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**Amended Nordic synchronous area proposal for ramping restrictions  
for active power output in accordance with Article 137(3) and (4) of  
the Commission Regulation (EU) 2017/1485 of 2 August 2017  
establishing a guideline on electricity transmission system operation**

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13 May 2019

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

### Whereas

- (1) This document is the common proposal developed by all Transmission System Operators within the Nordic synchronous area (hereafter referred to as “**TSOs**”) for ramping restrictions for active power output in accordance with Article 137(3) and (4) 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) The Proposal takes into account the general principles and goals set in SO Regulation as well as 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/Regulation (EC) No 714/2009 is the safeguarding of operational security, frequency quality and the efficient use of the interconnected system and resources. Article 119(1)(c) of the SO Regulation sets for this purpose requirements for the TSOs to “*jointly develop common proposals for: [...] ramping restrictions for active power output in accordance with Article 137(3) and (4);*”
- (3) Article 137(3) and (4) of the SO Regulation define the scope of this Proposal. Article 137(3) states that “*All connecting TSOs of an HVDC interconnector shall have the right to determine [...] common restrictions for the active power output of that HVDC interconnector to limit its influence on the fulfilment of the FRCE target parameter of the connected LFC blocks [...]*”. The TSOs will make use of this right. Article 137(4) states that “*All TSOs of an LFC block shall have the right to determine in the LFC block operational agreement the [...] measures*” related to “*power generating modules and/or demand units [...]*. The TSOs will also make use of this right.
- (4) The existing ramping restrictions for HVDC interconnectors and production and the existing possibilities for the TSOs to coordinate ramping between production plans limit FRCE and frequency deviations in such a way that the current target on frequency quality will be fulfilled. Consequently, the TSOs conclude that it is required to keep the existing ramping restrictions and coordination possibilities.
- (5) In regard 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: [...]*  
*(e) methodologies and conditions included in the LFC block operational agreements in Article 119, concerning: [...]*  
*(i) ramping restrictions for active power output in accordance with Article 137(3) and (4);”*
- (6) According to Article 6(6) of the SO Regulation the expected impact of the Proposal on the objectives of the SO Regulation has to be described and is presented below.

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- (7) The Proposal generally contributes to and does not in any way hamper the achievement of the objectives of Article 4 of the SO Regulation. In particular, the Proposal contributes to these objectives by specifying ramping restrictions for HVDC interconnectors and production plans. These ramping restrictions are required to maintain the operational security by reducing the risk for automatic Under Frequency Load Shedding (UFLS) and for system blackouts due to under or over frequency. Furthermore, the ramping restrictions are required to maintain the frequency quality level of the synchronous areas involved.
- (8) In conclusion, the Proposal contributes to the general objectives of the SO Regulation to the benefit of all market participants and electricity end consumers.

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**SUBMIT THE FOLLOWING AMENDED PROPOSAL TO ALL REGULATORY AUTHORITIES OF THE NORDIC SYNCHRONOUS AREA:**

**Article 1 - Subject matter and scope**

1. The ramping restrictions described in this Proposal are the common proposal of TSOs in accordance with article 137(3) and (4) of the SO Regulation. The Proposal applies solely to the Nordic synchronous area.

The Nordic synchronous area 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.

2. This Proposal is subject to approval in accordance with Article 6(3) of the SO Regulation.

**Article 2 - Definitions and interpretation**

1. For the purposes of this Proposal, the terms used shall have the meaning of the definitions included in Article 3 of the SO Regulation and in Article 2 of Commission Regulation (EU) 2017/2195.
2. For the purpose of this Proposal, a HVDC interconnector means one or more cables between two synchronous areas connected to the transmission grid in the same connection point on both sides.
3. In this Proposal, unless the context requires otherwise:
  - a. the singular indicates the plural and vice versa;
  - b. the headings are inserted for convenience only and do not affect the interpretation of the Proposal; and
  - c. any reference to legislation, regulations, directives, orders, instruments, codes or any other enactment shall include any modification, extension or re-enactment of it when in force.

**Article 3 – Ramping restrictions for the active power output of HVDC interconnectors**

In order to fulfil the FRCE target parameters for the LFC block as referred to in article 128 of the SO Regulation, the following ramping restrictions apply:

1. For the NorNed, Estlink 1, Estlink 2, Vyborg, Konti-Skan, Kontek, Great Belt, Baltic Cable, NordBalt, SwePol Link and Skagerrak HVDC interconnectors the maximum gradient for change in flow is 30 MW/min;
2. The changes to the trading plans from one hour to the next in the energy market shall be not more than 600 MW on each of the following HVDC interconnectors: NorNed, Estlink, Vyborg, Kontek, Great Belt, Baltic Cable, NordBalt, SwePol Link, Skagerrak and Konti-Skan;
3. The changes to the trading plans from one hour to the next in the energy market shall be not more than 600 MW for the sum of the Skagerrak and Konti-Skan HVDC interconnectors;
4. In accordance with Article 137(3) of the SO Regulation, the restrictions in paragraph 1 to 3 shall not apply for imbalance netting, frequency coupling as well as cross-border activation of FRR and RR over HVDC interconnectors.

#### **Article 4 – measures to support the fulfilment of the FRCE target parameter of the LFC block and to alleviate deterministic frequency deviations, taking into account the technological restrictions of power generating modules and demand units**

In order to fulfil the FRCE target parameters for the LFC block as referred to in article 128 of the SO Regulation, the following ramping restrictions apply:

1. When the hourly production plan of balance responsible parties representing power generating modules in Finland, Norway and Sweden changes more than 200 MW at hour shift, these balance responsible parties need to reschedule their plan with quarterly steps 15 minutes before hour shift, at hour shift and 15 minutes after hour shift in order to adjust the plans to better correspond to the consumption pattern. In Norway, the steps can be applied 30 minutes before the hour shift until 30 minutes after the hour shift. This obligation is not relevant in Denmark East due to the physical characteristics for production;
2. In case that planned production changes and planned HVDC exchanges around hour shift will impact the frequency in a way that cannot be entirely handled by control centres in the minutes before and after operating hour, the TSOs are allowed to request balance responsible parties that represent power generating modules to advance or delay parts of planned production steps at the hour shift. The power schedules may be changed from 30 minutes before hour shift till 30 minutes after the hour shift.

#### **Article 5 – Publication and implementation**

1. The relevant TSOs shall publish (in accordance with Article 8 of the SO Regulation) the Proposal without undue delay after the competent NRAs have approved the Proposal or a decision has been taken by the Agency for the Cooperation of Energy Regulators in accordance with Article 6 of the SO Regulation.
2. The TSOs shall implement the Proposal not later than when Nordic LFC block operational agreement enters into force in accordance with Article 119 of the SO Regulation.

#### **Article 6 - Language**

The reference language for this Proposal shall be English. For the avoidance of doubt, where TSOs needs to translate this Proposal into national language(s), in the event of inconsistencies between the English version published by TSOs in Nordic Synchronous Area in accordance with Article 8(1) of the SO Regulation and any version in another language the relevant TSOs shall, in accordance with national legislation, provide the relevant national regulatory authority with an updated translation of the Proposal.