requested in April and approved June 16, 2011 to cover the ongoing work for the continuous revisions. This PAR is good through December 31, 2015.

  At present, I am aware of only a few minor items that are ready for the next revision cycle; however there are a couple tasks nearing completion in the PCS working group. Approximately mid-year 2012 I had planned to solicit input from all the Subcommittees to determine what material is ready for inclusion in the next revision cycle. If appropriate, a new revision will be launched near the end of 2012.

  Respectfully submitted, by Steven L. Snyder, WG Chair, on November 2, 2011

- **Cont. Revision of C57.12.90-2006 – S. Antosz** reported the status of as:

  This is essentially a working group of one person. There are no meetings held. The purpose of the WG is to keep track of the work being done in various TF / WG / SC for inclusion in the continuous revision of C57.12.90 in a consistent manner.

Smmary

The new PAR was approved on June 15, 2011. It is valid until Dec 31, 2015. There has not been much activity since April.

Future Revisions

Changes already approved for the next revision:

- New Sub-clause 10.2.5 Connection of neutral terminal during switching impulse tests by Pierre Riffon's WG Revision to Impulse Test in Dielectric Test Subcommittee. Submitted on 4/27/09.
- Revisions to Clause 12 Short-circuit tests and new Annex on Connections diagrams for testing three-phase transformer using alternate single-phase source by Marcel Fortin's Task Force in the Performance Characteristics Subcommittee. Submitted in Fall 2009.
- Revision to Sub- clause 10.3.2.4 Tap connections during lightning impulse test by Pierre Riffon's WG Revision to Impulse Test in Dielectric Test Subcommittee. Submitted on 10/28/10.
- Revisions to Sub-clauses 10.2.1, 10.3 and 10.3.3 which increases the number of full wave impulse waves applied from one to three. This is the same as IEC
- Revisions to Clauses 6 & 7 Polarity & Phase-relation and Ratio tests from Mark Perkins' PCS WG for Revision of C57.12.90. Final survey circulated in Sept 2011.

Pending work

- Revision to Clause 11 Temperature-rise tests by Paulette Payne Powell's WG in the Insulation Life Subcommittee.
- Revision to Clause 13 Audible Sound by Ramsis Girgis' TF in the Performance Characteristics Subcommittee.

Respectfully submitted by Stephen Antosz, WG Chair, on November 2, 2011

- **WG on PC57.12.70 Terminal Markings Revision – S. Shull –**

This was the final report out on PC57.12.70 Standard Terminal Markings and Connections for Distribution and Power Transformers, as the balloting closed on Oct 20, 2012, and was it submitted to REVCOM for approval. It was noted there had been two re-circulations; with the first closed on 13 Sept and the second closed on 20 Oct, 2011.
Steve Shull was acknowledged by the SC for the work effort, and leading the Working Group to completing the revision.

- **WG on Revision of IEEE PC57.152 (old 62) –Jane Verner** –

The Working Group met on November 1 with a total of 98 people; 50 Guests, 48 Members (quorum present) and 18 requesting membership.

The spring 2011 meeting minutes were approved.

Draft 4.2 has been issued and posted on the website.

One web meeting was held since the San Diego meeting and the following was discussed:

Proposed revised section on 6.3.11 Moisture in Oil and 6.3.12 Water Content (Oleg Roizman).The old and new versions were discussed, so the WG could see the proposed changes. The draft included numbers for, PPM and Relative Saturation, as well as Natural Ester Fluids. There was consensus that we should leave relative humidity out of the main document, and put something about it in an Annex. A task force, consisting of Oleg, Roizman, Jim Thompson, John Luksich, Claude Beauchmin, Maik Koch and Mario Locario, was set up to develop such an annex. While the proposed draft on moisture in oil and water content would not be immediately adopted, it is

foreseen that would be best the parent standard for moisture (C57.106) include the relative saturation specific values. If the annex is available it could be included at initial issue, or in a subsequent revision after the parent standard is issued. The subject of moisture has been an on going topic it is believed that publishing PC57.152 should not be restrained while an annex, or parent standard are developed.

Induced Voltage Testing section has been added to the Guide. It was agreed to add more footnotes about the testing and remove Table 1 or the chart of the transformer health conditions before performing the Induced Test. The Caution Note will be expanded to include more specific especially for transformers over 69 kV.

A new section on Applied Voltage Testing was reviewed. The WG agreed to add Applied Voltage Section before the Induced Test in the main body of the Guide as opposed to the Annex.

It was agreed to move away from IEEE 62 format / arrangement to proposed sequence of testing or at least focus on winding and tests related to the main core and coil then list by Bushings, LTC and Ancillary Equipment. The Chart for commissioning, in-service, after system fault and after internal fault was updated with a column added to reference the specific article of PC57.152. We will try to follow the order of the tests; but may need cautions, depending upon magnetization of the core, etc.

Discussed was held on Frequency Response Test and determined that the test should be Optional for Commissioning and AN (or As Needed) for other times. The Winding Resistance test should be REC (Recommended) for Commissioning. We added the Applied Voltage test and it is Opt for all cases. We will address reference to C57.93 for installation tests and PC57.125 for the tests after faults.

The Work Plan spreadsheet has been updated to show progress. All sections have been presented and reviewed. Reference section will be reviewed after the overall order of the document is revised. Gary Hoffman volunteered to help with this effort.

The document now comprises 35 sections which are authored by many different persons. The document will be reorganized to put Safety closer to the beginning and to flow more logically. Each section that has a parent standard will be sent to the Working Group Chairman for that Standard to review and insure that the proposed draft is in line with parent standard. A 60 day reply period will be given.

The PAR expires in December 2012. The WG hopes to finish basic comments and final edits with a ballot among the WG before Nashville. At least three months are expected to be allocated for ballot resolutions.

Respectively submitted by Jane Verner – WG Chair

- **TASK FORCE on IEEE-IEC Harmonization – Jeewan Puri -**

  The TF Chair explained this was the final report as at the Paper on Harmonization of Standards with the IEC was presented. This paper provides an overview of the process for new technical standards, existing standards, items to consider, copyright permissions, Annex A of IEC Technical Committees and Annex B a sample copyright permission request letter. Everyone is encouraged to read the paper, and then apply its recommendations, as appropriate. The paper is available on Standards SC webpage.

  The SC Chair thanked the TF Chair Jeewan Puri for coordinating the paper; and acknowledges the efforts by the IEEE's Ms. Jodi Haasz, and Mr. Paul Jarman, Chairman of IEC Technical Committee 14 for their coordinated work in creating the paper.

- **TASK FORCE on Recommended Terminology for the use of Fluid, Oil, and Liquid across all the Transformer Standards, Guides and Best Practices – P. McShane**

  A brief presentation by Task Force Chair P. Mc Shane was given to explain the purpose of the review, and output report of a white paper describing the nomenclature uniformity issues, and identification of clauses that should considered including, or excluding, the various insulating mediums including alternative fluids.

  The presentation is on the Standards Subcommittee webpage as given by P. McShane.

5. Old Business

- At the spring meeting there was a proposal for new Task Force, presented by Dr. Valery Davydov to development new document called: **Moisture in Insulating Systems of Gas Insulated & Liquid Immersed Transformers & Reactors.** Due to limited time it was agreed to continue the topic at the fall meeting. Therefore, an updated presentation was given to the attendees, and a copy is on IEEE TC Standards SC webpage. Following several questions and discussions points regarding the merits, expertise needed, and the most appropriate Subcommittee that could liaison across several Subcommittees to handle the subject matter; it was motioned, and the motion amended to create and pursue a Task Force under the Insulation Life SC. The Standards SC members passed the motion with no opposing votes. Further actions and efforts will transfer to the oversight of the Insulation Life Subcommittee and it is noted that the Chair of Insulation Life (Bruce Forsythe) was present at the Std SC meeting, and was amenable to the transfer of this project to his SC.

6. New Business

There was one request for new business was raised on an informational basis. As any action would impact several standards, guides, and multiple SCs; time was provided for a presentation and discussion to seek opinions from the Standards SC.

- The presentation was made by Bill Chiu regarding the subject of whether the Class I and Class II designation for Power Transformers should be retained. The presentation is available on the Standards SC website. No motions were raised, as this was an informative presentation. If further action were to occur it would be under the Power Transformers Subcommittee.

7. Adjournment

The motion to adjourn by Chair made and hearing no objections; the meeting adjourned around 5:35PM.

Respectfully submitted,

Kipp J. Yule

Standards SC