10.5 C57.13 Instrument Transformers – J. Smith - Unapproved Minutes

The Subcommittee met on Oct 26.
9 members and 8 guests attended

10.5.1.1 Chair's Remarks & Announcements:

The Chair announced that the next meeting would be in Costa Mesa, California at the Hilton Costa Mesa on March 19 – 23, 2006
He then asked the attendees if they were aware of any patent issues as required by the new IEEE policy. There were none. P. Riffon asked specifically about optical IT issues and J. Smith confirmed that there were none.

The previous meeting minutes were approved as written

The minutes of this meeting are to be submitted by Dec 20

10.5.2 Working Group Reports:

10.5.2.1 WG C57.13.5 - Working Group on Test Requirements for High Voltage Instrument Transformers 115 kV Nominal System Voltage and above

The WG met on October 25, 2005. Six members and eight guests attended the meeting. Two guests requested membership. The meeting was co-chaired by Mr. P. Riffon and Mr. R. McTaggart.

The agenda was approved as written.

Minutes of the Jackson 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.

The Trial-Use Standard C57.13.5 has been published by IEEE in August 2003. One feedback has been received on the use of C57.13.5. This feedback came from Joe Ma and concerns the measurement of leakage impedance of current transformers. This subject has been discussed under "old business".

Three surveys have been circulated since the Jackson meeting. The surveys were sent in May 2005 and were related to:

- Annex H concerning current transformers used as unbalance current protection of capacitor banks;

- Clause 4.5 on temperature rise of terminals;

- Annex I on current transformers having transient performance.

The number of returned surveys was somewhat low (approximately 30% returned). All surveys were 100% approved. No negative surveys were received. Comments received were discussed and the observations made by the chairmen were agreed upon. The majority of comments received were mainly editorial. The technical comments were mainly clarifications to the existing text.

The three documents will be updated according to the comment received and new revisions will be circulated within the WG membership for comments. These three documents will be inserted into the next revision of C57.13.5 for ballot.

A PAR application has been made to IEEE and its formal approval is expected somewhere in December 2005. The deadline has been fixed to December 2008 and the ballot is expected to be held in September 2007.

The chairman will prepare a complete revised draft edition of C57.13.5 for discussion during the upcoming WG meetings.

On the New Business, Vladimir Khalin pointed out that new amendments to IEC 60044-1 and 60044-2 are under discussion. He will send copies of the IEC working documents to the WG membership for possible harmonization with IEEE C57.13.5. These amendments will be discussed during upcoming WG meetings.

On old business, the Joe Ma's feedback has been discussed. His comment concerns the difficulty of measuring the leakage inductance of current transformers for units having multiple core designs. He did propose an alternative test methodology. The presence of adjacent cores does affect the leakage impedance measurement. This measurement has been requested to demonstrate that the secondary windings are uniformly distributed. After discussion, it has been decided to delete this test and this requirement since they are not required by any other national or international standards. WG membership did agree that the most important aspect is the accuracy performance and this is fully addressed by the accuracy tests.

10.5.2.2 Working Group on C57.13 Revision – Tom Nelson

The Working Group met on October 25, 2005. The chairman, Tom Nelson, was absent and Jim Smith chaired the meeting in his absence. There were 7 members and 4 guests at the meeting. The patent disclosure was reviewed. The Working Group reviewed the IEC Standard 60270-2000 on the test equipment calibration and requested that the C57.13 Subcommittee Chair obtain a copy of the latest revision of C57.113 for the Working Group to review and determine if C57.113 or IEC 60270 should be used as the reference partial discharge standard for instrument transformers.

10.5.2.3 Joint PSIM/Transformer Working Group - PAR P1601 Optical Current and Voltage Sensing Systems

Session chaired by: **F. Rahmatian (TC/ITSC)**

Attendees: J. Smith, P. Millward, R. McTaggart, L. Davis, C. Burns, V. Khalin, R. Rensi, C. Tenhaagen, V. Nguyen, A. Cancino, B. Henning, M. Foster, U. Radbrandt.

Minutes (Unapproved)

- IEEE disclosure requirements regarding patent issues related to the WG work were presented
    - Mr. Rahmatian asked if anyone is aware of patents relating to the content of PAR 1601 work. There were no responses. It was noted that no patent or IP was disclosed or identified as relevant to P1601 work.
- Minutes of meeting #10 of P1601 at Transformers Committee meeting, March 14, 2005, Jackson, were reviewed and approved.
- Notes from meeting #11 of P1601 at IEEE/PES GM, June 2005 were presented.
- PAR status and timetable were reviewed
    - Has Applied for PAR extension to 2008
    - Balloting to start in Dec 2007 or sooner
- Text of a preliminary draft was reviewed and discussed.
- Decisions/actions:
    - Include a reference to mechanical test levels in IEC 60044 series.
    - An updated draft to be posted on TC web site by Nov. 24, 2005.
    - Reminder to be emailed for review by Dec. 15, 2005
    - Survey results due by Dec 20, 2005.
    - A revised draft (based on survey comments) to be issued by mid February 2006, for discussion during March meeting.
- Next Scheduled Working Group Meeting
    - IEEE/PES Transformers Committee Meeting, March 19-23, 2006, Costa Mesa, CA.

10.5.3 Old Business

Discussion on PD – continued from C57.13 Revision meeting

- There was further discussion about whether it was appropriate to refer to the IEC standard when an IEEE Standard exists, albeit for Power Transformers. Jim Smith agreed to contact the C57.113 WG Chair to see whether Instrument Transformers could possibly be included in that Standard.

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10.5.4 New Business

Discussion of C Ballantine's proposal for CT Open-ckt Voltage

- Some parts of the calculation for open-ckt voltage were called into question and it was agreed not to include the formulae in the Standard. It was also pointed out by Jim Smith that the main reason for concern when the voltage exceeds 3500 V peak is that it exceeds the test voltage of 2500 V RMS