

10.2 Distribution Transformer Subcommittee Report

Ken S. Hanus - Chairman

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The Distribution Transformer Subcommittee has a total of 8 active working groups, 7 of those met in Dallas.

Subcommittee Meeting Wednesday March 14, 2007 at 3:00 pm

34 Members

24 Guests

58 TOTAL

4 Requests for membership

10.2.1 Chair's Remarks & Announcements:

Review of Administrative Committee meeting highlights

- Future Meetings
- The Unapproved Montreal minutes were approved with no corrections.

10.2.2 Working Group Reports

10.2.2.1 C57.12.20 Overhead Distribution Transformers

Alan Wilks & Tommy Cooper Co Chairs

awilks@ermco-eci.com & Tommy.cooper@faypwc.com

PAR Status: Approved 9/15/2006

PAR Expiration Date: 12/31/2010, Current Standard Date: 2005

Current Draft Being Worked On: D1

Meeting Time: 9:30 am, Monday, March 12, 2007

Attendance: 42 Total

23 Members

19 Guests

Alan Wilks called the WG C57.12.20 meeting to order at 9:35, introductions were made and rosters were circulated. The unapproved minutes of the fall 06 meeting in Montreal were reviewed and approved. Alan then reminded everyone of the IEEE policy on patents and asked if anyone had any patents to declare, none were declared.

Old Business: Alan explained the paragraph on the induced voltage test was to be inserted in C57.12.90, only since that is the only standard that is applicable.

Alan then went over results of the WG ballot on Marcel's proposal for Section 9. Out of 33 members polled he received only 7 positive responses, 2 with comments. He then passed out copies of the comments and results. On one of the comments Alan explained that we only need to look at the technical aspects now and change to proper English later. Marcel went over the comments and the WG voted to maintain the 1 liter of oil expulsion as criteria #3. Marcel then explained the difference in the amount of energy of the fault depending on the arc starter wire size. The section presently states a wire size of 14.5 AWG or smaller shall be used. There is a

multiple of approximately 2 in the energy produced between using a 30 gauge wire and doing the test with a 14.5 gauge wire, as the arc starter. Marcel also went over the fact arc time length (0.5 cycle vs a 1.0 cycle) would almost double the amount of energy in the fault. Marcel pointed out the fact that these differences in test procedures would give varying results based on how you ran the test. He recommended we tightened up the requirements. Alan then offered to do another survey of the WG due to the response of the first survey on two questions. The questions on the survey would be - 1. To determine the wire size to be used for testing, and 2.- determine the length of time for the arc – ½ or 1 cycle.

The meeting was adjourned at 10:45 with the rest of the agenda carried over to the fall meeting.

10.2.2.2 C57.12.38 Single-Phase Padmounted Distribution Transformers Combined C57.12.25 & C57.12.21

Ali Ghafourian & Ignacio Ares Co Chairs

aghafourian@ermco-eci.com & Ignacio_ares@fpl.com

PAR Status: Approved 12/08/1998 (For combining Standards C57.12.25 & C57.12.21)

PAR expiration Date: 12-31-2009

Current Standard Date: 1995

Current Draft Being Worked on: D6.1, Dated: March 2006

Meeting Time: 11:00am, Monday, March 12, 2007

Attendance: 35 Total

27 Members

8 Guests

1 Request for membership

Introductions were made and roster was circulated. The IEEE Patent disclosure was discussed and there were no patents noted that pertain to these standards.

The unofficial minutes of the last meeting held in Montreal in October, 2006 were approved with no corrections. The following handouts were given:

Meeting Agenda

Unapproved minutes of October, 2006 WG meeting

Draft D1.1 of C57.12.38

There are currently two drafts of the standard. Draft D6.1, which was circulated for editorial comments to IEEE (MEC) to then go for balloting, and draft D1.1 which was to incorporate future revisions. A comment was made that IEEE requires that the scope on the PAR must be the (Document #: PC57.12.38, Draft Revision: D1.1, Date: March, 2007, Page # 2) same as the purpose of the standard. There was also a comment from M. Fortin about the standard presently does not cover 480 secondary volt units.

The group then discussed the various options of making the standard cover various voltages: 600V, 480V or 240/120V as it stands today. The point was made that the PAR will have to be changed if the scope of the standard changes. A motion was then made to change the scope of the standard (which will require a PAR change) to 600V with 19 members voting for the change and 1 against. The motion to change the scope of standard to cover secondary volts 600V and

below was then passed. The comment was then made whether the tables should address the inclusion of the new voltages, specifically 480V. A comment was made by Brian Kaplonski that introducing 600V and below into the standard does not necessarily force the standard to cover them in the tables, etc. The group finally discussed incorporating the 600 V change into draft D6.1 which will then be balloted. This will require changing the PAR to match the new scope of the standard. The WG will continue working on draft D1.1. for any future changes. The meeting was adjourned at 11:55 a.m.

10.2.2.3 C57.12.28, C57.12.29, C57.12.31 & C57.12.32 Cabinet integrity Standards

Bob Olen & Dan Mulkey Co Chairs

bolen@cooperpower.com & dhm3@pge.com

Meeting Time: March 13, 2007 Time: 8:00 AM

Attendance: 38 Total

21 Members

16 Guests

1 Request

The PAR for the C57.12.31 was submitted in January 2007. A NESCOM member noted that Switchgear and Capacitor products are included in the standards. Following communications with the Switchgear Committee leadership a joint sponsorship was agreed upon. Therefore, the C57.12.31 standard will be developed under a joint between the Transformer and Switchgear Committee.

Draft 1.0 was then presented to the working group. Changes made to the existing standard were highlighted along with sections that will require Working Group action at future meetings.

10.2.2.4 C57.12.34 Three-Phase Padmounted Distribution Transformers

Ron Stahara & Steve Shull Co Chairs

rjstahara@msn.com & sshull@empiredistrict.com

PAR Status: New PAR required for next revision

PAR expiration Date: N/A

Current Standard Date: Published March 8, 2005 (2004 date on document)

Current Draft Being Worked On: D1

Meeting Time: March 12, 2007 Time: 1:45 PM

Attendance: 39 Total

12 Members

27 Guests

7 Guests Requesting Memberships

Meeting Minutes / Significant Issues / Comments:

Ron Stahara called the meeting to order, introductions were made, and an attendance roster was circulated. Ron reviewed the IEEE Patent Policy and asked the group if there were any patents that needed to be disclosed. None were announced to the group. The minutes were reviewed. A

motion was made to accept the minutes by Jerry Murphy and seconded by Gerri Paiva and accepted by acclamation.

Jerry Murphy reported that the task force has reviewed the issue of voltage taps and percentage taps. His report is shown in Appendix A, with the consensus being that the taps should be percentage taps. After some discussion, Jerry made a motion that Table Two should be eliminated and replaced with a statement in article 4.3 to specify the taps as percentage taps and add the footnote to the body of this article that is shown in Table 2. It was seconded by Iqbal Hussain. More discussion followed concerning the voltage taps of 13800 GrdY/ 7970 and 16340 Δ. John Rossetti discussed how these values got there sighting the NEMA document that pertained to these voltage tap settings. Some utilities discussed their use of these transformers and how their specifications called these taps out. The consensus was that if a company needed this they could call them out in their specification but the vast major of users are using percentage taps. A vote was taken with 24 being for and 1 opposed. The motion passed to use percentage taps in this document.

Iqbal Hussain stated that his task force had reviewed the drawing set and had turned these back to Steve Shull. Steve stated that he had incorporated these changes into the current drawings. At this point Steve handed out draft 2 to the group.

Giuseppe Termini pointed out that the title on the minutes did not match the title in the draft. Brian Kaplaski commented that that the scope and purpose of the PAR must to be reviewed to verify that they match our proposed document. John Rossetti stated that the drawings needed to be reorganized to allow for secondary voltages greater than 480 volts since this document would provide for stepdown units and the current cabinet configurations as specified might not work with these new layouts. He also pointed out the separable interfaces need to be reviewed because they could limit the maximum kVA to which the transformer could be design. With this reorganization, He pointed out that the drawing references included in the drawings must be reviewed for correctness. Steve volunteered to make these reviews and return to the next meeting with a better draft for review. With this, the meeting was adjourned.

Appendix A Comments on C57.12.34 - Taps (Table 2)

Iqbal Hussain – ABB

Clause 4.3 refers to table 2. I suggest that all standard taps should be at 2 @ 2.5 % above and 2 @ 2.5 % below normal voltage. There a very few customers who want 14400 taps at 13800 delta and 17200 at 16340 volt ratings. Majority accepts straight 2.5 % taps as stated above.

John Rossetti – MLGW

The best information I could find was copied from the EEI-NEMA Joint Committee Distribution Transformer application Charts.

Look at Application CHART S1-C page 37. This may explain where the taps came from for 13800. The chart shows HV taps at 13200,13500,13800, 14100 and 14400 for 120/240 (167 kVA), 240/120 (250-500 kVA) and 240X480 (167-500 kVA). I think this allowed the transformer to provide the LOW VOLTAGE REQUIRED from the ACTUAL OPERATING VOLTAGE as shown in the graph on page 41. I think the intent here is for a given tap setting to set the low voltage in a 120-125 volt window on a 120 volt base.

The 16340 may at one time have been a transmission voltage. The 23kV distribution system here at MLGW was at one time used for transmission. The ratio between 4160 and 16340 is approximately 3.9/1. MLGW's 23/4.16 had a ratio of 5.5/1.

Jim Arnold related this comment to John & me in Montreal

"The "E" taps 14400/14100/13800/13500/13200 allow for connection on a 13800 volt system or a 23900 GrdY /13800 system. This would allow for three single phase transformers to be connected delta (three-wire) or WYE for the 23900 GrdY/13800 system. This was also used with a 24940 GrdY/14400 system with the taps set for 14400/14100/13800/13500/13200.

Essentially this would provide a dual voltage function by using either a Delta or WYE connection."

Mike Culhane by Dwight Parkinson – Cooper Power Systems

"The 13800 spread makes some sense because it includes two other common nominal voltages; 13200 and 14400. These used to be called "NEMA taps" and must have their origin in an old NEMA standard. I support standardizing on 2.5% steps.

I have no clue where the unusual spread came from for 16340. It's such an unusual nominal rating that I would argue that it does not belong in the table. One possibility is that it originated from the same NEMA document as the 13800 spread."

Dwight Parkinson – Cooper Power Systems

I also support standardizing on 2.5% taps. Based on the units that we've built for that voltage, the vast majority are built with +/- 2.5% taps, and not to the specific taps listed in the table.

Consensus:

Table 2 should be consistent and all voltages should by standard be +/- 2.5% taps.

10.2.2.5 C57.12.35 Bar Coding For Distribution Transformers

Lee Matthews & Giuseppe Termine Co Chairs

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PAR Status: APPROVED Dated: March 4, 2005

PAR expiration Date: December 31, 2009

Current Standard Date: 1996 (R2004)

Current Draft Being Worked On: Draft #6, Dated: 2007

Meeting Time: March 13, 2007, 3:15 PM

Attendance: 24 Total

10 Members

14 Guests

The meeting was called to order on March 13, 2007 at 3:15 p.m. in the Lincoln 2/3 Room of the Hilton Hotel in Dallas, Texas.

The meeting began with introductions of those in attendance.

The chairman asked if anyone was aware of any patents that might affect the development of this standard. No patent claims were made.

The minutes of the previous meeting in Montreal, Quebec, Canada were reviewed and approved.

The remainder of the meeting consisted of a review and commentary on Draft D6-2007, dated February 16, 2007 of the document. No comments were received. This Draft will be submitted for balloting.

The chairman advised that the invitation to ballot is presently open and will close on April 6, 2007.

The meeting was adjourned at 3:30 p.m.

10.2.2.6 C57.12.36 Distribution Substation Transformers

John Rossetti & David Aho - Co Chairs

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PAR Status: PAR Approved June 2002

PAR expiration Date: December 2008

Current Standard Date: NEW Standard Under Development

Current Draft Being Worked On: D11

Meeting Date: March 13, 2007 Time: 11:00AM

Attendance: 34 Total

21 Members

13 Guests

The unapproved minutes from the F06 Montreal meeting were approved without changes. The patent policy was discussed and no issues were identified.

The administrative issues covered included a PAR extension until December 2008 and a review of the proposed Scope change. The WG agreed with the changes and these will be submitted directly following the committee meetings. The changes include adding 50 Hz back in and removing a statement regarding safety considerations.

Regarding the draft document, the remaining 5 items from the ballot process were reviewed. Ray Nicholas will review some flange dimensions provided in Annex A and will also consider providing a drawing. Ray also volunteered to develop a bibliography. A few general editorial and figure changes were also reviewed. The only technical item reviewed related to a comment defining sealed tank requirements. No changes were determined necessary.

Draft 11 will be submitted to Sue McNelly for posting to the website. All comments and negative ballots have been addressed with the agreed upon changes incorporated into Draft 11. A few minor editorial issues will be cleaned up shortly and then the document can be uploaded with the comment resolution form to initiate a ballot recirculation.

A list of ideas is being developed for future change consideration. We briefly reviewed one item submitted by John Rossetti related to testing. Members were asked to review the draft and submit thoughts for improvement.

The meeting adjourned at 11:45am.

Additional Meeting Details:

The scope changes were reviewed for approval by the WG. Scopes for the original PAR, Draft 10, and Draft 11 were compared during the meeting. Shown below are scopes from the original Par and Draft 11.

Original Scope:

This project is to develop a standard for 50 and 60 Hz liquid distribution substation transformers with ratings of 10 000 kVA and below three phase, 6667 kVA and below single phase with a primary voltage 69 000 and below, and a secondary voltage of 34 500 and below. The standard will cover indoor/outdoor application, cover/sidewall terminations and switchgear coordination issues.

Draft 11 & Proposed Revised Scope:

This standard covers certain electrical, dimensional, and mechanical characteristics of 50 and 60 Hz, two winding, liquid immersed distribution substation transformers. Such transformers may be remotely or integrally associated with either primary and secondary switchgear or substations, or both, for step-down or step-up purposes rated as follows:

- (1) 112.5 through 10 000 kVA three-phase
- (2) 250 through 6667 kVA single-phase
- (3) high voltage 69 000 V and below, and a low voltage of 34 500 V and below

It is not intended that this standard shall apply to dry-type, regulating, pad-mounted, secondary-network, furnace, rectifier, mobile, railway, or mine transformers.

- ☐ Comment Review & Assignments
 - Of the 90 comments received during the original ballot process, 5 items remain.
- ☐ Annex A - Section 6.0 (option 2), Verify dimensions and add diagram. – R. Nicholas
- ☐ Section 5, figure 5.1, editorial cleanup – D. Aho
- ☐ General Editorial, add WG member list – D. Aho
- ☐ Section 5.9.1, Verify wording okay. Add statement to response for negative ballot regarding -20oC reference. Discussed and developed a response to ballot comment. No document change was determined necessary.
- ☐ Annex B (Bibliography), Add bibliography for cited documents. Refer to C57.12.00 as reference. – R. Nicholas Volunteered to write.
- Re-circulate the ballot with suggested changes
- ☐ No reason to wait for the scope revision approval.
- ☐ All changes have been incorporated.

□ New Business

- New requests for Standards Development

"All tests shall be performed in accordance with IEEE Std C57.12.00-1993 and IEEE Std C57.12.90-1999."

C57.12.00 has two categories for testing. One above 500kVA and one below. We then have tests labeled as "Routine", "Design" and "Other". No order is given for testing. This is a minimum. Testing was spelled out in greater detail in an old issue of NEMA Standards for TRANSFORMERS PUB. NO. TR 1-1954.

In a book published by the Power Transformer Division of Westinghouse "TRANSFORMERS for the Electric Power Industry" authored by Harold Moore, Richar Bean, Nicolas Chackan, jr. and Edward Wentz provided a recommended test schedule (page 313).

Test Schedule.

1. Ratio, polarity (1-ph), winding connections
2. Resistance measurements
3. Impedance, regulation, load loss
4. No-load loss, exciting current
5. Dielectric tests

The book states, "The order of tests is not in the order of importance, but in the reverse order of their possible effect upon the transformer characteristics."

Two areas of concern on testing in PC57.12.36;

1) C57.12.00 Table 17 note (3) references a routine impulse test for distribution transformers. We need to make sure PC57.12.36 Distribution Substation Transformers requires an impulse test as part of "routine" testing.

2) Need to look at making zero-phase sequence impedance voltage test routine for transformers with WYE-WYE connected windings. This is needed for WYE connected transformers with switchgear integrally connected in a unit substation configuration with over current protection. The zero-phase sequence impedance is needed to calculate 1-phase to ground and 2-phase to ground fault current magnitude.

The meeting adjourned at 11:45 am

Submitted by: Dave Aho

10.2.2.7 C57.15 Step-Voltage Regulators

Craig Colopy & Gael Kennedy Co Chairs

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PAR Status: APPROVED

Date: June 9, 2005

PAR Expiration Date: December 31, 2009

Current Standard Date: C57.15 – 1999 – Published April 2000

Current Draft Being Worked On: Draft 5.1 Dated: October 2005

Meeting Date: March 13, 2007, 1:45 pm

Attendance: 40 Total

35 Members

4 Guests

1 Guest Requesting Membership

Minutes of the Montreal meeting were approved (moved Lee Matthews, 2nd by Steve Shull, Passed with no objections)

IEEE Patent Policy conflict or infringements given to group – No responses

Discussion by Craig on the Dual logo status and requirements for references IEEE/IEC.

IEC 60214-1 Performance Requirements and Test Methods and 60214-2 Application Guide are the two most applicable. May be a good use of a Reference section as a means of showing the applicable standards.

IEC Control Standards which relate:

Electrical Transient, Impulse & Surge Tests plus Emissions and Immunity

EN61000-6-4 RF Conducted and Radiated Emissions

EN61000-6-2 ESD & RF Radiated Immunity Enclosure Tests, EFT and RF Immunity Tests,

EN61000-4-5 Surges

EN61000-6-11 Voltage Dips & Dropouts

EN61000-4-8 HV Impulse Wave

EN60255-5 HV Impulse Wave, Dielectric Withstand Voltage Test and Insulation Resistance Test

EMC Environmental Tags

60068-2-6 Swept Sine Vibration

60068-2-1 Low Temperature & High Temperature Storage

60068-2-30 Temperature & Humidity Cycling

Comments were basis on the C57.15 being designed to stand by itself.

NEW DISCUSSIONS ON SUBJECTS:

IEEE T-SA Template was reviewed Monday at the SA Luncheon Meeting and we will let the Standards association fit the standard into the template when we go out for ballot.

The draft of the C57.15 has been sent to the SA for a pre-ballot review and comments were received and have been inserted into the next draft. C57.12.00 and C57.12.90 have a 2006 date on them and Craig is reviewing them to check for any changes which may affect the C57.15 Standard.

Last meeting assignment of a Task Force headed by Tom Jauch was charged with looking at the consistency between the coverage noted in C57.12.10 and C57.15, paralleling units, and he presented the present position and results. Much work to be done.

From the last meeting, the short circuit-withstand task force working group had input from the following:

Wallace Binder – Application Spreadsheet

Stephen Shull – Tap Voltages
Marcel Fortin – Rated Currents
James Harlow - Summary

James Harlow proposed a revision to Clause 5.8.1, Clause 7.2 Short Circuit, Clause 6.4 Nameplates, appendix b to be changed appendix c, and a new appendix b be substituted. He also noted the problems with the X/R ratio asymmetrical offset factor. See the attached comments. Marcel Fortin discussed some of the comments that James had presented.

Problem in ratings: Nameplate current @55C, Nameplate currents @ 55/65C, Supplementary current rating @7200 for 7620 volt rated regulators, and Add - Amp Bonus.

Clause 3 Definitions: add **Base Rated Load Current**: The rms symmetrical rating, expressed in amperes, of the step-voltage regulator when operating continuously at its rated range of regulation.

It was suggested by Marcel that an alternate to the Short Circuit Withstand could be to divide it into categories. See Slides attached to this report.

Discussion of the 25X and 40X notations on the regulators and where these may lead. Comments were made that they were not needed by the utilities. General chaos during the discussion by the group. Marcel suggested that we mark the “actual top capacity” on the nameplate.

Much work needs to be done yet and Craig will place an update on the Web site for review. Any comments would be appreciated.

Motion was made to adjourn, 2nd ed, and passed with no objection. Meeting over at 3:00PM Tuesday 13 March 2007.

Attachment: Comments from James Harlow:

Recommended changes to C57.15-1999 on matter of Short-circuit capability

My sense is that the standard as now written and as we have introduced suggested changes unnecessarily overcomplicates the matter. I propose the following (items enclosed [xxx] are to clarify only and are not to be in the standard):

1. Clause 3 Definitions

Add base rated load current: The rms symmetrical rating, expressed in amperes, of the step-voltage regulator when operating continuously at its rated range of regulation.

2. Clause 5.8.1 General [This under 5.8 Short-circuit requirements]

Step-voltage regulators shall be designed and constructed to withstand the mechanical and thermal stresses produced by external short circuits of a maximum value of 25 times the base rated load current.

- a. The short-circuit current shall be assumed to be displaced from zero insofar as determining the mechanical stresses. The maximum peak value of the short-circuit current that the regulator is required to withstand is equal to 2.26 times the required rms symmetrical short-circuit current.
- b. The short-circuit current shall be assumed to be a duration of 2 s to determine the thermal stresses.

Short-circuit withstand capability can be adversely affected by the cumulative effects of repeated mechanical and thermal over-stressing, as produced by short-circuits and loads above the nameplate rating. Since means are not available to continuously monitor and quantitatively evaluate the degrading effects of such duty, short-circuit tests, when required, should be performed prior to placing the regulator in service.

3. Clause 7.2 Other short-circuit capability [This under 7. Other requirements]

When specified and so designated by the supplier the dictate of Clause 5.8.1 is changed to a maximum value of 40 times the base rated load current, or 16,700 A, whichever is less. [668 A (from clause 5.4) $\times 25 = 16,700$ A] This short-circuit current shall be assumed to be a duration of 0.8 s to determine the thermal stresses.

See Annex C for discussion of short-circuit concerns for a typical substation application.

NOTE – Technical considerations for the regulator design, especially at larger ratings, may make it cost effective to simply specify a larger kVA rated regulator rated at the standard 25 times the base rated current in order to obtain the required short-circuit capability.

4. Clause 6.4 Nameplates

- k) Short circuit capability multiple of base rated load current

[Plate stamped 25x or 40x. Other items below “k” are incremented]

Annex C

(informative)

Short-circuit capability requirement

C.1 Background

For line feeder applications it is usual that the available short-circuit current is diminished by the impedance of the line to the extent that 25 times the regulator base rated current for short-circuit capability will be adequate. The short-circuit capability of the regulator may need special consideration for some substation applications.

One common substation application involves a delta-wye power transformer, the neutral of the wye being grounded, supplying a secondary bus from which multiple three-phase feeders emanate. As the number of feeders increases it is expected that each feeder will represent a lesser portion of the load on the transformer. If the user installs a new regulator considering only the anticipated feeder loading, that regulator may be too small from a short-circuit capability standpoint. See Figure C.1

C.2 Short-circuit capability of standard regulator in substation of Figure C.1

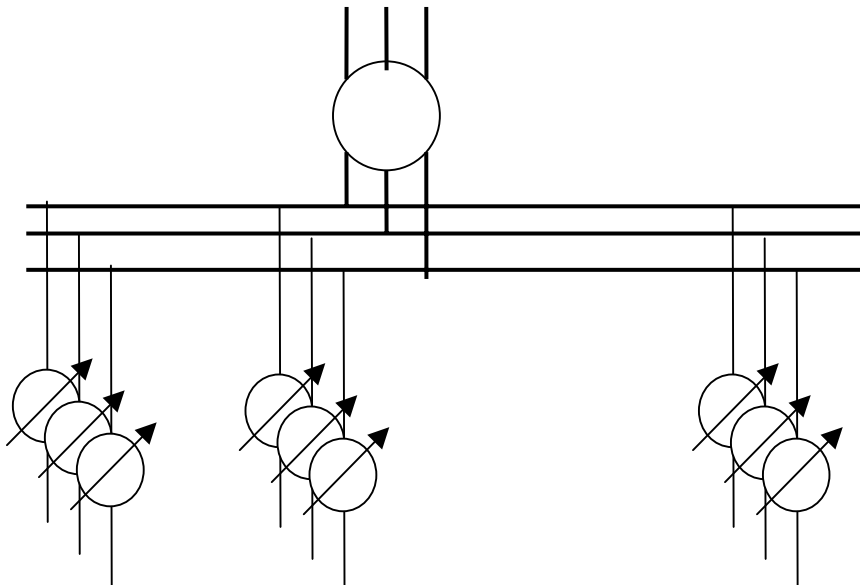
Table C.1 shows the available short-circuit current as a function of power transformer rating and impedance for a typical 12.47 kV installation. The nominal transformer impedance of 8.0% is extracted from C57.12.10-1997, Tables 8 and 10, for a 350 kV BIL (69 kV primary rating) transformer. Also shown are cases where the impedance is 7% and 10%.

[The present Annex C becomes Annex D]

Table C.1 - Minimum kVA rating of single-phase regulator to be applied in substation with transformer of rating and impedance shown. Circuit for consideration per Figure C.1.

Transformer (MVA)	12			20			30		
Transformer Name Plate impedance (%) (positive sequence)	7.0	8.0	10.0	7.0	8.0	10.0	7.0	8.0	10.0
Available 3-phase fault current (kA) ^a	7.94	6.94	5.56	13.23	11.57	9.26	19.84	17.36	13.89
Minimum 1-phase regulator kVA if of 25x normal sc capability	250	250	167	416	416	333	667	500	500
Minimum 1-phase regulator kVA if of 40x normal sc capability	167	167	114.3	250	250	167	416	333	250

^a – Magnitude presumes an infinite bus behind the transformer. For single-phase regulators where L-G magnitude is of concern, value will differ if 1) transformer zero-sequence impedance is not equal to positive-sequence impedance and if 2) transformer neutral grounding reactor is used.



Suggested change for future consideration

1. The matter of the system X/R ratio, and the resulting asymmetrical offset factor of 2.26 needs evaluation. It is too low for the substation case where the whole matter of short-circuit current is of concern. I agree with Marcel Fortin's suggestion of X/R of 17 leading to the asymmetry factor of 2.6.

It is not realistic to immediately impose this on the regulator OEMs. I'd like to have it be a consideration for the next revision of C57.15 with the buy-in from the suppliers that it will be a requirement after, say, 2012.

J. H. Harlow 12/30/2006

10.2.2.8 C57.12.37 Electronic Reporting of Test Data (formerly P1388)

Richard Hollingsworth & Thomas Callsen Co Chairs

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PAR Status: Need to submit PAR for next revision

PAR Expiration Date: N/A

Current Standard Date: July 2005

Current Draft Being Worked On: N/A

Did not meet. Will need a Fall 07 time slot.

10.2.3 Subcommittee Old Business:

None reported

10.2.4 Subcommittee New Business:

A motion to form a TF on Transformer Efficiency & Loss evaluation was made and passed 28 to 1. This TF would look into issues associated with proposed DOE Efficiency regulations and would be chaired by Phil Hopkinson.

There were many comments and suggestions on how to address the issues members have with the proposed DOE legislation and the particular level of efficiency they decide on.

The meeting adjourned at 4:00 pm.