Proposal of all TSOs of the LFC Block TNG+TTG+AMP+50HZT+EN+CREOS concerning FRR dimensioning rules in accordance with Article 157(1) of Commission Regulation (EU) 2017/1485 establishing a guideline on electricity transmission system operation

50Hertz Transmission GmbH (50HZT), Amprion GmbH (AMP), Creos Luxembourg S. A. (CREOS), Energinet (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-Luxembourg LFC Block (hereafter referred to as "TSOs") regarding the FRR dimensioning rules in accordance with Article 157(1) of Commission Regulation (EU) 2017/1485 establishing a guideline on electricity transmission system operation (hereafter referred to as "SOGL")

(2) Article 6(3)(e)(iv) of SOGL requires the approval by all regulatory authorities of the concerned region of the proposal by all TSOs of an LFC block concerning "[…] *the FRR dimensioning rules in accordance with Article 157(1)*".

(3) Article 157(1) of SOGL requires all TSOs of an LFC Block to *"*[…] *set out FRR dimensioning rules in the LFC Block operational agreement"*.

(4) Article 157(2) of SOGL defines the requirements to the FRR dimensioning rules. Article 157(2)(e), Article 157(2)(f), Article 157(2)(h) and Article 157(2)(i) of SOGL define the minimum requirements for the dimensioning amounts of FRR which shall cover at least the dimensioning incident of the LFC block as well as 99% of the imbalances of the LFC block.

(5) This proposal fulfils the requirements of the SOGL as follows:

   (a) Article 3(1) and Article 3(4) define the responsibility structure between the TSOs of the LFC block. The TSOs shall perform the dimensioning for the DE area and DKW area.

   (b) Article 3(2) and Article 3(5) formulate the dimensioning methodologies. The compliance with the requirements of SOGL is achieved by fulfilling all requirements of the SOGL for each of the areas.

(6) This proposal fulfils the objectives of SOGL as follows:

   (a) The proposal determines common operational security requirements and principles for FRR dimensioning in the 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 Article 188(2) of SO GL which requires the publication of the dimensioning rules by ENTSO for electricity.

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 proposed by all TSOs of the synchronous area CE in accordance with Article 6(3)(g) of SOGL establishing monitoring areas, LFC areas and LFC blocks in accordance with the following table:

Country	TSO (full company name)	TSO (short name)	Monitoring Area	LFC AREA	LFC Block
Germany	TransnetBW GmbH	TransnetBW	TNG	TNG	TNG+TTG+AMP+50HZT+EN+CREOS
	TenneT TSO GmbH	TenneT GER	TTG	TTG+EN	TNG+TTG+AMP+50HZT+EN+CREOS
	Amprion GmbH	Amprion	AMP	AMP+CREOS	TNG+TTG+AMP+50HZT+EN+CREOS
	50Hertz Transmission GmbH	50Hertz	50HZT	50HZT	TNG+TTG+AMP+50HZT+EN+CREOS
Denmark	Energinet	Energinet	EN	TTG+EN	TNG+TTG+AMP+50HZT+EN+CREOS
Luxembourg	CREOS	CREOS	CREOS	AMP+CREOS	TNG+TTG+AMP+50HZT+EN+CREOS

(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 dimensioning rules in accordance with Article 157(1) of SOGL and Article 160(1) of SOGL in the 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 LFC areas 50HZT, AMP+CREOS, TNG and the monitoring area TTG.

(3) ‘DKW area’ means the monitoring area EN which is synchronously interconnected with the synchronous area CE.

(4) ‘LFC block’ means the LFC block comprising the DE area and the DKW area.

Article 3
FRR Dimensioning Rules

(1) 50HZT, AMP, TNG and TTG are responsible for the FRR dimensioning for the DE area and shall apply the requirements of Article 157(2) of SOGL for the DE area including the imbalances of the LFC area TTG+EN.

(2) The dimensioning methodology for the DE area shall be based on a probabilistic analysis of the expected imbalances for the dimensioning period while fulfilling the minimum requirements of Article 157(2) of SOGL:

(a) The dimensioning methodology shall be based on historical imbalance data considering a period of up to five years. In accordance with Article 157(2)(a) of SOGL, the historical data will comprise at least one full year period ending not earlier than six months before the dimensioning period.

(b) The historical imbalance data shall be weighted in accordance with its relevance for the timeframe for which the dimensioning is performed.

(c) The relevance shall be determined using at least the following seasonal characteristics of the dimensioning period:

i. time of day;

ii. date and month;

iii. day of the week and

iv. type of day including holidays, bridge days or days with specific events;

(d) Additionally, the relevance may be determined using the following external characteristics of the dimensioning period:

v. wind infeed;

vi. solar infeed;

vii. scheduled exchanges;

viii. energy prices;

ix. load; and

x. temperature.

(e) 50HZT, AMP, TNG and TTG shall consult the usage of any additional characteristics with the stakeholders and publish them in accordance with (3).

(f) The resulting imbalance probability distribution shall be combined with the probability of forced outages.

(g) The FRR capacity shall be sufficient to cover at least 99 % of positive and 99 % of negative imbalances given by the probability distribution calculated in (f). 50HZT, AMP, TNG and TTG shall define, publish and monitor the used deficit probability.

(h) The FRR capacity determined in accordance with (g) shall not be lower than the minimum values given by Article 157(2)(h) of SOGL, Article 157(2)(i) of SOGL, Article 157(2)(e) of SOGL and Article 157(2)(f) of SOGL.

(i) The probabilistic methodology shall reflect the differences between aFRR and mFRR with respect to the activation procedures, minimum activation duration and lead times.

(3) 50HZT, AMP, TNG and TTG shall publish the seasonal and external characteristics used for dimensioning on a common internet web site at least one month before a change of the used external characteristics and provide a justification for such a change.

(4) EN is responsible for the FRR dimensioning for the DKW area.

(5) The dimensioning methodology for the DKW area shall fulfil the following requirements:

(a) The dimensioning methodology shall comply with the minimum values for FRR in accordance with Article 157(2) calculated for the DKW area.

(b) The aFRR capacity dimensioned for the DKW area shall at least cover the stochastic imbalances remaining after activation of mFRR. The aFRR capacity shall be at least 90 MW.

(c) The mFRR capacity is equal to the difference between the dimensioning incident and the aFRR capacity.

Article 4
Implementation Timescale

The TSOs shall implement the proposal no later than 02.09.2019 and no earlier than the entry into force of the LFC block operational agreement in accordance with the deadlines defined by Article 119(2) of SOGL.

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.