

## **9.7 Underground Transformers and Network Protectors - C.G. Niemann**

Meeting Minutes – Oklahoma City, Oklahoma

### **9.7.1 Introduction/Attendance**

The Underground Transformers and Network Protectors Subcommittee met on Wednesday, October 23, 2002, in Room 20 of the Cox Business Services Convention Center at 9:30 AM with ten members and three guests present.

### **9.7.2 Approval of Minutes**

The minutes of the April 17, 2002 meeting in Vancouver, B.C., Canada were approved as submitted.

### **9.7.3 Membership**

Membership stands at 20 members.

### **9.7.4 Chairman's Remarks**

#### **Administrative Subcommittee Notes Reported to SC**

- Attendance at meeting is 286 registered and 37 companions.
- The subcommittee was informed that according to Sheldon Kennedy, The NEMA Delegation had voted to inform NEMA it was their recommendation to turn the writing of transformer standards over to IEEE.
- IEEE "C57 Phonebook", available in CD format at this meeting.
- No word received yet from IEEE on the metrification issue. The Underground Subcommittee Chair voiced his displeasure with the delay as it was affecting how we will proceed in standards revisions.

### **9.7.5 Working Group Reports**

#### **9.7.5.1 Three-Phase Underground-Type Transformers (C57.12.24) J. Sullivan – Chairman**

No report, did not meet. Group met in general session to discuss the MOU and metrification issues.

#### **9.7.5.2 Liquid Filled Secondary Network Transformers (C57.12.40) B. Klaponski -Chairman**

1. Met on Monday, October 21, 2002 at 11:00 AM with 11 members and four guests present.
2. Minutes of the April 15, 2002 meeting in Vancouver, B.C. Canada were approved as submitted.
3. The WG discussed the metrification issue. The Chairman stated that although we were ready to go to a final draft and a ballot, this will not proceed until there is clear direction on metrification. This WG wishes to work with the dual measurement method, but recognize

that this probably will be rejected by the IEEE. We await the results of C57.12.34 and the ultimate direction from the Main Committee.

4. The current ANSI/NEMA standard has numerous editorial errors and our current PAR was intended to be short lived to correct these errors and then publish this document as an IEEE document. Caution should be exercised with the current C57.12.40 - 2000 NEMA document.
5. It was decided to use the rest of the meeting to start the next revision to the standard with an objective of a 2005 publishing date.
6. The discussion started with a general discussion on the former Part II of this standard that used to be included for Con-Ed. It is noted that prior to application for a new PAR, Con-Ed will be requested to attend our meetings, state their case in regards to Part II, and participate in the standard development.
7. Review of the current spec started with the following notes:
  - (a) Need for a poll of manufacturers to check usage of 150 kV BIL at 35 kV versus 200 kV BIL at 35 kV.
  - (b) Loss tolerance for orders of more than one unit may have to be discussed further.
  - (c) The network primary switch requirements need clearer definition. Larry Dix will document a proposal on the HV switch for this WG to discuss at the next meeting.
8. The meeting was adjourned at 12:15 pm

#### **9.7.5.3 Secondary Network Protectors (C57.12.44) D.H. Mulkey – Chairman**

1. Met on Monday, October 21, 2002 at 3:15 PM with five members and three guests present.
2. Minutes of the April 15, 2002 meeting in Vancouver, B.C., Canada were approved as written.
3. The WG reviewed six added or revised sections of C57.12.44 D1.3. The following changes were made:
  - A. Revised 7.2.1 “Dead Network Close Function” to include “80% of rated voltage” to match minimum voltage close characteristics.
  - B. Revised 7.3 “Automatic Trip Functions” by correcting spelling of the word “planned”. The remaining portions of section 7 were approved as submitted.
  - C. Revised 10.5.18 “On network breakers” was changed to “On network protectors”. Sections 10.5.17 and 10.5.18 were approved as written and /or approved with changes.
  - D. Section 11.4.1 Transformer Mounted. The “C” dimension as referenced in C57.12.44D1.3 in the 2500-4500A unit size does not agree with C57.12.40-2000 Figure 4. It was suggested that Dan Mulky survey the Network Protector and Network Transformer manufacturers to determine what dimension should be used.
  - E. Changed Annex Table B.3, Alloy Fuse, and Table B.4 Silver-Sand Fuse to include the Richard’s Manufacturing style numbers. It was brought up that the Silver-Sand Current Limiting fuse write-up needs to include a statement concerning let-thru currents and their impact on network protector withstand ratings. Jock Moffat agreed to submit this addition.

F. Discussion was held on the need for Table 4 (Type 2) breaker ratings and that it should be removed from the standard, as well as the BIL section. This was tabled will be on the agenda for the Raleigh, NC meeting.

4. Next meeting will be held in Raleigh, NC on March 16-20, 2003.

A. Two working group sessions are required for the next meeting.

5. The meeting was adjourned at 4:30 PM.

#### **9.7.5.4 Ventilated Dry-Type Network Transformers (C57.12.57) A.L. Robinson – Chairman**

1. Introduction/Attendance

The working group met on Monday, October 21, at 2:00 p.m. in Room 21 of the Cox Business Services Convention Center, Oklahoma City, Oklahoma, with four members and three guests in attendance.

2. Approval of Minutes

The minutes of the meeting in Orlando, Florida, were approved as published. No meeting was held in Vancouver, BC.

3. Old Business

The Chairman routed a copy of the current roster and asked each attendee to verify their e-mail address since that will be the primary mode of future communications.

The working group Chairman reported that the revised standard had been submitted to NEMA for balloting and it had been approved. However, it has not and probably will not been published by NEMA.

There was discussion as to the need for this standard. It was originally developed as an alternative to PCB filled network transformers. Manufacturers of dry type transformers will be polled to determine if this type of network transformer is still being built.

Discussion followed as to the next step. Since the document is ready for publication and would only need to be revised to meet IEEE metrification standards, it was decided to submit a PAR to receive IEEE authorization to begin the process.

#### 4. New Business

Hemchandra Shertukde volunteered to be the working group vice-chairman.

Three new members joined the committee. The Chair welcomes Art Diem, Hemchandra Shertukde and the return of Paul Orehek to the committee.

#### 5. Next Meeting

The next meeting will be in Raleigh, N.C., on March 16-20, 2003.

#### 6. Adjournment

The meeting adjourned at 2:15 pm

### 9.7.6 New Business

1. Discussion on removal of metric units from standards. Subcommittee is in favor of dual unit system. The Underground Transformers and Network Protectors Subcommittee voted to adopt a position statement It reads as follows

**The Underground Transformers and Network Protectors Subcommittee supports metrification on our product standards, however, we strongly recommend, for safety reasons, that for the foreseeable future our standards retain the dual unit system.**

#### **CLARIFICATION**

**By foreseeable future we mean that until such time that the work forces are fully conversant with metrification. Also, we are not in favor of putting U.S. Customary units in footnotes or appendices.**

2. Discussion on withdrawal of MOU for co-copywrite with NEMA. Will wait to see what action NEMA takes on the recommendation of the NEMA Delegation to turn over writing of Standards to IEEE.

### 9.7.7 Future Meetings

The location and dates for future meetings are as follows:

March 16-20, 2003	Raliegh, N.C.
October 5-9, 2003	Pittsburg, PA

### 9.7.8 The Subcommittee adjourned at 10:45 AM.

