



CIGRÉ

International Council on Large Electric Systems

Liaison Report on SCA2 Transformers for
IEEE Transformers Committee- Fall 2019 Meeting

October 28, 2019

Columbus, OH

Prepared by Craig Swinderman

Study Committees

- SC A1: Rotating Electrical Machines
- SC A2: Transformers**
- SC A3: High Voltage Equipment
- SC B1: Insulated Cables
- SC B2: Overhead Lines
- SC B3: Substations
- SC B4: HVDC and Power Electronics
- SC B5: Protection and Automation
- SC C1: System Development and Economics
- SC C2: System Operation and Control
- SC C3: System Environmental Performance
- SC C4: System Technical Performance
- SC C5: Electricity Markets and Regulation
- SC C6: Distribution Systems and Dispersed Generation
- SC D1: Materials and Emerging Test Techniques
- SC D2: Information Systems and Telecommunication

Recent Publications

- **Brochure 771: Advances in DGA Interpretation**
 - From Joint Working Group D1/A2-47
 - Brochure published July 2019

- **Brochure 779: Field Experience with Transformer Solid Insulation Ageing Markers**
 - From Joint Working Group D1/A2-46
 - Brochure published October 2019

IEEE PES Transformers Committee -
Columbus, OH, USA, Oct. 28th-31st, 2019

3

SC A2 WG Activities

No.	Working Group	Topic	Status
1	A2.45	Transformer Failure Investigation	Active
2	A2/D1.46	Field Experience with transformer solid insulation	Completed, published
3	D1/A2.47	New Frontiers of DGA Interpretation for Power Transformers and Their Accessories	Completed, published
4	A2/D1.51	PD Measurements	Active
5	A2/C4.52	HF Transformer and Reactor Models	Active
6	A2.53	FRA Interpretation	Active
7	A2.54	Audible Sound Requirements	Active
8	A2.55	Transformer Life Extension	Active
9	A2.56	Transformer Efficiency	Active
10	A2.57	Effects of DC Bias	Active
11	A2.58	Site Installation and Pre-commissioning of Power Transformers and Shunt Reactors	Active

IEEE PES Transformers Committee -
Columbus, OH, USA, Oct. 28th-31st, 2019

4

SC A2 WG Activities

No.	Working Group	Topic	Status
12	A2.59	On-site assembly, On-site Rebuild, and On-site Testing of Power Transformers	Active
13	A2.60	Dynamic Thermal Performance of Power Transformers	Active
14	A2.61	Best Practices for On-Load Tap Changers (OLTC)	Active
15	A2.62	Analysis of AC Transformer Reliability	Active
16	A2.63	Transformer Impulse Testing	Active

IEEE PES Transformers Committee -
Columbus, OH, USA, Oct. 28th-31st, 2019

5

TF and AG activities

- Task Force (TF) Activities
 - Insulation Condition at End of Life: reference paper
- Advisory Group (AG) Activities
 - Green Book A2.6: Transformer Procurement Process
 - Developed for Users of Power Transformers
 - Specification Development
 - Factory Qualification
 - Design Review
 - Transportation
 - Site Installation
 - Publication by 2021

IEEE PES Transformers Committee -
Columbus, OH, USA, Oct. 28th-31st, 2019

6

Upcoming New Working Groups

- **A2-64: Condition of Cellulose Insulation in Oil Immersed Transformers After Factory Acceptance Tests**
 - Completion July 2021
 - WG approved 7/24/2019.
- **Joint WG A3/A2/A1/B1-44: Limitations in Operation of High Voltage Equipment Resulting from Frequent Temporary Overvoltages**
 - Completion December 2022
 - WG approved 7/24/2019.

If interested in contributing, please contact your appropriate CIGRÉ National Committee Representative.

IEEE PES Transformers Committee -
Columbus, OH, USA, Oct. 28th-31st, 2019

7

Upcoming Events

- **CIGRÉ US Committee 2019 Grid of the Future**
 - Atlanta, GA, November 3-6, 2019
 - Hosted by Southern Company
- **CIGRÉ A2/B3 Study Committee Colloquium**
 - Delhi, India November 18-23, 2019
 - Paper abstracts due by May 30, 2019
 - Full papers submission by August 30, 2019
- **CIGRÉ AORC Technical Meeting 2020**
 - Kanazawa, Japan April 14-17, 2020
 - Paper synopsis due by November 1, 2019
 - Full papers submission by February 3, 2020
- **CIGRÉ Session 48**
 - Paris, France, August 23-28, 2020
 - Paper synopsis due by July 28, 2019
 - Full papers due by February 14, 2020

IEEE PES Transformers Committee -
Columbus, OH, USA, Oct. 28th-31st, 2019

8

CIGRÉ Session 48 Papers

A2 Transformers - Preferential Subjects:

1. Transformer Technologies to Enable Integration of Distributed Renewable Energy Resources

- Application, specification, design, and construction.
- Effect of harmonics, including interharmonics and supharmonics.
- Effect of extreme operating environments, especially offshore and also subsea.

IEEE PES Transformers Committee -
Columbus, OH, USA, Oct. 28th-31st, 2019

9

CIGRÉ Session 48 Papers

A2 Transformers - Preferential Subjects:

2. Advances in Dielectric Design and Testing

- Specification of dielectric design requirements, especially for new and unusual applications.
- New and advanced dielectric design concepts and techniques.
- Challenges in dielectric testing and how to overcome them.

IEEE PES Transformers Committee -
Columbus, OH, USA, Oct. 28th-31st, 2019

10

CIGRÉ Session 48 Papers

A2 Transformers - Preferential Subjects:

3. Improving Reliability for Transformers

- Long-term reliability studies and surveys for transformers.
- Improved reliability through specification, design and construction.
- Improved reliability through operation, maintenance, refurbishment and repair.

IEEE PES Transformers Committee -
Columbus, OH, USA, Oct. 28th-31st, 2019

11



IEEE Liaison Report



THANK YOU!

IEEE PES Transformers Committee -
Columbus, OH, USA, Oct. 28th-31st, 2019

12