



CIGRÉ

International Council on Large Electrical Systems

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

March 25, 2019

Anaheim, CA

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

- A2-43: Bushing Reliability
 - WG completed
 - Brochure 755 published in March 2019.
- D1/A2-47: New Frontiers of DGA Interpretation for Power Transformers and Their Accessories
 - Brochure draft completed 3/22/2019
 - Now being issued for publishing

SC A2 WG Activities

No.	Working Group	Topic	Status
1	A2.45	Transformer Failure Investigation	In process
2	A2/D1.46	Field Experience with transformer solid insulation	In process
3	D1/A2.47	New Frontiers of DGA Interpretation for Power Transformers and Their Accessories	Ready to publish
4	A2.49	Condition Assessment of Power Transformers	In process
5	A2/D1.51	PD Measurements	In process
6	A2/C4.52	HF Transformer and Reactor Models	In process
7	A2.53	FRA Interpretation	In process
8	A2.54	Audible Sound Requirements	In process
9	A2.55	Transformer Life Extension	In process
10	A2.56	Transformer Efficiency	Survey issued
11	A2.57	Effects of DC Bias	In process
12	A2.58	Site Installation and Pre-commissioning of Power Transformers and Shunt Reactors	In process
13	A2.59	On-site assembly, On-site Rebuild, and On-site Testing of Power Transformers	In process

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 2020

Upcoming New Working Groups

- **A2-60: Dynamic Thermal Performance of Power Transformers**
 - Completion 2023
 - WG approved
- **A2-61: Best Practices for On-Load Tap Changers (OLTC)**
 - Completion March 2022
 - WG approved
- **A2-62: Analysis of AC Transformer Reliability**
 - Completion October 2022
 - WG approved
- **A2-63: Transformer Impulse Testing**
 - Completion Summer 2023
 - WG approved
- **A2-64: Condition of Cellulose Insulation in Oil Immersed Transformers After Factory Acceptance Tests**
 - Completion July 2021
 - Proposed, not yet approved.

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

Possible Future Working Group

- On-site Measurement of Sound Level
 - Installation Recommendations
 - Measurement Guidelines
 - Retrofit Mitigation Techniques
 - DC blocking
 - Sound panels
 - Etc.
 - WG anticipated to start in 2020

Upcoming Events

- **IEC/ CIGRÉ Conference on EHV-UHV AC and DC**
 - Hakodate, Japan, April 23-26, 2019
 - Topics: Systems and T-Lines, Design of Equipment, Operational Experience, Testing
- **CIGRÉ A2 Colloquium “Transformer Research and Asset Management”**
 - Zagreb, Croatia, October 9, 2019
 - Topics: Numerical Modeling, Materials, Components and New Techniques, and Transformer Life Management
 - Paper abstracts due by April 1, 2019
 - Full paper submission by September 10, 2019
- **CIGRÉ US Committee 2019 Grid of the Future**
 - Atlanta, GA, November 3-6, 2019
 - Hosted by Southern Company
- **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 Session 48**
 - Paris, France, August 23-28, 2020
 - Paper synopsis due by July 28, 2019
 - Full papers due by February 14, 2020

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 supraharmonics.
- Effect of extreme operating environments, especially offshore and also subsea.

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.

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 Liaison Report



THANK YOU!