

# Distribution Transformer Subcommittee

## Task force / Working Group Report

Document #: PC57.12.34

Document Title:

**Requirements for Pad-Mounted, Compartmental Type, Self Cooled,  
Three Phase Distribution Transformers, 10 MVA and Smaller;  
High Voltage, 34.5 Nominal System Voltage and Smaller;  
Low Voltage, 15kV Nominal System Voltage and Below**

Chair: Stephen Shull Vice-Chair Scott Dahlke

Secretary Scott Dahlke Per Cent Complete 80

Current Draft Being Worked On: D2.6 Dated: October 2019

Meeting Date: October 28, 2019 Time: 3:15 – 4:30

Attendance:	Members	<u>45</u>
	Guests	<u>43</u>
	<b>Total*</b>	<u>88</u>

\* For details of attendance, please refer to AMS system of the Transformers Committee

### Meeting Minutes / Significant Issues / Comments:

Steve Shull called the meeting to order at 3:15 P.M. EST. Steve Shull shared with the group that the Chair of C57.12.34 (Ron Stahara) had passed away on September 2019 due to medical complications. Ed Smith, Distribution Transformer Subcommittee Chair, announced that Steve Shull will assume the role of Chair of C57.12.34. Steve Shull announced that Scott Dahlke will assume the role of Vice-Chair/Secretary. Introductions were made and the rosters were circulated. The names of those in attendance are recorded in the AM system. To establish a quorum, a members list was displayed on the screen and those who saw their names were asked to stand. From the people standing, it was determined a quorum was established. Steve Shull presented the agenda and asked the group to review it to which Fred Friend made a motion to accept the Agenda as displayed. Jerry Murphy seconded the motion. The motion was approved unanimously. Steve Shull stated the minutes of the last meeting were posted on the TC website for the Working Group to review. Jerry Murphy made a motion to accept the previous Meeting Minutes. Marty Rave seconded the motion. The motion was approved unanimously. Essential Patent Statement information was displayed and a copy of the displayed information was circulated within the Working Group. The Chair stated, "If anyone in this meeting is personally aware of the holder of any patent claims that are potentially essential to implementation of the proposed standard(s) under consideration by this group and that are not already the subject of an Accepted Letter of Assurance, please respond at this time by providing relevant information to the WG Chair." The Copyright Policy Statement information was displayed and a copy of the displayed information was circulated within the Working Group.

Steve initiated the review of the latest draft revision of Annex A, starting with Section A4.6.

1. Section A.4.6 Loadbreak Two Position Switch Types – Jim Antweiler provided the schematics of three two position loadbreak switches. Jim Antweiler made a comment that there are two main types of two position loadbreak switches, "T" blade and "V" blade. Jim Antweiler also commented that by using three, two position loadbreak switches, the same combinations as the four position switches could be accomplished. The diagram table presented demonstrated this. Steve Shull would include this in the new draft of the standard
2. Jeff Schneider commented that there should be a note added to convey the fact that the operation of loadbreak switches under oil create arcing gases. As DGA analysis becomes more of a concern for users, the presence of these gases can unduly alarm a user. Steve Shull created a Task Force to generate proposed wording for the note using

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the base text suggested by Jeff Schneider This would be presented at the next meeting. The following people are members of the Task Force:

Jerry Murphy (Chair)  
Jeff Schneider  
Gary King  
Dan Mulkey  
Suresh Babanna

3. Section A.4.7 Loadbreak Four Position Switch Types – No comments on this section.
4. Section A.4.8 De-Energized Under Insulating Fluid Tap Changer Switch – No Comments on this section.
5. Section A.4.8.1 De-energized Tap Changer – No comments on this section.
6. Section A.4.8.2 Dual Voltage (Series Multiple) Switch – No comments on this section.
7. Section A.4.8.3 Delta-Wye Switch – No comments on this section.
8. Section A.5.1 Liquid Level Indicating Devices – Gary King asked the group about the phrase “The indicating devices provide either a go or no go indication...”. Steve Shull commented that this phrase was added via a request from a member of the working group.
9. Section A.5.1.1 Tube Type Liquid Level Indicator – Gary King made a motion to remove this section from the annex. The motion was seconded by Jeff Schneider. The discussion revealed that this type of indicator although available was not being used on this type of transformer. The motion passed without opposition.
10. Section A.5.1.2 – Sight Plug Type Liquid Level Indicator – Fred Friend suggested the wording to be revised per the following: “This device is a plug equipped with a window, high contrast floating ball and reflector. It ~~is should be~~ located on the tank wall to view the desired liquid level and show a go or no go liquid level indication.”. The Working Group agreed with the wording change.
11. Section A 5.2.2 Auxiliary Contacts – Dan Mulkey asked the group if the liquid level indicators are specified with or without auxiliary contacts. The group answered that typically without auxiliary contact(s) is the most widely specified. However, Jerry Murphy commented on the fact that trend toward the future is for devices with auxiliary contacts. Dan Mulkey recommended the following first sentence be revised per the following: “Lever driven gauges ~~can be are often~~ equipped with integrated...”. The Working Group accepted the wording change.
12. Section A.6 Liquid Temperature Indicating Devices – No comments on this section.
13. Section A.6.1 Temperature Label – Dan Mulkey commented that in his past he only utilized the non-reversible temperature labels in order to indicate the maximum temperature seen. This started a short discussion on the types of temperature labels available but in the end the section was not changed.
14. Section A.6.2 Dial Type Visual Indicator – No comments on this section.
15. Section A.6.2.1 Auxiliary Contacts – Tom Callsen questioned what would be the nomenclature for a single pole double throw (SPDT) switches. Steve Shull suggested the following revised wording: “Dial indication thermometers ~~can be are often~~ equipped with integral switches that allow for limit alarm control functions. Adjustable ~~Single Pole Double Throw (SPDT)~~ switches may be connected to the movement for a high or low temperature alarm, or to energize a fan circuit.” The group agreed with the revised wording.
16. Section A.6.2.2 Temperature Transmitter – Igor Simonov recommended to the group to replace the phrase “...a 4-20 mA current output...” with wording that would encompass other outputs. The group discussed the wording and Steve Shull revised per the following: “A temperature transmitter is an instrument that takes the input from a

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- temperature sensor and converts the measurement to ~~an instrument voltage level, instrument current output a 4-20 mA current output~~, or a digital value. This was acceptable to the Working Group.
17. Section A.6.2.3 – Temperature Sensor – Fred Friend recommended the wording be revised per the following: “The temperature sensors can be a Resistance Temperature Detector (RTD), Thermistor, or Thermocouple which are ~~all to be~~ immersed in the insulating fluid of the transformer”. Steve Shull revised the wording as described. This was acceptable to the Working Group.
18. Section A.7 Special Accessory Cabinet – This section sparked a lot of discussion from the Working Group. Steve Shull assigned a Task Force for recommendation of wording and/or figures for this section to report to the Working Group next meeting. The following people are members of the Task Force:
- Carlos Gaytan (Chair)  
Christopher Sullivan  
Tom Callsen  
Igor Simonov  
Pragnesh Vyas
19. Section A.8 thru A.10.2 – Due to time restraints, Steve will solicit comments from the Working Group before the next meeting and summarize these for presentation during this meeting.
20. The meeting was adjourned at 4:30 P.M. EST.

Submitted by: Scott Dahlke

Date: 10/29/2019