

CIGRE Study Committee A2

PROPOSAL FOR THE CREATION OF A NEW WORKING GROUP

WG¹ A2.73	Name of Convenor: Carl WOLMARANS (South Africa)																
Strategic Directions #²: 1	Sustainable Development Goal #³: 9																
<p>This Working Group addresses these Energy Transition topics:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"><input type="checkbox"/> Storage</td> <td style="width: 50%; border: none;"><input type="checkbox"/> None of them</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Hydrogen</td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;"><input checked="" type="checkbox"/> Digitalization</td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sustainability and Climate Change</td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Grids and Flexibility</td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Solar PV and Wind</td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Consumers, Prosumers and Electrical Vehicles</td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sector Integration</td> <td style="border: none;"></td> </tr> </table>		<input type="checkbox"/> Storage	<input type="checkbox"/> None of them	<input type="checkbox"/> Hydrogen		<input checked="" type="checkbox"/> Digitalization		<input type="checkbox"/> Sustainability and Climate Change		<input type="checkbox"/> Grids and Flexibility		<input type="checkbox"/> Solar PV and Wind		<input type="checkbox"/> Consumers, Prosumers and Electrical Vehicles		<input type="checkbox"/> Sector Integration	
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Potential Benefit of WG work #⁴: 1, 3																	
Title of the Group: Enhancing the exchange of Transformer information through digitalisation																	
<p>Scope, deliverables and proposed time schedule of the WG:</p> <p>Background:</p> <p>In the procurement process and throughout project execution, numerous documents are exchanged between the customer and supplier. Typically, many of these documents adhere to the customer's best practices or are sourced from references such as CIGRE Technical Brochures and Standards. This often necessitates the other party to conform to the provided template or manually process the data. At this stage, the customer should also initiate the process of capturing and digitising pertinent data right from the outset to support the lifelong operation and maintenance of Power Transformers.</p> <p>A global shortage of personnel in the energy sector is expected to worsen as the market continues to grow. Any improvements in processes can help offset this shortage. Data is becoming increasingly vital, and paper archives are being replaced by databases or data lakes. Data lakes have gained significant popularity in the era of big data and are now a fundamental component for data-driven organisations. They enhance the storage and analysis of extensive datasets, ultimately improving communication, knowledge, and decision-making for asset managers.</p> <p>Purpose/Objective/Benefit of this work:</p> <p>To facilitate the creation of such databases, it would be advantageous to standardise industry-specific documents and specify them in a manner that allows for automatic generation on the sender's side and seamless importation on the receiver's side.</p> <p>Scope:</p> <p>The objectives of this working group encompass the following key areas:</p> <ul style="list-style-type: none"> • Offer an overview of the typical documents exchanged between manufacturers and customers, starting from the prequalification phase and extending throughout the product's entire lifecycle. These documents include, but are not limited to, tenders, 																	

schedules, design review materials, quality control plans, nameplate, drawings, manuals, factory acceptance test reports and diagnostic test reports.

- Identify and highlight the documents that hold potential for digitisation prioritising those that are most often manually requested by stakeholders.
- Explore various digitalisation methods, such as XML, Excel, or similar technologies, and recommend applicable standards.
- Present a proposal for a standardised document format, focussing on utilising existing terminology, abbreviations, and units in standards such as IEC. It should then be shown how these standardised formats can assist in facilitating data sharing and asset management.
- Compile a list of the advantages and benefits associated with the digitalisation of transformer information exchange, emphasising the positive impacts on efficiency and data management.

Remarks:

Deliverables:

- Annual Progress and Activity Report to Study Committee
- Technical Brochure and Executive Summary in Electra
- Electra Report
- Future Connections
- CIGRE Science & Engineering (CSE) Journal
- Tutorial
- Webinar

Time Schedule:

- | | |
|---|------------|
| • Recruit members (National Committees, WiE, NGN) | Qtr 3 2024 |
| • Develop final work plan | Qtr 4 2024 |
| • Draft TB for Study Committee Review | Qtr 1 2027 |
| • Final TB | Qtr 4 2027 |
| • Tutorial | Qtr 4 2027 |
| • Webinar | |

Approval by Technical Council Chair:

Date: June 13th, 2024



Notes:

¹ Working Group (WG) or Joint WG (JWG),

² See attached Table 1,

³ See attached Table 2 and CIGRE reference Paper: Sustainability – at the heart of CIGRE's work.

⁴ See attached Table 3

WG Membership: refer Comments at end of document

Table 1: Strategic directions of the Technical Council

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
2	Making the best use of the existing systems
3	Focus on the environment and sustainability (in case the WG shows a direct contribution to at least one SDG)
4	Preparation of material readable for non-technical audience

Table 2: Environmental requirements and sustainable development goals

	CIGRE selected the 7 SDGs that are the most relevant to CIGRE. In case the WG work refers to other SDGs or do not address any specific SDG, it will be quoted 0.
0	Other SDGs or not applied
7	SDG 7: Affordable and clean energy Increase share of renewable energy; e.g. expand infrastructure for supplying sustainable energy services; ensure universal access to affordable, reliable, and modern energy services; energy efficiency; facilitate access to clean energy research and technology
9	SDG 9: Industry, innovation and infrastructure Facilitate sustainable infrastructure development; facilitate technological and technical support
11	SDG 11: Sustainable cities and communities Increase attention on sustainable and resilient buildings utilizing local (raw) materials, power for electric vehicles, strengthening long-line transmission and distribution systems to import necessary power to cities, developing micro-grids to reinforce the sustainable nature of cities; protect and safeguard the world's cultural and natural heritage; reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and waste management
12	SDG 12: Responsible consumption and production E.g. Promote public procurement practices that are sustainable; address reducing use of SF6 and promote alternatives, encourage companies to adopt sustainable practices and to integrate sustainability information into their reporting cycle, address inefficient fossil-fuel subsidies that encourage wasteful consumption
13	SDG 13: Climate action E.g. Increase share of renewable or other CO ₂ -free energy; energy efficiency; expand infrastructure for supplying sustainable energy; strengthen resilience and adaptive capacity to climate-related hazards and natural disasters; integrate climate change measures into national policies, strategies and planning; improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning
14	SDG 14: Life below water E.g. Effects of offshore windfarms; effects of submarine cables on sea-life
15	SDG 15: Life on land E.g. Attention for vegetation management; bird collisions; integration of substations and lines into the landscape

Table 3: Potential benefit of work

1	Commercial, business, social and economic benefits for industry or the community can be identified as a direct result of this work
2	Existing or future high interest in the work from a wide range of stakeholders
3	Work is likely to contribute to new or revised industry standards or with other long term interest for the Electric Power Industry
4	State-of-the-art or innovative solutions or new technical directions
5	Guide or survey related to existing techniques; or an update on past work or previous Technical Brochures
6	Work likely to contribute to improved safety.

Comments:

1) CIGRE Official Study Committee Rules: WG Membership

<https://www.cigre.org/GB/about/official-documents>

- a. Only one member per country: by exception of SC Chair, WiE and NGN nominees.
- b. WG nominees by NCs must first be supported by their National Committee (or local SC Member) as an appropriate representative of their country.
- c. Acceptance of the nomination is granted by the SC Chair and advised to the WG Convener.

2) Collaboration Space

<https://www.cigre.org/article/GB/collaborative-tools-2>

CIGRE will provision the WG with a dedicated Knowledge Management System Space.

The WG will use the KMS for drafting collaboration, capture and retention of discussion and meeting records.

Official country WG Members will be sent registration instructions by the Convener.

Official country WG Members may request the WG Convener to allow additional access for an extra national subject matter specialist to aid in the work at the national level, including NGN members.