

The background is a dark blue globe with glowing blue lines representing a network or energy grid. The lines connect various points across the globe, creating a complex web of connections.

# **REGULATION (EU) 2017/2196**

## **establishing a network code on electricity emergency and restoration**

CEP-ER, Guidelines and Network Codes implementation in the Energy Community  
TECHNICAL WORKSHOP - Vienna, 5 May 2022

## Underlying purposes

- safeguarding **operational security**
- preventing the **propagation of an incident** to avoid widespread disturbance and blackout
- allow for the efficient and rapid **restoration** of the electricity system

The Emergency and Restoration network code lays down the requirements on the

- **management by TSOs** and
- **coordination of system operation** across the Energy Community

in the **emergency**, **blackout** and **restoration** states.

## Scope

- **transmission** systems, **distribution** systems and **interconnections** in the Energy Community (between CPs and with MSs)
- electricity market **service providers** – security (defence), restoration and balance services, NEMOs
- significant **grid users** (SGUs) – generating modules, demand modules, microgrids, redispatching aggregators, HVDC systems

## Principles

- transparency, proportionality, non-discrimination, market-based mechanisms
- use of European standards and technical specifications
- respect of technical, legal, personal safety and security constraints,
- respect of (national) responsibilities assigned to relevant TSOs
- consultation with relevant DSOs

## TSO procedures

- for **consultations** (before real-time, real-time), for coordinated **execution** (real-time), for **consistency** of regionally coordinated measures

## Planning criteria

- design **criteria** ([security limits](#), generation / load capabilities, SGU priorities, system performance – TSO, DSO)
- design **principles** (minimum impact, economic efficiency, proportionality, safety – not provoking emergency)
- **procedures** for implemetation [[deadlines](#)] and activation of the Plans, [inter-TSO assistance and coordination](#)

## System Defence Plan - measures

- **automatic** control schemes (under-frequency, over-frequency, voltage collapse)
- **manual** managemnet procedures (frequency deviation, voltage deviation, power flow, active power assistance, load disconnection)

## Restoration Plan – measures

- **re-energization** procedures – top-down / bottom-up (voltage / frequency deviations - island operation - resynchronization), **activation** criteria,
- **frequency managemnet** procedure – frequency leader (frequency deviation / synchronous area splitting)
- **resynchronization** procedure – resynchronizartion leader, resynchronization strategy

## Market criteria

- **rules** [[deadlines](#)] for suspention and restoration of market acivities ([harmonized](#))
- **procedures** for market activities suspension and restoration, procedure for communication
- **rules** [[deadlines](#)] for imbalance settlement in case of market suspension

## General principles

- mandatory **information exchanges** between the stakeholders,
  - setup of **communication systems**
  - emergency **tools** and **facilities** – transfer procedures
  - **compliance testing** for stakeholders (generation modules, demand-response modules, HVDC systems, demand disconnection systems, communication systems, emergency tools and facilities)
  - **compliance testing plans** (system defence and restoration, communication systems) [**deadlines**]
  - **monitoring** of the implementation
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## Specific adjustments

- automatic (low frequency) demand disconnection scheme [ANNEX] – pursuant to **Continental Europe**
  - role of ENTSO-E – coordination in monitoring the implementation (**ECS**) – compliant with the GLs
  - derogations (**Georgia**) – exempted from Articles 15, 29 and 33 (frequency control, appointment of frequency and resynchronization leader) – else compliant with SO GL
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The background is a satellite-style image of the Earth, showing the continents of Europe, Africa, and Asia. Overlaid on this image is a complex network of glowing blue lines that connect various points across the globe, representing a global energy or communication network. The lines are bright blue and have a slight glow, creating a sense of dynamic connectivity.

Thank you for your attention!

[Simon.uzunov@energy-community.org](mailto:Simon.uzunov@energy-community.org)