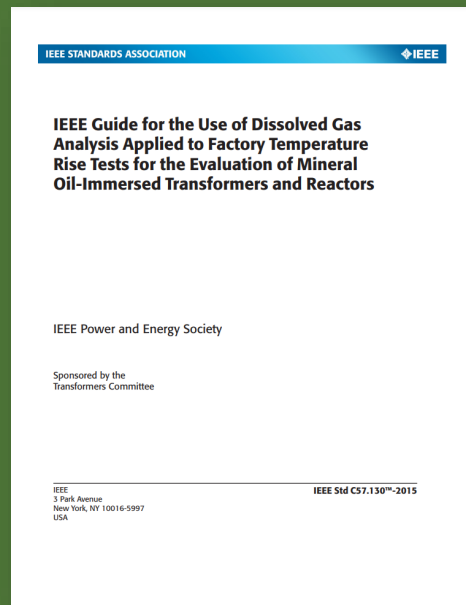


IEEE PES Transformers Committee

WG PC57.130

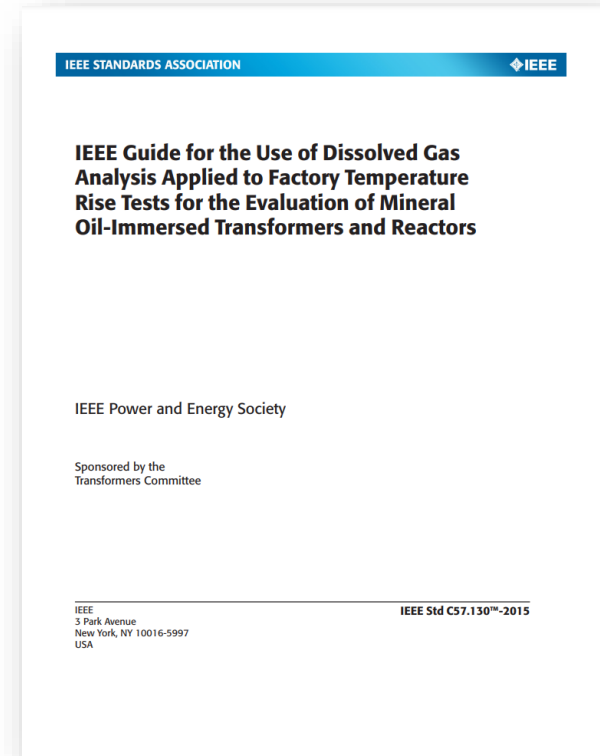
GUIDE FOR THE USE OF DISSOLVED GAS ANALYSIS TO FACTORY TEMPERATURE RISE TESTS FOR THE EVALUATION OF MINERAL OIL- IMMERSED TRANSFORMERS AND REACTORS

March 25, 2025



Proposed Agenda

1. Call to Order
2. Chair's Remarks
 - a. Distribution of Attendance Sheets
 - b. Participant Behavior
 - c. Call for Patent Claims
 - d. Copyright Policy
3. Review of Membership and Quorum
4. Review and Approval of Agenda
5. Review of Minutes of Last Meeting
6. Review of PAR
7. Discussion of PC57.130 Milestones
8. Review of Data Survey Status..... Lance Lewand
9. Review of Existing Sections..... Jinesh Malde
10. Unfinished Business
11. New Business
12. Adjournment



Chair's Remarks

Attendance Sheets
Participant Behavior
Essential Patent Claims
Copyright Policy

Distribution of Attendance Sheets

- Please sign in and indicate whether you would like to become a member of this WG.
- Attendance at two consecutive meetings (and a formal request to the Chair) will be required to attain membership.
- ***Please note that I have asked for your email address on the roster form.***
 - ***If you would like to be a member but do not want to put your contact information on the roster, please see me after the meeting.***

Chair's Remarks

Officer Introductions

Chair: **Bruce Forsyth**

Affiliation: Cargill

Email: bruce.forsyth@ieee.org

Vice-Chair: **Jinesh Malde**

Affiliation: M&I Materials Inc

Email: JineshMalde@mimaterials.com

Chair's Remark - *Participant Behavior*

Participant behavior slides were sent with the meeting invitation.

■ Key points:

- Every participant's opinion is important.
- Participants will treat one another with **professionalism** and **respect**.
- **Shall act & vote** based on their personal & independent opinions derived from their expertise, knowledge, and qualifications.
- **Shall not act or vote** based on any obligation to or any direction from any other person or organization, including an employer or client, regardless of any external commitments, agreements, contracts, or orders.
- **Shall not direct** the actions or votes of other participants or retaliate against other participants for fulfilling their responsibility to act & vote based on their personal & independently developed opinions.

Chair's Remarks – *Essential Patent Claims*

Essential Patent Claim slides were sent with the meeting invitation.

- Speak up now and respond to this Call for Potentially Essential Patents.

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.

If you have questions, contact the IEEE SA
Standards Board Patent Committee Administrator
at patcom@ieee.org

Chair's Remarks – *Copyright Policy*

Copyright Policy slides were sent with the meeting invitation.

- **By participating in this activity, you agree to comply with the IEEE Code of Ethics, all applicable laws, and all IEEE policies and procedures including, but not limited to, the IEEE SA Copyright Policy.**
- Previously Published material (copyright assertion indicated) shall not be presented/submitted to the Working Group nor incorporated into a Working Group draft unless permission is granted.
 - Prior to presentation or submission, you shall notify the Working Group Chair of previously Published material and should assist the Chair in obtaining copyright permission acceptable to IEEE SA.
- For material that is not previously Published, IEEE is automatically granted a license to use any material that is presented or submitted.

Review of Membership & Quorum

PRELIMINARY MEETING AGENDA

IEEE PES Transformer Committee

IFSC Working Group PCST-130

Location: Milwaukee, WI

Tuesday, March 21, 2023 | 9:30 AM – 10:45 AM CDT

Chair: Bruce Forsyth Vice Chair: Joseph Mabe Secretary: Javier Arango

1. Call to Order
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8. Development of Questions for Data Survey
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Review of Membership & Quorum

Members *(page 1 of 2)*

Adams, Kayland	Botti, Michael	Forsyth, Bruce
Aikens, Tom	Bradshaw, Jeremiah	Garcia, Eduardo
Alahmed, Alex	Calitz, David	Gonzalez, Luis
Almeida, Nabi	Castellanos, Juan	Griesacker, Bill
Alonso, Mario	Chakraborty, Arup	Hollrah, Derek
Ansari, Tauhid	Clarke, Allen	Jensen, Nick
Antosz, Stephen	Da Silva, Roberto	Joshi, Akash
Arnold, Elise	Davis, Eric	Kazmierczak, Jerzy
Arteaga, Javier	Debass, Samson	Kiparizoski, Zan
Beaudoin, Jason	Draper, Zachary	Kirchenmayer, Egon
Boettger, William	Faur, Florin	Krvavac, Jusuf
Bohrn, Josh	Felton, Todd	Lewand, Lance

Review of Membership & Quorum

Members *(page 2 of 2)*

Li, Chao	Rainbolt, Bradley	Tolcachir, Eduardo
Lucas, Tiffany	Reed, Scott	Varghese, Ajith
Malde, Jinesh	Sahin, Hakan	Varnell, Jason
Mamede, Gabriel	Sarkar, Amitabh	Vir, Dharam
Munoz, Martin	Schrammel, Alfons	Wallach, David
Murray, David	Shaikh, Salahuddin	Welton, Drew
Musgrove, Ryan	Sinclair, Jonathan	Wirtz, Kevin
Panesar, Parminder	Som, Sanjib	Yuan, Guang
Parenti, Tyler	Soto, Mauricio	Yun, Joshua
Patel, Nitesh	Staley, Brad	Zemanovic, Kyle
Patel, Sanjay	Syed, Ali	Zibert, Kris
Perjanik, Nick	Thompson, Ryan	

Review & Approval of Agenda

PRELIMINARY MEETING AGENDA

IEEE PES Transformers Committee

IFSC Working Group PCST-130

Location: Milwaukee, WI

Tuesday, March 21, 2023 | 9:30 AM – 10:45 AM CDT

Chair: Bruce Forsyth Vice Chair: Joseph Mabe Secretary: Javier Arango

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Are there any requested changes to the Agenda?

Approval of Minutes of the Last Meeting

Working Group for IEEE C57.130- Guide for the Use of Dissolved Gas Analysis to Factory Temperature Rise Test for the Evaluation of Mineral Oil-Immersed Transformers and Reactors

Tuesday, March 26, 2024
8:00 – 9:15 am
Hyatt, Saint Louis, MO, USA
Minutes of Working Group Meeting

Chair: Bruce Forsyth (later)
Vice Chair/Secretary: Jerech Madaie (JRM)
Acting Secretary: Jason Beaudoin (JB)

Membership list was updated prior to the meeting to ensure that members had either attended 2 consecutive meeting or 3 out of 5 meetings. Quorum requirement for the meeting was 15 out of 20 members. There were 17 members in the meeting and quorum was met.

The Vice Chair showed the behavior expectations, IEEE patent and copyright policies, and asked the participants if there are any claims that should be reported regarding these policies. There were no claims brought up by attendees in the meeting.

The agenda was presented. Emilio Morales-Chua made a motion to approve the agenda and Zan Kapiotis seconded, with no objections, the agenda was approved. The Vice Chair requested the members to approve the Fall 2023, Spring 2023, Fall 2023 and Spring 2024 meeting minutes. Scott Reed made a motion to approve the Minutes and Armin Saher seconded, with no objections, the meeting minutes were approved.

A PAIR extension will need to be requested due to this WG being behind schedule. The Minutes will be updated prior to the next meeting.

The Vice Chair reminded the group that data is needed, and to use the template created by the working group that Lance Laward [1] showed in the meeting. The Vice Chair reminded all participants to share the data by 31 January 2025. Data should be sent to wg@ieee.org and the subject line should state that it is for the IEEE C57.130 guide.

LI showed the template for data submission:

- LI showed the changes requested by IEEE to the template
- IEEE will clean up the data before sending information to WG in order to maintain anonymity. Data will be kept in IEEE database for future revision of the standard.
- Many of the data fields are drop-down lists. LI demonstrated some of the options available and explained that the drop-down options are to avoid confusion when entering data.
- To date there has only been 1 person who has responded with data.
- About 300 data points for each of the liquid types (Mineral, Natural Ester, Synthetic) in order would be needed to perform statistical analysis.
- Jeremiah Bradshaw (JB), Bureau of Reclamation volunteered to provide data to the WG.

The Vice Chair showed a draft version of the Guide.

Review and Approval of the Minutes of the Last Meeting(s)

- The unapproved meeting minutes of the F24 were included in the meeting invitation.
- *Are there any changes to the minutes requested?*

Review of PAR

IEEE SA	STANDARDS ASSOCIATION	IEEE
PC57.130		
Type of Project: Revision to IEEE Standard C57.130-2015		
Project Request Type: Initiation / Revision		
PAR Request Date: 07 Feb 2022		
PAR Approval Date: 24 Mar 2022		
PAR Expiration Date: 31 Dec 2025		
PAR Status: Active		
Root Project: C57.130-2015		
1.1 Project Number: PC57.130		
1.2 Type of Document: Guide		
1.3 Life Cycle: Full Use		
2.1 Project Title: Guide for the Use of Dissolved Gas Analysis Applied to Factory Temperature Rise Tests for the Evaluation of Mineral Oil-Immersed Transformers and Reactors		
Change to Title: IEEE Guide for the Use of Dissolved Gas Analysis Applied to Factory Temperature Rise Tests for the Evaluation of Mineral Oil-Immersed Transformers and Reactors		
3.1 Working Group: Insulating Fluids - DGA During Thermal Test Working Group(PE/TR)/Infra-Work(2)		
3.1.1 Contact Information for Working Group Chair:		
Name: Bruce Forsyth		
Email Address: bruce.forsyth@ieee.org		
3.1.2 Contact Information for Working Group Vice Chair:		
Name: Li Jiefeng		
Email Address: ccc@ieee.org		
3.2 Society and Committee: IEEE Power and Energy Society/Transformers(PE/TR)		
3.2.1 Contact Information for Standards Committee Chair:		
Name: Li Jiefeng		
Email Address: ccc@ieee.org		
3.2.2 Contact Information for Standards Committee Vice Chair:		
Name: David Warkentin		
Email Address: david.warkentin@ieee.org		
3.2.3 Contact Information for Standards Representative:		
Name: Stephen Drell		
Email Address: sdrell@ieee.org		
4.1 Type of Ballot: Individual		
4.2 Expected Date of Submission of draft to the IEEE SA for Initial Standards Committee Ballot:		
Jan 2025		
4.3 Projected Completion Date for Submittal to RevCom:		
Oct 2025		
5.1 Approximate number of people expected to be actively involved in the development of this project:		
50		
5.2 Scope of proposed standard: This document defines evaluation procedures and guidelines for acceptable levels of gases generated in conventional mineral oil-filled transformers and reactors during factory temperature rise tests.		
Change to scope of proposed standard: This document provides guidance on the application of dissolved gas analysis (DGA) to transformers and reactors subjected to factory temperature rise tests. This document consists of: a) initial evaluation procedures and guidelines for acceptable levels of gases generated in conventional mineral oil-filled transformers and reactors during factory temperature rise tests.		
5.3 Is the completion of this standard contingent upon the completion of another standard?		
5.4 Purpose: The purpose of this Guide is to provide guidance in the application of dissolved gas analysis (DGA) to transformers and reactors subjected to factory temperature rise tests. This document consists of evaluation procedures and guidelines for acceptable levels of gases generated in conventional mineral oil-filled transformers and reactors during factory temperature rise tests.		
Change to Purpose: The purpose of this Guide is to provide guidance in the application of dissolved gas analysis (DGA) to transformers and reactors subjected to factory temperature rise tests. This document consists of evaluation procedures and guidelines for acceptable levels of gases generated in conventional mineral oil-filled transformers and reactors during factory temperature rise tests.		

Review of PAR

- ***Scope:***

- This document defines evaluation procedures and guidelines for acceptable levels of gases generated in conventional mineral oil-filled transformers and reactors during factory temperature rise tests.

- ***Purpose:***

- The purpose of this Guide is to provide guidance in the application of dissolved gas analysis (DGA) to transformers and reactors subjected to factory temperature rise tests. This document consists of evaluation procedures and guidelines for acceptable levels of gases generated in conventional mineral-oil filled transformers and reactors during factory temperature rise tests.

Milestone Discussion

	Task	Start	End	Dur	%				
						2022	2023	2024	2025
	WIG PC57.130	3/29/22	10/1/25	888					
1	Define Revision Requirements	3/29/22	11/3/22	154					
2	Revision Development Work	3/29/22	9/30/24	636					
3	Submit to SC for Sponsor Ballot	10/15/24	10/15/24						
4	Begin Sponsor Ballot	11/1/24	1/3/25	61					
5	Complete Comment Resolution	2/1/25	8/31/25	147					
6	Submit Approved Document	10/1/25	10/1/25						

- Existing document expires on **December 31, 2025**
- Milestones:
 - Identify revision needs; form TF groups March 2022 – Oct 2022
 - Document development Mid 2022 – Fall 2024
 - Submit to SC for sponsor ballot approval Fall 2024
 - Begin Sponsor ballot process (several steps) Late 2024
 - Ballot resolution & re-ballot Early 2025 - Mid 2025
 - Submission of approved document Fall 2025

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THE END

Thank You for Your Attention!