

7.2 C57.13 Instrument Transformers – J. Smith – Unapproved Minutes

Chair's Remarks & Announcements

The Instrument Transformer Subcommittee met on Wed April 22 at 9:30 AM 7 members and 9 guests attended. The meeting was chaired by J. Smith

The previous meeting's minutes were approved as written and there were no Patent issues.

The next meeting is scheduled for October 2009 in Lombard (Chicago), Illinois

7.2.1 Working Group Reports

7.2.1.1 Working Group on Test Requirements for High Voltage Instruments Transformers Rated 115 kV and above

The WG met on April 21, 2009. Five (5) members and fifteen (15) guests attended the meeting. Two guests requested membership. The meeting was co-chaired by Mr. P. Riffon and Mr. Ross McTaggart.

The agenda has been reviewed and accepted as written.

Minutes of Porto meeting were approved as written.

The IEEE patent disclosure requirement policy was discussed. None of the members and guests present during the meeting were aware of any patents related to the work of the WG.

Draft 5 of revision of C57.13.5 has been successfully balloted within IEEE in March 2009. The approval rate was 93% and 81% of the eligible peoples in the ballot group returned their ballot. Four negative ballots have been received and three of them have been resolved before the meeting. One negative ballot still remains to be resolved. The comment associated with this negative ballot has been reviewed and the WG agreed to not accept the balloter comment. The single reference to IEC 600270 will remain since it is not possible to use parts of it or to summarize it in few paragraphs. The WG agreed that this IEC standard should be used as a whole. Use of ASTM D1868 standard dealing with partial discharge measurements has been discussed. This document will be reviewed by the Chairman and if it is not conflicting with IEC 600270, we will be put it as an additional document in the Bibliography of D6.

D6 is almost ready to be re-circulated within IEEE in the next weeks. Changes made from D5 are clearly indicated, most of them are purely editorial. The document should be ready for submission to RevCom prior to the PAR deadline (December 2009).

The remaining part of the meeting was dedicated to a presentation from Mrs. Viorika Aresteanu from Hydro-Québec regarding Instrument Transformers Replacement in Hydro-Quebec Network.

Under Old Business, discussion on the proposal from Mr. Rolando Gomez concerning dissolved-gas content and acceptable limits is postponed to the next WG meeting.

The meeting adjourned at 9:15 am on April, 21, 2009.

7.2.1.2 TF on Bushing and Instrument Transformer Partial Discharge

The new task force on Partial Discharge in Bushings and PTs/CTs met on Monday April 20th, 2009, at 3:45pm with 46 people attending this first meeting.

After introductions, the agenda for the meeting was presented.

As part of the agenda, there were presentations by Arturo Del Rio (Trench), Guy Laliberte (Areva) and Viorika Aresteanu (HQ) on factory PD testing of new bushings, factory PD testing of new instrument transformers and also on test lab PD testing of aged instrument transformers.

The main issues discussed during the meeting were focused on:

- The need for a guide on PD testing of bushings and instrument transformers.
- The scope of this guide to focus on PD testing in test lab settings; not to include field testing or alternate methods such as acoustic.
- The use of the balanced bridge method for PD testing of bushings and instrument transformers.
- Need for utilities to have a IEEE guideline for PD testing.
- Presently, the main references for PD testing of bushings and instrument transformers are IEC 60270, IEEE C57.113 and ASTM D1868.

Meeting was adjourned at 4:30 pm. Follow up meeting for the Task Force to include additional presentations on PD issues for bushings and instrument transformers.

A request to continue with the TF is presented.

7.2.3 Review of comments on C57.13 revision

a) Review of presentation on Partial Discharge

Brian Leslie was not in attendance to make the presentation but it was discussed briefly amongst the attendees. It was generally agreed that the proposed test voltages were too low and that comments should be submitted to J Smith who will forward to B Leslie.

b) Presentation on sections 8.1, 8.2 and 8.9 by Vladimir Khalin

Mr Khalin proposed the following changes:

1) 8.1.1 Uncertainty Limits.

The uncertainty ratio of the accuracy measuring systems shall be no less than 4:1.

For example:

To test 0.3 class transformer, the system's ratio error \pm .075% and phase angle \pm 2.6 min.

To test 0.15 class transformer, the system's ratio error \pm .037% and phase angle \pm 1.3 min.

2) 8.1.7 through 8.1.10 need to be revised

3) 8.2 Demagnetization

Delete Method 3

4) 8.9 Replace this clause with an inter-turn over-voltage test

c) Review of comments submitted by Randy Mullikin

Most of the comments concern bushing current transformers. It was proposed to add clauses taking into account the environment in which these CT's operate, particularly in transformer applications. There was also a proposal to add a table for high accuracy CT's which was different to C57.13.6. The preference is to make it the same as C57.13. The subject of extended range was also brought up and warrants further discussion. The comments on the use of spark gaps were discussed it was agreed that the way the standard is presently worded it appears that they are required whenever the open-circuit voltage is over 3.5 kV, which was not the intent. The proposed revised wording is generally acceptable and it was suggested that guidelines should be included for spark-gap ratings. It was also noted that spark gaps may provide a false sense of security (ie what happens after 1 minute?)

d) Review of test differences between C57.13 and C57.13.5 by Ross

McTaggart

This comparison was done in response to concerns expressed in the previous meeting regarding the proposal that the next revision of C57.13 should specify that C57.13.5 applies to all Instrument Transformers 115 kV and above whether it is specifically called for or not. The additional test requirements imposed "across the board" may impose hardships on some manufacturers due to limited test capacity and result in increased prices to users. The comparison was reviewed and will be distributed to members for comments.

7.2.4 Adjournment - 10:45 AM