
Proposal from all TSOs of the Nordic synchronous area for the determination of LFC blocks within the Nordic Synchronous Area in accordance with Article 141(2) of the Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation

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All TSOs in the Nordic synchronous area, taking into account the following:

Whereas

- (1) This document is a common proposal developed by all Transmission System Operators in Nordic synchronous area (hereafter referred to as “TSOs”) regarding the determination of load-frequency control (hereafter referred to as “LFC”) blocks within the Nordic synchronous area (hereafter referred to as “Nordic SA”) in accordance with Article 141(2) of Commission Regulation (EU) 2017/1485 establishing a guideline on electricity transmission system operation (hereafter referred to as “SO Regulation”). This proposal is hereafter referred to as “Proposal”.
- (2) This Proposal takes into account the general principles and goals set in the SO Regulation as well as in the Regulation (EC) No 714/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity (hereafter referred to as “Regulation (EC) No 714/2009”). The goal of the SO Regulation and Regulation (EC) No 714/2009 is the safeguarding of operational security, frequency quality and the efficient use of the interconnected system and resources. Article 141(2) of the SO Regulation sets for this purpose requirements to determine the LFC blocks per synchronous area, which shall comply with the followings requirements:
 - a. *a monitoring area corresponds to or is a part of only one LFC area.*
 - b. *a LFC area corresponds to or is a part of only one LFC block.*
 - c. *a LFC block corresponds to or is a part of only one synchronous area; and*
 - d. *each network element is part of only one monitoring area, only one LFC area and only one LFC block.*
- (3) The scope of this LFC blocks determination Proposal is to establish the LFC block for the Nordic SA, while respecting the requirements set in Article 141(2) of the SO Regulation and has been developed in accordance with Article 5(2) of the SO Regulation and decided in accordance with Article 5(7) of the SO Regulation. All TSOs of two or more LFC areas connected by interconnection have the right to form a LFC block in accordance with Article 141(11) of the SO Regulation if the requirements set out in Article 141(5) are fulfilled.
- (4) This Proposal takes into account the load-frequency control structure of the Nordic SA in accordance with Article 139, 140 and 141 of SO Regulation.
- (5) In regards to regulatory approval, Article 6(3) of the SO Regulation states:
"The proposals for the following terms and conditions or methodologies shall be subject to approval by all regulatory authorities of the concerned region, on which a Member State may provide an opinion to the concerned regulatory authority:
.....
g) common proposal per synchronous area for the determination of LFC blocks in accordance with Article 141(2)."
- (6) The Proposal generally contributes towards determining the load-frequency control processes and control structures required by Article 4(1)(c) of the SO Regulation setting responsibilities in accordance with Article 141(2).
- (7) In regards to the objective to determine common security requirements (Article 4(1)(a) of SO Regulation), the Proposal takes into account the congestions in the transmission system by defining the LFC areas and the monitoring areas to be consistent with the bidding zones.

- (8) The Proposal contributes to the objective to determine common interconnected system operational planning principles (Article 4(1)(b) of SO Regulation) by recognising the bottlenecks of the transmission system in the operational planning phase for application of Area Control Error (ACE) between LFC areas, and later on monitoring and correcting the control errors in operational phase.
- (9) The Proposal serves the objective to ensure the conditions for maintaining a frequency quality level of all synchronous areas throughout the Union (Article 4(1)(e) of the SO Regulation) through the determination of LFC blocks, LFC areas and monitoring areas that define the load-frequency control structure for the Nordic SA according to which the relevant TSOs shall specify the allocation of responsibilities on frequency containment and frequency restoration processes and define the frequency quality defining parameters and the frequency quality target parameters for monitoring the frequency quality level of the Nordic SA.
- (10) In regard of the objective to ensure and enhance the transparency and reliability of information on transmission system operation (Article 4(1)(g) of SO Regulation), the Proposal ensures the reliability of information by specifying each bidding zone as a LFC area and a monitoring area in which TSOs shall continuously calculate and monitor the real-time active power exchange between the bidding zones and the transparency of information for all balancing service providers by establishing a common balancing market for the Nordic SA and ensuring the application of market-based mechanisms in the widest possible extent. This is an outcome of having one LFC block in the Nordic SA.
- (11) The Proposal contributes to the efficient operation and development of the electricity transmission system and electricity sector in the Union (Article 4(1)(h) of the SO Regulation) by the facilitation of the sharing and exchange of FRR reserves and the minimization of the amount of FRR counter activations between LFC areas through imbalance netting for activation between the LFC areas within the LFC block of the Nordic SA which shall be agreed in the LFC block operational agreement. This is a result of having one LFC block in the Nordic SA within which the sharing and exchange of reserves shall take place.
- (12) The Proposal facilitates the application of the principle of optimization between the highest overall efficiency and lowest total cost for all parties involved (Article 4(2)(c) of the SO Regulation) and the aim of ensuring that the TSOs make use of the market-based mechanisms as far as possible to ensure network security and stability (Article 4(2)(d) of the SO Regulation) by defining a LFC structure that contributes to common balancing markets for the activation of the most efficient resources to balance the Nordic SA. This is an outcome of having one LFC block in the Nordic SA.
- (13) Finally, the Proposal respects the responsibility assigned to the relevant TSO in order to ensure system security, including as required by national legislation. Each TSO in Nordic SA has the responsibility to monitor operational security on its own control area consisting of one or more bidding zones. This is a result of a bidding zone corresponding to a monitoring area. Furthermore, each TSO shall operate its control area with sufficient upward and downward active power reserves, which may include shared or exchanged reserves to face imbalances between demand and supply within its control area consisting of one or more bidding zones and as agreed between the TSOs belonging to the LFC block of the Nordic SA. This is a result of bidding zone corresponding to a LFC area.
- (14) In conclusion, the Proposal contributes to the general objectives of the SO Regulation to the benefit of the market participants and electricity end consumers.

SUBMIT THE FOLLOWING LFC BLOCKS DETERMINATION PROPOSAL TO ALL REGULATORY AUTHORITIES:

Article 1

Subject matter and scope

The determination of LFC blocks as established in this proposal shall be considered as the proposal from all TSOs of the Nordic SA complying with Article 2(2) of the SO Regulation in accordance with Article 141(2) of the SO Regulation.

The Nordic SA covers transmission systems of East-Denmark (DK2), Finland, Sweden and Norway.

This Proposal has been developed by Energinet, Fingrid Oyj, Kraftnät Åland AB, Svenska kraftnät and Statnett SF.

Article 2

Definitions and interpretation

1. For the purposes of the Proposal, terms used in this Proposal shall have the meaning of the definitions included in Article 3 of the SO Regulation and Article 2 of Regulation (EC) 714/2009, Regulation (EU) 543/2013 and Directive 2009/72/EC.
2. In this Proposal, unless the context requires otherwise:
 - a) the singular indicates the plural and vice versa;
 - b) headings are inserted for convenience only and do not affect the interpretation of this Proposal; and
 - c) any reference to legislation, regulations, directive, order, instrument, code or any other enactment shall include any modification, extension or re-enactment of it then in force.

Article 3

LFC blocks, LFC areas and monitoring areas in Nordic SA

1. The Proposal covers the geographic area of the Nordic SA.
2. The Nordic SA corresponds to a LFC block and a bidding zone corresponds to a LFC area and a monitoring area.
3. A network element belongs to the LFC block, LFC area and monitoring area where the geographic point for measurements of that network element has been agreed between the relevant TSOs to be located.

Article 4

Publication and implementation of the LFC blocks determination proposal

1. The TSOs shall publish the Proposal in accordance with Article 8(1) of the SO Regulation without undue delay after all NRAs of the Nordic SA have approved the Proposal in accordance with Article 6(3)(g) of the SO Regulation or a decision has been taken by the Agency for the Cooperation of Energy Regulators in accordance with Article 6(8) of the SO Regulation.
2. The Proposal shall enter into force immediately after it has been approved by the relevant NRAs. The TSOs shall implement the Proposal in Nordic SA after the Nordic synchronous area operational agreement concluded in accordance with Article 118 of the SO Regulation, LFC block operational agreement concluded in accordance with Article 119 of the SO Regulation and LFC area operational agreement concluded in accordance with Article 120 of the SO Regulation have been implemented.

Article 5

Language

The reference language for this Proposal shall be English. For the avoidance of doubt, where TSOs need to translate this Proposal into their national language(s), in the event of inconsistencies between the English version published by TSOs in accordance with Article 8 of the SO Regulation and any version in another language, the relevant TSOs shall, in accordance with national legislation, provide the relevant national regulatory authorities with an updated translation of the Proposal.