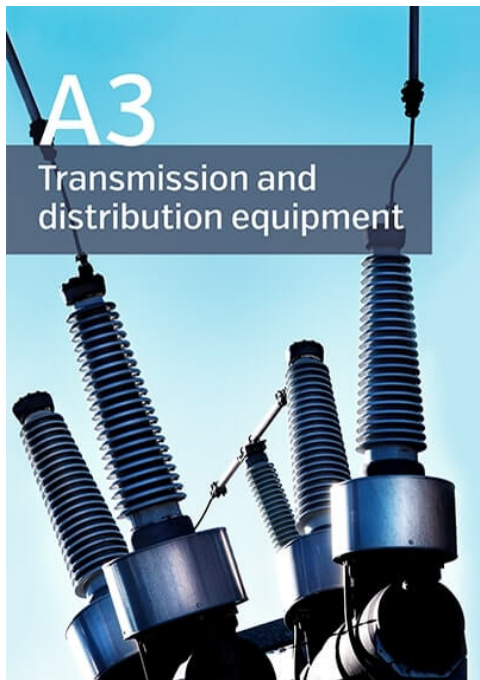


A3 - Transmission and distribution equipment



Mission

To facilitate and promote the progress of engineering and the international exchange of information and knowledge in the field of equipment for distribution and transmission equipment above 1KV. To add value to this information and knowledge by means of synthesizing state-of-the-art practices and developing recommendations.

Scope

SC A3 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.

Working groups

View a list of CIGRE's current working groups including for A3 [here](#).

Publications

View all publications for [Study Committee A3 on eCIGRE](#)

Main areas of attention

Study Committee A3 monitors the evolution of technology and socioeconomic factors in a changing Electric Power Industry. These factors have a direct impact on the progress and development of transmission and distribution systems and thus on Medium, High Voltage and Ultra High Voltage Equipment. The present trends, include the following:

- > Impact of inverter based technologies on T&D equipment.
- > Changing equipment requirements under bilateral power flows, increased stresses on T&D equipment.
- > Influence of severe weather on the equipment.
- > Impact of harmonics on T&D equipment.
- > Implementing the intelligence inside the equipment.
- > Reliability enhancement with advanced sensors and metering, lifetime management, virtual and augmented reality.

- > The interaction of T&D equipment with future High Voltage Networks including the increased introduction of distributed generation.
- > Deregulation and power trading requiring energy flow optimization in networks and increased focus on overload capabilities and properties.
- > MVDC and some HVDC equipment.
- > A growing demand for larger capacity equipment especially for UHV equipment.
- > An increasing maximum short-circuit power in networks.
- > The application of intelligent equipment that allows integration within advanced control and protection schemes.
- > New technologies and possible alternatives to High Voltage Equipment used presently including new switching devices, fault limiters, insulation systems and the measurement of voltage and current.
- > All aspects of Life Management, Condition assessment and Diagnostics.
- > A growing awareness of environmental issues, including the concern over SF6 as a greenhouse gas.
- > The reduced depth of expertise within the industry requiring greater international training and education cooperation.

Key contacts



Chair

Nicola GARIBOLDI



Secretaries

Paolo MAZZA & Frank RICHTER