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**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**

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All TSOs of CE, taking into account the following,

### Whereas

- (1) This document is a common proposal developed by all Transmission System Operators of Synchronous Area Continental Europe (hereafter referred to as “TSOs”) regarding the development of a proposal for the determination of LFC blocks (hereafter referred to as “LFC blocks determination”) 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 GL”).
- (2) The LFC blocks determination proposal takes into account the general principles and goals set in the SO GL, the Commission Regulation (EU) 2017/2196 of 24 November 2017 establishing a network code on electricity emergency and restoration (NC ER) 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 GL/Regulation is the safeguarding of operational security, frequency quality and the efficient use of the interconnected system and resources. It 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. an LFC area corresponds to or is a part of only one LFC block.
  - c. an 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 LFC blocks determination proposal takes into account the load-frequency control structure of each synchronous area in accordance with Article 139 of SO GL. The operation of Load-Frequency Control processes is based on operational areas, where every area has their individual responsibilities with respect to the LFC structure. The superior structure is the synchronous area in which frequency is the same for the whole area. The synchronous area CE consists of several LFC Blocks, each LFC Block consists of one or more LFC Areas. An LFC Area itself consists of one or more Monitoring areas.
- (4) The scope of the LFC blocks determination proposal is to establish the LFC blocks, LFC areas and monitoring areas for Continental Europe, while respecting the requirements set in Article 141(2) of the SO GL.
- (5) According to Article 6(6) of the SO GL, the expected impact of the LFC blocks determination proposal on the objectives of the SO GL has to be described. It is presented below. The proposed LFC blocks determination proposal generally contributes toward determining the common load-frequency control processes and control structures required by Article 4(1)(a)(c) of the SO GL.
- (6) In particular, the LFC blocks determination proposal specifies the LFC blocks, LFC areas and Monitoring areas in Continental Europe, organized in order to improve the performance of the LFC control and the efficiency of the reserves dimensioning process, while it is consistent with the existing bidding zones. With this in mind the structure presented below will contribute to

system security and a common control process and structures, and therefore to the achievement of the objectives of Article 4 of the SO GL.

- (7) In conclusion, the LFC blocks determination proposal contributes to the general objectives of the SO GL Regulation to the benefit of all market participants and electricity end consumers.

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

### **Article 1** **Subject matter and scope**

1. The determination of LFC blocks as specified in this proposal shall be considered as the common proposal of all TSOs from Continental Europe in accordance with Article 141(2) of SO GL Regulation.
2. For the LFC blocks encompassing the LFC areas of third country TSOs, the fulfilment of the obligations set out in SO GL towards these LFC blocks shall be subject to the content of an agreement concluded by all Synchronous Area Continental Europe TSOs with the third country TSOs in accordance with Article 13 of SO GL.

### **Article 2** **Definitions and interpretation**

1. For the purposes of the LFC blocks determination proposal, terms used in this document shall have the meaning of the definitions included in Article 3 of the SO GL Regulation, Article 2 of Regulation (EC) 714/2009 and Article 2 of the Directive 2009/72/EC.
2. In this LFC blocks proposal, unless the context requires otherwise:
  - a) the singular indicates the plural and vice versa;
  - b) the table of contents and headings are inserted for convenience only and do not affect the interpretation of this LFC blocks determination 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** **Synchronous Area Continental Europe LFC blocks, LFC areas and monitoring area**

The synchronous area Continental Europe shall consist of the LFC blocks, LFC areas and monitoring area set out in Table 1. LFC blocks encompassing the LFC areas of third country TSOs shall be subject to re-determination after the entry into force of the agreement mentioned in Article 1.2 above.

Country	TSO (full company name)	TSO (short name)	Monitoring Area	LFC AREA	LFC Block
Austria	Austrian Power Grid AG	APG	APG	APG	APG
	Vorarlberger Übertragungsnetz GmbH	VUEN			
Belgium	Elia System Operator SA	Elia	ELIA	ELIA	ELIA
Bulgaria	Elektroenergien Sistemen Operator EAD	ESO	ESO	ESO	ESO
Czech Republic	ČEPS a.s.	ČEPS	CEPS	CEPS	CEPS
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 West	Energinet	Energinet	EN	TTG+EN	TNG+TTG+AMP+50HZT+EN+CREOS
Spain	Red Eléctrica de España: S.A.U.	REE	REE	REE	REE
France	Réseau de Transport d'Electricité	RTE	RTE	RTE	RTE
Greece	Independent Power Transmission Operator S.A.	IPTO	IPTO	IPTO	IPTO
Croatia	HOPS d.o.o.	HOPS	HOPS	HOPS	SHB
Hungary	MAVIR Magyar Villamosenergia-ipari Átviteli Rendszerirányító Zártkörűen Működő Részvénytársaság	MAVIR ZRt.	MAVIR	MAVIR	MAVIR
Italy	Terna - Rete Elettrica Nazionale SpA	Terna	TERNA	TERNA	TERNA
Luxembourg	CREOS Luxembourg S.A.	CREOS	CREOS	AMP+CREOS	TNG+TTG+AMP+50HZT+EN+CREOS
Netherlands	TenneT TSO B.V.	TenneT NL	TTB	TTB	TTB
Poland	PSE S.A.	PSE S.A.	PSE	PSE	PSE
Portugal	Rede Eléctrica Nacional, S.A.	REN	REN	REN	REN
Romania	C.N. Transelectrica S.A.	Transelectrica	TEL	TEL	TEL
Slovenia	ELES, d.o.o.	ELES	ELES	ELES	SHB
Slovak Republic	Slovenska elektrizacna prenosova sustava, a.s.	SEPS	SEPS	SEPS	SEPS

• SHB: Control Block Slovenia, Croatia and Bosnia/Herzegovina

**Table 1: List of Monitoring Areas, LFC Areas and LFC Blocks.**

Each monitoring area, LFC area and LFC block shall be physically demarcated by accounting points for interconnectors to other monitoring areas, LFC areas and LFC blocks respectively, and therefore each network element is part of only one monitoring area, LFC area and LFC block.

Interconnectors between two monitoring areas, LFC areas or LFC blocks shall be considered as two network elements (each network element shall be delimited from the substation to the accounting point of each of the monitoring area, LFC area or LFC block).

## Article 4

### Publication and implementation of the LFC blocks determination proposal

1. The TSOs shall publish the LFC blocks determination proposal without undue delay after all NRAs have approved the proposal or a decision has been taken by the Agency for the Cooperation of Energy Regulators in accordance with Article 8(1) of the SO GL.
2. The TSOs shall implement the LFC blocks determination proposal provided one month after the regulatory authorities have approved the proposal in accordance with Article 6(3) SO GL or a decision has been taken by the Agency in accordance with Article 6(8) SO GL.

## **Article 5**

### **Language**

The reference language for this LFC blocks determination Proposal shall be English. For the avoidance of doubt, where TSOs need to translate this LFC blocks determination 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 GL 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 LFC blocks determination proposal.