



IEEE

**CIGRE**

**International Council on Large Electrical  
Systems**

**Liaison Report on SCA2 Transformers  
For IEEE Transformer Committee Meeting  
November 2017, Louisville**

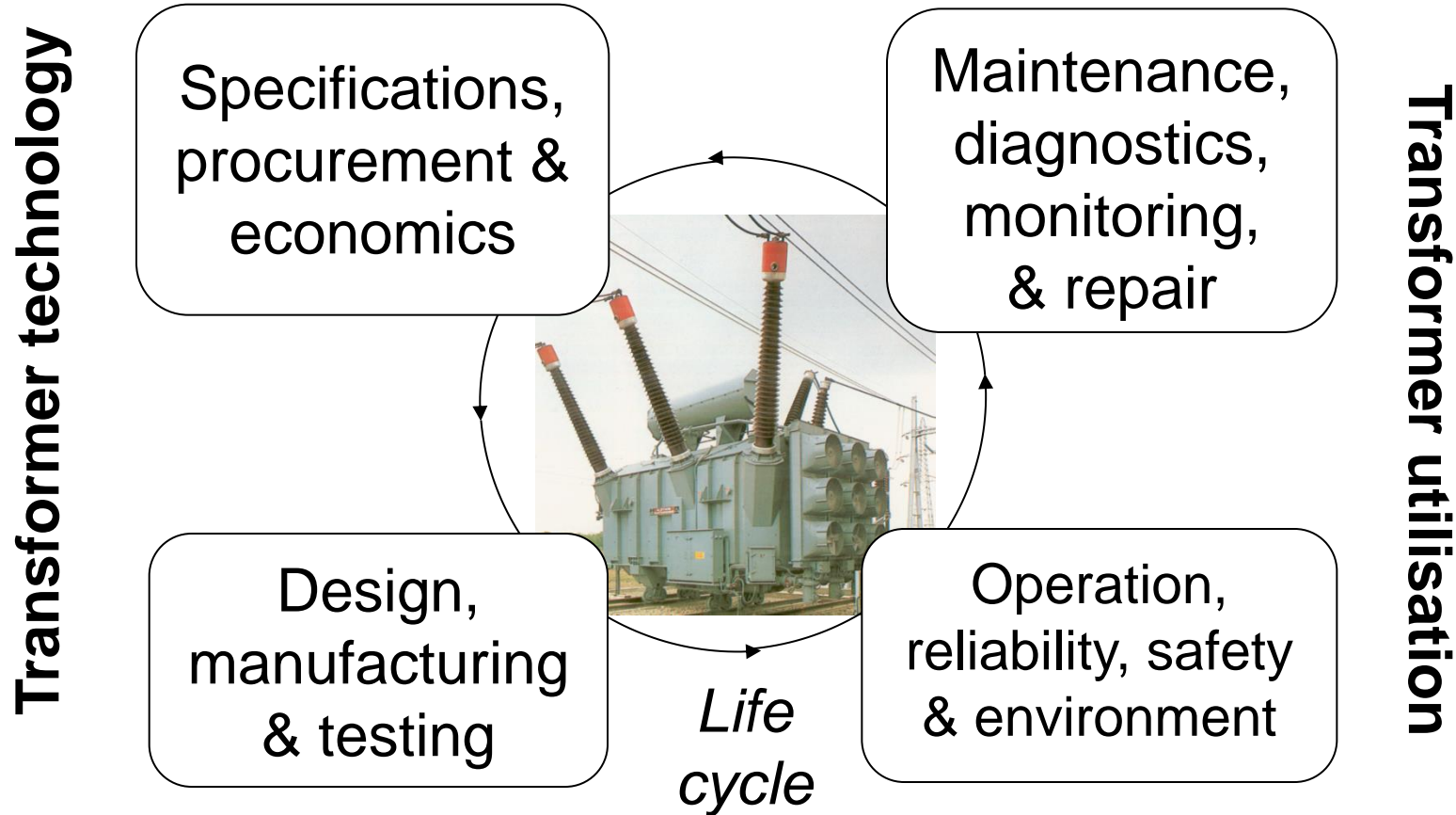
**Paul Jarman**



**14000 members 3500 Experts**  
**58 National Committees 16 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

# Study Committee A2 Transformers: Key domains



Chairman: Simon Ryder (UK)

Secretary: Tim Gradnik (Slovenia)

# SC A2 Working Groups

- WG A2.43** Bushing reliability
- WG A2.45** Transformer Failure Invest. & post-mortem Analysis
- JWG A2/D1.46** Field experience with trans. solid insulating ageing markers
- JWG D1/A2.47** New frontiers of Dissolved Gas Analysis (DGA) interpretation for power transformers and their accessories
- WG A2.49** Condition Assessment of Power Transformers
- WG A2.50** Effect of reverse power flow on transformers
- JWG A2/D1.51** Partial Discharge Measurements for Factory and Site Tests
- JWG A2/C4.52** HF transformer and reactor models for network studies
- WG A2.53** Objective interpretation of FRA
- WG A2.54** Power transformer audible sound requirements
- WG A2.55** Life extension of oil filled transformers and reactors
- WG A2.56** Power transformer efficiency
- WG A2.57** Effects of DC bias on power transformers
- WG A2.58** Installation and pre-commissioning of transformers and reactors
- WG A2.59** On-site assembly, rebuild and high voltage testing

# Recent CIGRE brochures

Title	No.	Year
Partial Discharges in Transformers	676	2017
Guidelines for 60270 PD Measurement	662	2016
HVDC Transformer Insulation: Oil Conductivity	646	2016
Tech. & utilization of oil-imm. shunt reactors	655	2016
Transformer Thermal Modelling	659	2016
Guide on transformer transportation	673	2016
Copper Sulphide Long Term mitigation & RA	625	2015
Transformer Reliability Survey	642	2015
Guide on Transformer Intelligent Cond. Mon.	630	2015

## Some FREE CIGRE brochures

<i>Title</i>	<i>No.</i>	<i>Year</i>
Transient Interac. Transformers&Power System	577	2014
Past Pres. & Future of IEC & IEEE HV Stds. Guide for Specifications	593	2014
Guide for Design Review	528	2013
Guide for Factory Capability Assessment	529	2013
Guide for Fire Safety	530	2013
Guide on Transformer Maintenance	537	2013
HVDC Tr. – Test, ageing, reliability in service	445	2011
HVDC Tr. – Guidelines for design review	406	2010
Experience in service with new insulating liquids	407	2010
Copper Sulphide in Transformer Insulation	436	2010
Thermal Performances	378	2009
Mechanical Cond. Assessment of Xfo Windings	393	2009
Recom. for Condition Monitoring & Assessment	342	2008
Moisture Equilibrium within Transfo. Insulation	343	2008
	349	2008



# Websites

Main Website

[WWW.CIGRE.ORG](http://WWW.CIGRE.ORG)

Transformer Website

[WWW.A2.CIGRE.ORG](http://WWW.A2.CIGRE.ORG)

Downloads Website

[WWW.E-CIGRE.ORG](http://WWW.E-CIGRE.ORG)

# 2018 47<sup>th</sup> Paris Session

**Paris, France 26-31<sup>st</sup> August 2018**

## **A2 Transformer Preferential Subjects;**

- **Thermal Characteristics**
  - Hotspot temperature modelling,
  - Core and steel temperatures
  - Overloads including components
- **Advances in diagnostics and Modelling**
  - High frequency models, UHF PD ...
- **Site Commissioning Tests**



*Thank You for Your attention*

