



**CALL FOR NOMINATION FOR
CANADIAN REPRESENTATIVE FOR CIGRE STUDY COMMITTEE A2
POWER TRANSFORMERS AND REACTORS
FOR THE TERM 2024-2026**

This document describes the criteria for nomination of a CIGRE Canada representative for Study Committee A2 – *Power Transformers and Reactors*.

BACKGROUND

The current SC representative for A2 will retire from his position after the 2024 GIGRE Paris Session. To continue Canadian participation and representation in this key CIGRE Study Committee, we are soliciting interested members provide their resume and a cover letter describing their interest and ability to commit to representing Canada for the term required.

Responses are required by January 22, 2024, with selection to be completed by January 29, 2024.

MISSION

To facilitate and promote the progress of engineering and the international exchange of information and knowledge in the field of Power Transformers and Reactors. To add value to this information and knowledge by means of synthesizing state-of-the-art practices and developing recommendations.

STUDY COMMITTEE A2 SCOPE OF WORK

Scope

Within its technical field of activity, Study Committee A2 addresses topics throughout the asset management life-cycle phases; from conception, through research, development, design, production, deployment, operation, and end-of life. At all stages, technical, safety, economic, environmental, and social aspects are addressed as well as interactions with, and integration into, the evolving power system and the environment. All aspects of performance, specification, testing and the application of testing techniques are within scope, with a specific focus on the impact of changing interactions and demands due to evolution of the power system. Life cycle assessment techniques, risk management techniques, education and training are also important aspects.

Within this framework, additional specific areas of attention include:

- Theory, principles and concepts, functionality, technological development, design, performance and application of materials, efficiency;
- Manufacturing, quality assurance, application guidance, planning, routing and location, construction, erection, installation;
- Reliability, availability, dependability, maintainability and maintenance, service, condition monitoring, diagnostics, restoration, repair, loading, upgrading, uprating;
- Refurbishment, re-use/re-deployment, deterioration, dismantling, disposal.



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MAIN AREAS OF ATTENTION

Responding to the changes in the Electric Power Industry Study Committee A2 pursues mainly two strategic directions (SD) based on the needs and requirements of their customers. The first addresses business and commercial considerations and concerns and is labelled "Services to Customers", while the second is related to "Technology Issues"

Services to Customers

Life management of transformers and reactors, e.g.:

- Maintenance philosophies and practices;
- Management of monitoring and diagnostic methods;
- Management of transformer fleet ranking, development of health indexes;
- Installation procedures, oil treatment, on-site drying, on-site testing;
- Determination of remaining life;
- Decisions to repair (on-site or in factory) or to scrap;
- Failure codes and statistics;
- Guide for failure investigations and post-mortem;
- Oil preservation systems;
- Types of oil available, use of inhibitors and additives, reclaiming of oil
- Alternatives to oil, e.g. esters;
- Environmental aspects, especially audible noise;
- Disposal of failed or redundant transformers, including component and materials;
- Economic issues, e.g. first cost versus total costs of ownership, models for cost evaluation;
- Reliability and availability information on power transformers in service determined by surveys of equipment performance on an international basis with periodical updating;
- Impact of accessories on transformer reliability, e.g., bushings, tap-changers and cooling equipment;
- Promotion and dissemination of Study Committee A2 work, in particular by the organization of workshops.

Technology Issues

Application of new materials, e.g., alternatives to oil (with Study Committee D1 participation), amorphous steel, new insulation materials, hybrid systems, Solid State Transformers, etc.

Better energy efficiency and lower environmental impact.



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New concepts, e.g.:

- FACTS and the application of power electronics, e.g., electronic;
- Tap changers for phase-shifting transformers and Variable Shunt Reactors;
- Integration of DER;
- Digitalization;
- Superconducting transformers and current limiters;
- Site assembled transformers.
- Analysis of electric, magnetic and thermal fields: modeling and validation through benchmarking, etc;
- Electrical environment of transformers, e.g., service under different climatic conditions;
- Interaction with the system;
- Safety issues for transformers, e.g., tank rupture, fire hazard, explosion of bushings.

RESPONSIBILITIES OF THE CANADIAN REPRESENTATIVE

Responsibilities are:

- To participate and bring to the Study Committee the experience that need to be considered when establishing Working Groups.
- To participate in the review of the reports produced by the Working Groups. However, this task is a coordination of collecting comments from Canadian experts in the subject matter and presenting them to the Working Group convenors.
- To participate in the Study Committee meeting (once per year). It is important to attend the meeting to be able to provide our Canadian experience and get first-hand information from the members of the Study Committee.
- To disseminate the information from the Study Committee to the Canadian members of CIGRE who are interested in the field of SC A2. The names of the members will be provided by CIGRE Canada in addition to the candidate's knowledge of the Canadian experts in the industry.
- To approve Canadian members to the Study Committee Working Groups.
- To participate in Working Groups activities.
- Responsible for succession planning, which includes making recommendations for the next SC Representative to the Canadian National Committee.



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The role of the Canadian representative is an important role, and it provides the candidate with the first-hand access to the latest technical information at an international level. It also allows the candidate to influence the decisions to be taken by the Study Committee internationally. It also provides the candidate and their organization with international exposure.

TERM OF OFFICE

The term of office of members is two (2) years, to be renewed no more than twice in the same Study Committee.

This term limitation applies also when a member has changed status: the total membership term (Regular and Observer) within a given Study Committee cannot be more than six (6) years.