

**Proposal of all TSOs of the LFC Block
TNG+TTG+AMP+50HZT+EN+CREOS concerning ramping restrictions
for active power output in accordance with Article 137(3) and Article
137(4) of Commission Regulation (EU) 2017/1485 establishing a
guideline on electricity transmission system operation**

28.06.2024

50Hertz Transmission GmbH (50HZT), Amprion GmbH (AMP), Creos Luxembourg S. A. (CREOS), Energinet Systemansvar A/S (EN), TenneT TSO GmbH (TTG), TransnetBW GmbH (TNG), taking into account the following

Whereas

- (1) This document is a common proposal developed by all Transmission System Operators of Danish-German-Luxembourgish LFC Block (hereafter referred to as “TSOs”) regarding the ramping restrictions for active power output in accordance with Article 137(3) and Article 137(4) of Commission Regulation (EU) 2017/1485 establishing a guideline on electricity transmission system operation (hereafter referred to as “SOGL”)
- (2) Article 6(3)(e)(i) of SOGL requires the approval by all regulatory authorities of the concerned region of the proposal by all TSOs of an LFC block concerning “[...] *ramping restrictions for active power output in accordance with Article 137(3) and (4)*”.
- (3) Article 137(3) of SOGL gives the right to all connecting TSOs of an HVDC interconnector “[...] *to determine in the LFC block operational agreement 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 by agreeing on ramping periods and/or maximum ramping rates for this HVDC interconnector. Those common restrictions shall not apply for imbalance netting, frequency coupling as well as cross-border activation of FRR and RR over HVDC interconnectors.*”
- (4) Article 137(3) of SOGL states: “*All TSOs of a synchronous area shall coordinate these measures within the synchronous area.*”
- (5) Article 137(4) of SOGL gives all TSOs of an LFC block the right “[...] *to determine in the LFC block operational agreement the following 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*”.
- (6) This proposal fulfils the requirements of the SOGL by defining the maximum gradient for the HVDC interconnectors in Article 3(1).
- (7) The TSOs do not propose to introduce ramping restrictions in accordance with Article 137(4) of SOGL.
- (8) The coordination between the TSOs of the synchronous area required by Article 137(3) of SOGL is part of the synchronous area operational agreement.

- (9) This proposal fulfils the objectives of Article 4(1) of SOGL as follows:
- (a) The proposal determines common operational security requirements and principles for the ramping restrictions in the Danish-German-Luxembourgish LFC Block.
 - (b) The proposal respects the responsibility assigned to the TSOs for system security by the national legislation.
 - (c) The transparency is ensured by definition of the ramping restrictions of the proposal.
 - (d) The proposal for ramping restrictions for HVDC interconnectors aims at safeguarding operational security, frequency quality and the efficient use of the interconnected system and resources. To respect this, the proposal allows a change of the exchange volume of at least 300 MW per 1/4h and border from Nordic TSO to the Danish-German-Luxembourgish LFC Block and vice versa. Furthermore, it allows a change of at least 1000 MW per ¼ h from GB to the Danish-German-Luxembourgish LFC Block and vice versa.
 - (e) The proposal promotes the coordination of system operation since this proposal is a joint proposal of all TSOs of the Danish-German-Luxembourgish LFC Block. The coordination on the synchronous area level is part of the synchronous area operational agreement.
- (10) This proposal is only applicable for changes on HVDC interconnectors between the Danish-German-Luxembourgish LFC Block and the synchronous areas Nordic and GB, based on market results from Day-Ahead and Intraday-Markets.

SUBMIT THE FOLLOWING PROPOSAL TO THE REGULATORY AUTHORITIES OF DENMARK, GERMANY AND LUXEMBOURG:

Article 1

Subject matter, scope and responsibility structure

- (1) This proposal is based on the LFC block and LFC area structure defined by “All TSOs’ proposal for the determination of LFC blocks for the Synchronous Area Continental Europe 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” and approved by the regulatory authorities.
- (2) In accordance with (1), the proposal applies only for the part of Denmark which is synchronously connected to the synchronous area CE.
- (3) This proposal defines the ramping restrictions in accordance with Article 137(3) of SOGL and Article 137(4) of SOGL in the Danish-German-Luxembourgish LFC Block.

Article 2

Definitions and interpretation

- (1) For the purpose of the proposal, the terms used shall have the meaning given to them in Article 3 of SOGL.
- (2) ‘DE area’ means the monitoring areas 50HZT, AMP, CREOS, TNG and TTG.

- (3) 'DKW area' means the LFC area of EN which is synchronously interconnected with the synchronous area CE. All HVDC-interconnectors with connection to DK1 are connected to DKW area.
- (4) 'DE-LU-DK LFC block' means the Danish-German-Luxembourgish LFC Block comprising the DE area and the DKW area.
- (5) 'Nordic' means the monitoring areas of the Nordic synchronous area which are connected to the DE-LU-DK LFC block.
- (6) 'GB' means the synchronous area Great Britain which are connected to the DE-LU-DK LFC block.

Article 3
Ramping Restrictions for Active Power Output of HVDC Interconnectors
in Accordance with Article 137(3)

- (1) The gradient of active power output of each HVDC interconnector between the DE-LU-DK LFC block and the synchronous area Nordic shall in general not exceed ± 30 MW/min.
 - (a) A combined ramping restriction for the LFC area NO2 of 60 MW/min applies to the sum of exchanges on all HVDC interconnectors, that connect NO2 with the DE-LU-DK LFC block. The combined ramping restriction hence applies to DE-NO2 and DK1-NO2 HVDC lines.
 - (b) The ramping restriction of 30 MW/min shall apply to DK1-DK2 and DK1-SE3 HVDC lines individually.
 - (c) The ramping restriction of 30 MW/min shall apply as a combined limitation to 50HZT-DK2 HVDC lines.
- (2) The gradient of active power output of the HVDC interconnector between the DE-LU-DK LFC block and the synchronous area GB shall not exceed ± 100 MW/min.
- (3) The scheduled exchange shall be realized with a ramping period of exactly from $t-5\text{Min}$ to $t+5\text{Min}$ relative to a MTU t .
 - (a) If the change from one MTU to the next exceeds 1,000 MW for the HVDC interconnector between the DE-LU-DK LFC block and the synchronous area GB the ramping period for this interconnector shall be increased symmetrically around MTU shift to allow for the full change.
- (4) The ramping restrictions shall support the fulfilment of the FRCE target parameter of the DE-LU-DK LFC block defined in the synchronous area operational agreement in accordance with Article 128(1) of SOGL and Article 128(2) of SOGL.
- (5) The ramping restrictions of the DKW area shall support the fulfilment of the FRCE target parameter of the DKW area defined in accordance with Article 128(4) of SOGL and shall not decrease the FRCE quality of the DE area.

Article 4
Implementation Timescale

The TSOs shall implement the proposal at the same time as the introduction of 15 min MTU in ID in Nordic.

Article 5
Language

The reference language for this proposal shall be English. For the avoidance of doubt, where TSOs need to translate the proposal into their national language(s), in the event of inconsistencies between the English proposal proposed by TSOs in accordance with Article 6 of the SOGL and any version in another language, the relevant TSOs shall be obliged to dispel any inconsistencies by providing a revised translation of the proposal to their relevant national regulatory authorities.