

## 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: Ron Stahara Vice-Chair Stephen Shull

Secretary Stephen Shull

Current Draft Being Worked On: REV 1 Dated: 03/2018

Meeting Date: 03/26/2018 Time: 3:15 – 4:30pm

Attendance:	Members	<u>36</u>
	Guests	<u>50</u>
	<b>Total*</b>	<u>86</u>

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

### **Meeting Minutes / Significant Issues / Comments:**

Ron Stahara called the meeting to order and introductions were made. 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 hold up their hand. From this count of hands, it was determined that a quorum was established. The four mandatory IEEE Patent Slides dated 01/02/18 calling for Essential Patent Claims were read and no new patents were brought up. The agenda was presented and a motion to accept it was made by Jerry Murphy and seconded by Marty Rave. The motion was approved unanimously. The Fall 2017 Minutes were presented and a motion to accept it was made by Anil Dhawan and seconded by Jerry Murphy. The group approved the motion unanimously.

Prior to this meeting, the chair asked for volunteers from the working group to help review and flesh out the Annex. The following is a list of the volunteers by section.

Annex Section	Volunteer
A.1 General	Wes Suddarth
A.2 Bails	Wes Suddarth
A.3 Overcurrent Protection	Dwight Parkinson
A.4 Under Insulating Fluid Load Break Switches	Israel Barrientos
A.4.7 De-energized Tap Changer Primary Under insulating Fluid Tap Changer Switch	Israel Barrientos
A.5 Oil Level Indication Devices	Weijin Li
A.6 Temperature Indication Devices	Weijin Li
A.7 Special Accessory Cabinets	Gary King and Rhett Chrysler
A.8 Under Insulating Liquid Surge Arrester	Israel Barrientos
A.9 Internal Current Transformers	Fred Friend and Pugal Selvaraj
a.10 Core Hot Spot Monitors	Pugal Selvaraj

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During the meeting each section was presented and explained by each volunteer with the exception of Fred Friend as there was some confusion on this section. Fred stated that he would provide the internal current transformer section within two weeks. During these presentations, a couple of observations were put forth. Ali Ghafourian stated that he would recommend a general introductory comment to help explain the purpose as this annex as it being a guide to what is available and not seen what is required to be installed on each unit. Giuseppe Termini went on to state that some the items presented are directly related to safety for both the general public and personnel working on the transformers. Therefore, there needs to be enough information provided in this document so that an unsophisticated user would not make a safety related mistake in either the selection or combining of an accessory item(s). Another issue that was brought up by Brian Klaponski was the location and application of an interlocking mechanism for load break switches. He stated this when looking at the exterior accessory cabinet section and related it back to the safety of the application referred by the Ali and Giuseppe. The final item that was brought out during this discussion was a request to include in the temperature indicating device section the use of 4 – 20 mA output as well as dry contact which was currently addressed. Gary King stated that he believed that all of the figures had been changed to what had been discussed in the previous meeting but he would review them in the new draft to be sure.

In new business, Igor Simonov brought up the discussion of permanent tank deformation due to negative pressure. He stated that had seen in their company. The pictures of this were presented in the PowerPoint slide presentation and are now posted in the agenda PowerPoint PDF on the website. A motion was made by Ali Ghafourian and seconded by Marty Rave to change the verbiage in the document as shown below.

### 8.10.1 Strength

The tank shall be of sufficient strength to withstand **a range of a gauge pressures between -5 psig (-35 kPa) to ~~5~~50 kPa (7 psig)** without permanent distortion, and 103 kPa (15 psig) without rupturing or affecting cabinet security as described in IEEE Std C57.12.28.

The motion passed unanimously. Carlos Gaytan stated that he would review this section to see if this was being addressed in the new C57.12.39 and report back to the group in the Fall 2018 meeting.

The chair asked Steve Shull to develop a new draft of the standard combining the items and section changes that were put forth during the meeting. The chair requested that he provide a pdf and a DOC version. The mechanism for tracking changes will be provided and explained in the email so that changes be reviewed in the Fall 2018 meeting.

Submitted by: Stephen Shull  
Date: 03/28/2018