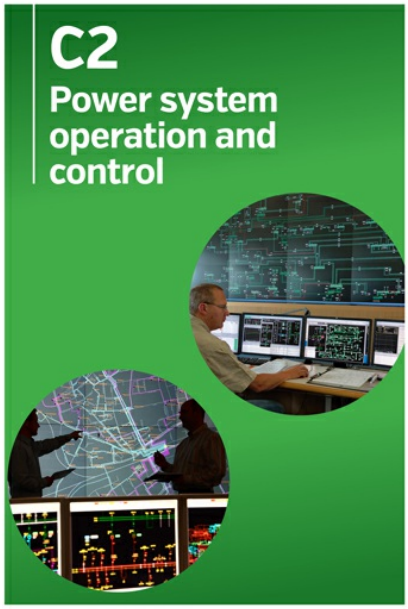
C2 - Power system operation and control



Mission and Scope

The scope of the SC C2 covers the technical, human resource and institutional aspects and conditions for a secure and economic system operation of power systems in a way that is in compliance with requirements for network security, against system disintegration, equipment damages and human injuries, and security of electricity supply.

Working groups
View a list of CIGRE's current working groups including for C2 here.

Publications

View all publications for Study Committee C2 on eCIGRE

The main areas of attention are:

- Control, monitoring and switching of equipment, management of ancillary services (as voltage control, frequency control), monitoring of operational limits and actions to maintain network security and to avoid congestion (e.g. congestion management). Reserves, demand response and emergency strategies, management of disturbances, restoration and resilience enhancement strategies, interaction between the system players. Use of PMU-based WAMS, their integration within control centre environment and its contribution to power system analysis and security assessment functionalities;

- Developments and changes in the business of System Operators and its integration in the evolving environment: energy transition impact, changes in costumer behaviour, integration of new technologies, management and operation of large-scale energy storage, hydrogen production and reutilization, operation from pure AC to hybrid AC/DC systems, including cross-border interconnection, and common and coordinated activities between System Operators, between Transmission, Distribution and service providers. Consequences due to the higher penetration of DG/RES resources and micro and mini distributed generation (MMDG) increasing information exchange and controllability coming from all voltage levels. Interaction with market players, regulators, and service providers;

- Evaluation and benchmarking of the system performance in terms of disturbance frequency, power interruptions, power quality, operational and outage planning efficiency, both from the technical and economical points of view;

- Requirements, methods, tools and performance indicators for Control Centres and training of System Operators;

- Short-term planning and coordination of capacity calculation and network security. Development and use of power system analysis

and security assessment functionalities within operational planning and real-time supervision, including Artificial Intelligence and Machine Learning applications, supporting system operators. Automation of processes and optimization, e.g. application of remedial actions.

Key contacts



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