Standards Subcommittee – Unapproved Minutes

October 22, 2014

Washington DC Metro Area, Tyson, Virginia

Chair: William Bartley  
Vice Chair: Kipp Yule  
Secretary: Jerry Murphy

The Chair, William Bartley opened the meeting calling a show of members to establish quorum which was not met.

Bill then requested a review of the Agenda; no vote was taken without quorum.

# Meeting Attendance

The Standards Subcommittee met on Wednesday, October 22, 2014, at 4:30 PM. A role call showed 20 of 52 members in attendance falling short of quorum at the meeting. Overall the attendance roll showed there were 73 attendees, 26 members, 47 guests, including 4 that requested membership upon tabulation of the circulated rosters with 2 being accepted by the chair.

# Approval of previous meeting minutes

The Chair asked if there were any comments or corrections to the previous meeting minutes of the Spring 2014 meeting in Savanah, Georgia. There were no comments to the meeting minutes; Bruce Forsyth moved for approval and Steve Snyder seconded then the minutes were approved by unanimous vote.

# Chair’s Remarks

Bill summarized the recent activities of the Transformer Standards activity for the six-month period March 1, 2014 to October 17, 2014. In the last six months, no new Standards, six Revisions and one Corrigendum were approved by Standards Board. In this same period, the Standards Board approved seven PARs for new standards or revisions to standards; three PAR modifications, and four PAR Extensions. The full Standards Report is available on the Transformers Committee website at the following link:

<http://www.transformerscommittee.org/meetings/F2014-WashingtonDC/Minutes/F14-StandardsReport.pdf>

Bill shared the following reminders with the subcommittee from the Administrative Subcommittee.

1. Agendas must be approved and recorded in minutes as do the minutes.
2. Standards procedurally must be approved by the SC to proceed to SA ballot. This is not a technical review, but required to make advisement to all SC members.

Bill announced the forming of two new task force teams:

1. Kipp Yule will chair a task force to develop a white paper that will ascribe what goes in standards C57.12.00 and C57.12.90 with a Venn diagram that will simplify the intersecting contents of both standards.
2. Steve Antoz will chair a task force to develop a ballot procedure seeking to write down the unwritten rules and how we can make them better.

Each task force will formal convene at the Spring 2015 meeting in San Antonio.

# Working group reports

## Continuous Revision of C57.152

The group did not meet at this meeting.

## Guide for Establishing Power Transformers Capabilities while under Geomagnetic Disturbances – Jane Verner

Bill Bartley reported for the meeting hostess Jane Verner.

This was the first face to face meeting for this Transformer Standard GMD Working Group. We began with introductions of all.

We had a total of 161 people. There were 13 members present, 148 guests of which 36 guests requested membership. We did have a quorum. Note that we have many transformer manufacturers requesting membership and we need a balanced group for voting. Users are encouraged to join the WG.

The web meeting minutes from September 3 and October 1 were approved in accordance with Robert rules of meeting conduct.

The PAR was submitted in January. NESCOM is voting on the on PAR March 26. We reviewed the PAR and the document developed to date thru 5 web meetings.

***Proposed Draft - Project Authorization Request (PAR)***

***Scope***

***This guide describes the effects of Geomagnetic Disturbances (GMD) on power transformers when there is the presence of Geomagnetically Induced Current (GIC) in a power transformer. It establishes specification parameters and performance characteristics for power transformers to minimize the risk and impact when GIC is present in the power system. It provides background that can help evaluate the effect of GIC on a power transformer design and its GIC capability. This includes the evaluation techniques to determine the performance characteristics while under the influence of GIC.***

***It does not include the effect of GIC on other power system devices beyond power transformers and accessories. It does not discuss mitigation techniques and mitigation devices such as neutral blocking devices on equipment beyond power transformers and accessories.***

A presentation of the content of Draft 1.7 was given. The work to draft the document was divided into smaller task forces.

* Scope
* Normative references
* Definitions
* Background
* Effects of GIC on power transformers
* Thermal response of Transformers to GIC
* Evaluation of GIC capability of power transformers in the presence of GIC
* Specifications
* Monitoring
* Annex A - Bibliography

Figure 15 in Clause 6 was discussed since it only shows the GIC profile in the positive direction. It was agreed to include a note that GIC is both positive and negative because a better example is not available.

There was much discussion on the need to include more information on existing transformer susceptibility to GIC based on the design type. Clause 7.3 was discussed. Roger Verdolin, Rod Sauls, Peter Balma??……. volunteered to strengthen this clause.

We discussed NERC compliance and NERC Standards Updates. NERC has issued a GMD Planning Standards which was mentioned.

TPL-007-1 Transmission System Planned Performance during GMD was just voted down but NERC wants a Standard in place by January 2015. This standard will require a planning assessment of the system for its ability to withstand a Benchmark GMD Event without causing a wide area blackout, voltage collapse, or large load loss.

TPL-007 provides a voltage waveform; while the induced voltage in the earth is the driver the resultant current in the transformer is our concern.

A note should be added to draft 1.7 that the square GIC signature profile or wave shape is very conservative.

Comments on the draft are welcome. Draft 1.7 is available on the Transformer Committee Website under the Standards Subcommittee.

A doodle pool will be sent out to determine the best date to schedule the next web meeting. November 21 and 24 are being considered.

Respectively submitted by Jane Verner, WG Chair, 22 October 2014

## Continuous Revision of C57.12.00

The purpose of this WG is to 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.

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

At this point all the material ready for a new ballot has been compiled, the draft document sent to IEEE for MEC, and the ballot pool has been formed. Some statistics of the ballot pool:

Invitation Period August 26 to October 5, 2014

Invitation Pool 834

Balloters signed up 244

Consulting 66 27.0%

General Interest 18 7.4%

Producer / Manufacturer 30 12.3%

Producer / Component 36 14.8%

Producer / Other 6 2.5%

User / Other 44 18.0%

User / Industrial 9 3.7%

User / Consumer 5 2.0%

There are a few minor adjustments to make as a result of the editor’s feedback, but the document is essentially ready for the ballot launch, pending subcommittee approval.

Respectfully submitted by Steven L. Snyder, WG Chair, on October 22, 2014

## Continuous Revision of C57.12.90-2006

This is a working group by committee. There was no meeting 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.

**Summary**

The new PAR was approved on June 15, 2011. It is valid until December 31, 2015.

**Status**

The document was closed for new additions immediately after the Spring meeting in Savannah. The final draft was completed in July and submitted to IEEE-SA in August for Mandatory Editorial Coordination (MEC). Changes and updates were incorporated.

The 30 day ballot pool formation notice was opened at the end of August. Near the end, additional emails were sent out to over 500 people in certain working groups associated with revisions to C57.12.90. A 10 day extension was opened, followed by another 3 day extension … to allow for people who missed the initial 30 day period.

Finally the ballot pool was concluded in early October. A rough estimation of the participant mix is 25% consultants, 30% producers, and 24% users. The rest fall into various other categories. This seems to be an acceptable mix.

A clean copy and a redline copy of the document are ready to go. The clean copy will be the official balloted version, and the redline copy will be used as an aid to the balloters to easily see the changes. We will launch the ballot at the same time that C57.12.00 is ready to launch. This is expected to occur with a week or two.

Respectfully submitted by Stephen Antosz, WG Chair, on October 22, 2014

## TASK FORCE on Recommendations to the IEEE Transformer Committee (TC) on Recommended Changes, Deletions, and Insertions Related to Normalizing the References of Insulating Liquids Throughout the IEEE TC Standard Series

**P. McShane–TF Chair**

Patrick McShane reported for the task force with 8 members and 6 guests in attendance.

Patrick McShane called the meeting to order and introductions were made. The roster was circulated. The complete detail of attendance is recorded in the AM system. To establish a quorum, a members list was displayed on the screen and those who saw their names were asked to hold up their hand. From this count of hands, it was determined that a quorum was established.

The first order of business was to ask if there were any additional corrections that might be made to the proposed whitepaper. Hearing none, the Chair indicated he would like to move this report to the Subcommittee and would like the direction from the Task Force. A motion was made by Jerry Murphy and seconded by Don Cherry to provide this as our final report to the Subcommittee. This was passed unanimously.

With this, the meeting was adjourned and the Task Force terminated.

Respectfully submitted by Stephen Shull on October 22, 2014.

## TASK FORCE for Comparison of IEEE & IEC Standards for Cross Reference

The task force meeting was held at 4.45 pm on October 21, 2014. 2 of 15 members were present, so a quorum was not achieved. 8 guests also attended, for a total attendance of 10. 1 guest requested membership.

A summary of the Task Force activities was presented which was followed by two presentations on comparison of IEEE and IEC standards. The first presentation was done by Ajith Varghese. Testing requirements in C57.12.00-2010 sections 8 & 9 and C57.12.90-2010 were compared with IEC 60076-1(Ed. 3 2011-04) and IEC 60076-3 /FDIS. Kurt Kaineder clarified that IEC standard 60076-3 has now been published.

The second presentation was by Vinay Mehrotra and covered important differences between C57.12.00 (2010) and IEC 60076-1(2011).

Dejan Susa volunteered to take up comparison of the loading guide C57.91 and the current IEC standard 60076-7.

The task force meeting was adjourned at 5:40pm.

Respectfully submitted by Vinay Mehrotra on October 21, 2014

# Old Business

None

# New Business

* Phil Hopkinson presented his desire to request for two amendments regarding core gassing that could not be acted upon without quorum; one each to C57.12.00 and C57.12.90. Phil asked if the subcommittee would send out amendments electronically. Bill said once the Performance Characteristics subcommittee approves the amendment it could be presented to the Standards subcommittee for consideration. Steve Snyder asked at what time the Dielectric Tests subcommittee become involved.

# Adjournment

The meeting was adjourned by Chair without objection; the meeting adjourned around 5:12pm.

Respectfully submitted by Jerry R. Murphy, Standards SC Secretary