

7.4 Underground Transformers and Network Protectors – Carl G. Niemann

Meeting Minutes – Costa Mesa, California

7.7.1 Introduction/Attendance

The Underground Transformers and Network Protectors Subcommittee met on Wednesday, March 22, 2006, in the Balboa 1/2 room of the Costa Mesa Hilton Hotel at 11:00 AM with 10 members and 4 guests present. The Vice-Chair, Dan Mulkey, presided in Carl's absence.

7.7.2 Approval of Minutes

The minutes of the October 26, 2005, in Memphis, Tennessee were approved as submitted.

7.7.3 Membership

Membership stands at 17 members.

7.7.4 Chairman's Remarks

Various topics of the Administrative Subcommittee meeting were reported to the subcommittee:

7.7.5 Working Group Reports

7.7.5.1 Underground Single Phase Transformers (C57.12.23) – Alan Traut and Bikash Basu, Co-Chairmen

1. There were 16 members, 8 guests, and 1 guests requesting membership in attendance. With the addition of these new members the total membership of the WG now stands at 26.
2. The chair requested disclosure of any patents that might impact this standard. There were no patents disclosed at this meeting.
3. The minutes of the October 2005 meeting in Memphis were approved as submitted.
4. The WG agreed to make the following changes to Draft 4 of the document.
 - A. Clause 7.3 Accessories. Remove the word "manual" from the pressure relief fitting. Reorganize the paragraphs for clarity. Change "oil" level indicator to "liquid" level.
 - B. Suggestion to remove the word "enclosure" from the Scope of the standard. It was voted to keep it in as removing it might imply direct burial of these products.
 - C. Suggestion to add a definition of enclosure to clause 3. After reviewing the definition in C57.12.80, we agreed it is acceptable and no further definition is required.
5. The chair will make the revisions indicated and send to IEEE for editorial review. If there are substantial changes as a result of that review we will meet in Montreal in the Fall 2006 to discuss those changes. If there are no substantial changes we will not meet in Montreal.

7.7.5.2 Three-Phase Underground-Type Transformers (C57.12.24) – Giuseppe Termini, and John Sullivan Co-Chairmen

1. The meeting was called to order by the Chairman at 8:00AM on Monday, March 20, 2006 in the Balboa II Room of the Hilton Costa Mesa Hotel in Costa Mesa, California. John Sullivan unable to attend meeting. Chairman asked David Blew to take minutes of meeting. Introductions were made. The meeting was attended by 13 members and 11 guests. One guest requested membership.
2. The Chairman opened the meeting by asking if anyone in the Working Group knew or had knowledge of any existing or pending patents that may affect the work on this standard. All responses were negative.
3. The Meeting Minutes from the previous meeting in Memphis, TN were reviewed and approved.
4. The rest of the meeting consisted of a review of Draft B of the standard.
 - A. Section 2 The word “not” was underlined for clarity, now to read: “When an American Standard referred to in this document is superceded by a revision approved by the American National Standards Institute, Inc., the revision shall not apply.”
 - B. Section 5.5 The Chairman stated that the section will stay as is until the 3ph padmount WG finalizes their work. B. Klaponski stated he also had worked on this issue and there was a lot of controversy over impedance values (being low). WG would like to be consistent with other standards.
 - C. Section 6.2 Spaces were added between the temperature and °C in two places.
 - D. Section 7.1 Wording of “mineral-oil-immersed” was questioned and discussed. Left as is (see section 5.1 and note at bottom of Figure 1).
 - E. Section 7.2.2 Figure 4(c) Thickness of terminal was stated to be too thin, a thickness of 3/8 inch was suggested. Further evaluation will be required.
 - F. Section 7.2.2 Figure 4(d) Terminal should be 12 holes. Thickness of terminal was stated to be too thin, a thickness of 3/8 inch was suggested. Further evaluation will be required. First two lines in table (1500kVA) will be deleted.
 - G. Section 7.2.2 Figure 4 Note 5 deleted (not needed as these are vertical terminals)
 - H. Section 7.5 Word “enclosure” changed to “tank”. Entire section moved under 7.6. Wording of pressures will be changed to be consistent with 3ph pad standard.
 - I. Section 7.6.1 Word “enclosure” was deleted from text and table heading. Lots of discussion regarding wording of submersible, non-submersible, above ground vault, etc. took place. A motion to modify the Scope and/or add a note in Section 7.6.1 to address non-submersible, above ground and vault applications was made. This motion was defeated. Two (2) participants voted YES while 16 participants voted NO. The Scope will remain as is and no notes will be added to section 7.6.1 to address “other” applications besides submersible.
 - J. Section 7.6.7 Clevis wording discussed, left as is.
 - K. Section 7.9 Table number changed from “5” to “6”.
5. The meeting was adjourned at 9:15 AM.

6. After the Meeting comment: The word “determining” on the Purpose was changed to “establishing”. The purpose now reads:
“This standard is intended for use as a basis for establishing the performance, electrical and mechanical interchangeability, and safety of the equipment covered, and to assist in the proper selection of such equipment.”

7.7.5.3 Liquid Filled Secondary Network Transformers (C57.12.40) – Brian Klaponski and Dave Blew, Co-Chairmen

1. The WG met on Monday, March 20, 2006 at 09:35 am with 9 members and 6 guests.
2. The chairman reviewed the patent legal issue and asked whether there were any patents or patents pending that would affect the WG or standard. None were identified.
3. The minutes of the October 24, 2005 meeting in Memphis, TN were approved.
4. Brian Klaponski gave a brief summary of balloting process to date.
 - A. Process is nearing the end. Standard has gone through a recirculation ballot and will be reviewed by RevCom on March 29/06.
 - B. Once through RevCom, the standard will be published.
 - C. The procedures for a Working Group to update a standard are overly complicated and too much administrative work is required from the WG. This places a huge burden on the WG chairs. There is a lot of opportunity for improvement in the process.
 - D. Resolution with SCC14 issue. With assistance from the IEEE-SA staff, Mr. Frysinger was removed from the review process of our standard and the SCC14 Chairman, Mr. Bruce Barrow reviewed our standard. Recently, Mr. Frysinger resigned from SCC14.
 - E. Since the standard being published was only updated to correct editorial errors, it is not really the standard we need. WG will focus on a complete review of the standard during the next review cycle.
 - F. There was a comment from I. Hussain about the recirculation ballot process. There was an ABB server problem that prevented IEEE documents from being delivered. WG did not use the MyBallot system.
5. Review of new PAR. WG developed new title, scope, and purpose. Intent is for this standard to not cover dry type transformers.

Title:

Draft Standard for Network, Three-Phase Transformers, 2500 kVA and Smaller; High Voltage 34 500 GrdY/19 920 and Below; Low Voltage 600 Volts and Below

Scope:

This standard covers certain electrical, dimensional, and mechanical characteristics and takes into consideration certain safety features of three-phase, 60-Hz, liquid-immersed, self-cooled, network transformers with a primary grounding switch. These transformers are rated 2500 kVA and smaller with high voltages of 34 500GrdY/19 920 volts and below. These transformers are generally used for step-down purposes from underground primary cables and supply a secondary network system through network protectors. These transformers are typically installed below ground level.

Purpose:

This standard is intended for use as a basis for establishing the performance, electrical and mechanical interchangeability, safety of the equipment covered, and to assist in the proper selection of such equipment.

6. The draft standard will be updated and sent to all WG members.
7. The meeting was adjourned at 10:45am with the next meeting in Montreal, Quebec Canada.

7.7.5.4 Secondary Network Protectors (C57.12.44) – D.H. Mulkey, Chairman

1. The meeting was called to order at 1:45 PM on March 20, 2006, in the Balboa 2 Room of the Hilton Costa Mesa Hotel in Costa Mesa, California.
2. There were 5 members and 1 guest in attendance – see attached list:
3. The minutes from the October 24, 2005, meeting in the Peabody Hotel in Memphis, Tennessee were approved as submitted.
4. A request was made for disclosure of any patents that may be related to the work of the WG, and there were no responses to the request for disclosure.
5. Significant Activities:
 - A. Draft 2.1 was approved by the Standard Board on December 7, 2005
 - B. Michelle Turner is the Program Manager overseeing the publishing process for this standard
 - C. This standard will be good through 2010.
6. Next Steps: As the working group did not have any immediate revisions in mind for this standard, this working group will not meet until some further action is required.
7. Adjournment: The meeting was adjourned at 2:02 PM.

7.7.5.5 Ventilated Dry-Type Network Transformers (C57.12.57) – A.L. Robinson, Chairman

1. The WG was not scheduled to meet.
2. The chair will submit the draft documents to either Carl Niemann or Dan Mulkey

7.7.6 Old Business

1. none

7.7.7 Future Meetings

The location and dates for future meetings are as follows:

- Oct 21-26, 2006 Delta Center-Ville Hotel, Montreal, Canada
- March 11-15, 2007 probably Dallas, Texas
- Fall 2007, Minneapolis, Minnesota
- Spring 2008, Miami, Phoenix, San Antonio, or Charlotte
- Fall 2008, Porto, Portugal

7.7.8 The Subcommittee adjourned at 10:30 AM.