

**Revision to C57.143 – “Guide for Application of Monitoring Equipment to  
Liquid-Immersed Transformers and Components”  
Transformer Monitoring Working Group**

**Monday, March 26, 2018**

**Pittsburgh, PA, USA**

**Minutes of WG Meeting**

The meeting was called to order at 3:15 pm by Chair Mike Spurlock. Secretary Mark Cheatham was also present.

This was the third meeting of the working group, rosters were circulated and members asked to stand to determine quorum, quorum was reached with 44 of 81 members present. The attendance for the meeting was as follows:

Number of Members in Activity = 81

Number of Members Present = 44

Quorum Present = 54.3%

Number of attendees = 110

Attendees requesting Membership = 21 (To be reviewed based on Participation to date)

The WG does plan to meet at the Fall 2018 Transformers Committee Meeting in Jacksonville, FL.

PAR Status: PAR for a Revision to an existing IEEE Standard

**Type of Project:** Revision to IEEE Standard C57.143-2012

**PAR Request Date:** 19-Nov-2016

**PAR Approval Date:** 17-Feb-2017

**PAR Expiration Date:** 31-Dec-2021

The Agenda for the meeting was reviewed as seen below.

**MEETING AGENDA**

- A. Welcome & Introduction
- B. Call for Patent Disclosure
- C. Roster Circulation
- D. *Quorum Roll Call*
- E. Chair Remarks
- F. New Members – Indicate on Roster
- G. Call for approval of Fall 2017 Meeting Minutes (Louisville, KY)
- H. Working Group Activities
  - 1. Discuss progress to date and plan going forward for Chapter 1 “Overview”.
  - 2. Emilio presentation on his team’s progress on Chapter 5 “Monitored Parameters”.
  - 3. Announce new team for Chapter 6 “Monitoring Systems and Equipment”.
  - 4. Call for volunteers to assist with current teams.
  - 5. Moving ANNEX ‘E’ into a new Chapter.

## 6. Moving ANNEX 'D' into a new Chapter.

### I. New Business

#### 1. Discuss possible addition of a new Chapter on Data Analytics.

Mike Spurlock asked for any patent claims against C57.143 to be raised by attendees, none were raised.

Mike Spurlock reviewed the Par Status and Scope and Purpose for the PAR with the working group.

Emilio Morales presented Team Progress on Chapter 5, Monitored Parameters. This presentation will be provided to Members and guests following the meeting. Emilio asked the group to contact him to indicate if any sensors missing from the document that should be considered for inclusion.

Mike Spurlock introduced Poorvi Patel as lead of Chapter 6 review team. Poorvi and team planned to have first meeting on 3-26 at 5:00pm. Will look for this team to review consideration of moving Annex E and D to Chapter 6 or possibly their own chapters. This team will provide and update at the Jacksonville Meeting in the fall.

Luiz Cheim questioned optical temperature measurement being referred to as "Direct Temperature Measurement". Emilio Morales indicated that this is in agreement with CIGRE, consensus among the group was to leave as is in the document.

After confirmation of quorum Mike Spurlock requested motion to approve the meeting minutes from the Fall 2017 meeting in Louisville. Joe Watson motioned for approval, Roger Verdolin seconded. Minutes were approved.

Mike Spurlock reviewed New Business, beginning with a proposal to add a chapter on Data Analytics which possibly would include transformer fleet monitoring. This was discussed extensively by the group, some comments from the group noted below.

Luiz Cheim discussed how Cigre used high level general examples to touch on data analytics in their monitoring guide and cautioned against going into too much details without getting into Patent issues.

Marc Foata expressed concern attempting to add this chapter on data analytics could cause a lot of work that would ultimately not be achievable by the group.

Joe Watson suggested that the newly formed TF on Condition assessment was better suited to take on Data Analytics and that this was outside of the scope of the current C57.143 working group.

Poorvi Patel suggested that at a minimum consider adding high-level general discussion to the document similar to Cigre Document.

Claude Beauchemin suggested high-level academic/generic mention of data analytic methods to review data be noted in the guide.

Jim Dukarm suggested an article in IEEE Transactions addressing data analytics was more appropriate and better suited to cover data analytics.

Joe Watson suggested that consideration be given to discussion in the document on collection of data for single device and fleet level data collection and transfer for analytics, and avoiding getting into the details of analytics to be performed.

George Forest suggested listing measured parameters by monitoring devices in an Annex and adding a note to the users that there are analytics available to aid in the interpretation of results.

Following general discussion and comments a motion was proposed by Luiz Cheim to revise scope to remove “This guide does **not** cover interpretation of monitoring results.” And add a data analytics section/chapter. After continued discussion this motion was withdrawn, the members present were asked to vote on adding a chapter or Annex Covering Data Analytics. 5 of 44 members present voted yes, majority not in favor of adding a chapter or annex to address Data Analytics.

There was also discussion on moving Annexes D and E into the main body of the guide. This will be looked into further by the review teams.

Mike Spurlock requested any attendees interested in volunteering for participating in teams working on current Chapter reviews for revision see him after the meeting.

A motion to Adjourn was given by Marcos Ferreira and seconded by Joe Watson, Meeting adjourned at 4:30pm.