

CIGRE Study committee A2

PROPOSAL FOR THE CREATION OF A NEW WORKING GROUP

WG A2.80

NAME OF THE CONVENOR

RYDER Simon (UNITED KINGDOM)

TITLE

Guide to Transformer Supplier Qualification and Development

THE WG APPLIES TO DISTRIBUTION NETWORKS: YES

ENERGY TRANSITION

1 / Storage

6 / Solar PV and Wind

POTENTIAL BENEFIT OF WG WORK

1 / commercial, business, social, economic benefits

2 / potential interest from a wide range of stakeholders

5 / Guide or survey on techniques, or updates on past work or brochures

6 / work likely to contribute to improve safety

STRATEGIC DIRECTION

1 / The electrical power system of the future reinforcing the End-to-End nature of CIGRE: respond to speed of changes in the industry by preparing and disseminating state-of-the-art technological advances

3 / Focus of the environment and sustainability (in case the WG shows a direct contribution to at least one SDG)

SUSTAINABLE DEVELOPMENT GOAL

7 / Affordable and clean energy

9 / Industry, innovation and infrastructure

BACKGROUND :

There is increased demand for transformers Worldwide as a result of the Energy Transition. This has resulted in an increase in costs and delivery times. Many users are now having to purchase from unfamiliar suppliers to meet their needs. Qualifying and developing new transformer suppliers is an increasingly high priority for users Worldwide.

CIGRE first studied this subject as part of WG A2.36, who published a guide for "Conducting Factory Capability Assessments" for power transformers as TB 530 in April 2013. Slightly updated material from this brochure was included in the Green Book on the transformer procurement process, published in September 2022.

PURPOSE / OBJECTIVE / BENEFIT OF THIS WORK :

There is now a need for a comprehensive update to TB 530. The main aim of the update is to take into account changes in user expectations and requirements arising from the Energy Transition. The update should take into account changes and improvements in industry practice since the original TB was published, including the development of new design concepts, new manufacturing methods, new test methods, and increased expectations concerning environmental, health, and safety management. The update should also be more closely aligned with ISO 9001, avoiding contradiction or duplication and providing additional guidance where required.

The main focus of TB 530 was on oil-immersed transformers with rated power of 100MVA and larger, and with rated voltage of 245kV class and above. The updated brochure will include a wider range of small and medium power transformers, immersed in both oil and different liquids. This is in keeping with CIGRE’s end-to-end mission and also with increased user demand for small and medium power transformers immersed in different liquids for the Energy Transition.

SCOPE :

The scope of the working group will be the qualification and development of suppliers of power transformers for the Energy Transition. This will include power transformers from 2.5MVA and higher and from 12kV class and higher. This will also include both liquid-immersed shunt reactors and liquid-immersed HVDC transformers, which are increasingly in demand for the Energy Transition.

The working group will consider the following main aspects of transformer production:

- Design concept
- Design methods, including design software
- Supply chain management
- Manufacturing methods and equipment
- Acceptance test methods and equipment
- Transport
- Installation and pre-commissioning
- Warranty and service
- Project management
- Quality management
- Environmental management, including energy management
- Health and safety management
- Human resources

Dry-type transformers and gas-insulated transformers are not included in the scope of the working group, irrespective of rated power and rated voltage. Standardised distribution transformers up to 2.5MVA are also not included in the scope of the working group.

DELIVERABLES AND EVENTS

Deliverables Types

Annual progress and activity report to Study Committee
Electra report
Technical Brochure and Executive Summary in Electra
Tutorial
Webinar

Time schedule

Q3	2025	Recruit members (National Committees, WiE, NGN)
Q1	2026	Develop final work plan
Q1	2028	Draft Technical Brochure for Study Committee review
Q3	2028	Final draft Technical Brochure
Q3	2028	Tutorial
Q3	2028	Webinar

APPROVAL BY TECHNICAL COUNCIL CHAIRMAN:

Rannveig S. J. Loken
May 27th, 2025