

**DECISION BY ALL REGULATORY AUTHORITIES OF  
THE SYNCHRONOUS AREA CONTINENTAL EUROPE  
TSOs' PROPOSAL FOR AMENDING THE  
DETERMINATION OF LFC BLOCKS FOR THE  
SYNCHRONOUS AREA CONTINENTAL EUROPE WITH  
REGARD TO LFC AREA DENMARK WEST  
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**

**11 February 2022**

## I. Introduction and legal context

This document elaborates an agreement of All Regulatory Authorities of the synchronous area Continental Europe made on 11 February 2022 on the **All TSOs' proposal for amending the determination of LFC blocks for the Synchronous Area Continental Europe with regard to LFC Area Denmark West (hereafter referred to as "CE LFC Blocks Determination Proposal")** submitted in accordance with Article 141(2) of the Commission Regulation (EU) 2017/1485 establishing a guideline on electricity transmission system operation (hereafter referred to as "Regulation 2017/1485") as amended by Article 4 of Commission implementing Regulation (EU) 2021/280 of 22 February 2021 amending Regulations (EU) 2015/1222, (EU) 2016/1719, (EU) 2017/2195 and (EU) 2017/1485 in order to align them with Regulation (EU) 2019/943 (hereafter referred to as "Regulation 2021/280"). In the following any reference to Regulation 2017/1485 shall be intended to the version resulting from the amendments introduced with Regulation 2021/280.

This agreement of All Regulatory Authorities of the synchronous area Continental Europe shall provide evidence that a decision on the CE LFC Blocks Determination Proposal does not, at this stage, need to be adopted by ACER pursuant to Article 6(8) of Regulation 2017/1485. This agreement is intended to constitute the basis on which All Regulatory Authorities of the synchronous area Continental Europe will each subsequently adopt a decision to the amended CE LFC Blocks Determination Proposal pursuant to Article 6(7) of Regulation 2017/1485.

The legal provisions relevant to the submission and approval of the CE LFC Blocks Determination Proposal and to this agreement among All Regulatory Authority of the synchronous area Continental Europe on the CE LFC Blocks Determination Proposal can be found in Articles 2, 4, 5, 6, 7, 139 and 141 of Regulation 2017/1485. They are set out here for reference.

### Article 2 – Regulation 2017/1485 – Scope

1. (...)
2. *This Regulation shall apply to all transmission systems, distribution systems and interconnections in the Union and regional security coordinators, except transmission systems and distribution systems or parts of the transmission systems and distribution systems located in islands of Member States of which the systems are not operated synchronously with Continental Europe ('CE'), Great Britain ('GB'), Nordic, Ireland and Northern Ireland ('IE/NI') or Baltic synchronous area.*
3. *Where more than one TSO exists in a Member State, this Regulation shall apply to all TSOs in a Member State. Where a TSO does not have a function relevant to one or more obligations under this Regulation, Member States may, under the national regulatory regime, provide that the responsibility of a TSO to comply with one or some or all obligations under this Regulation is assigned to one or more specific TSOs.*
4. (...)
5. (...)

### Article 4 – Regulation 2017/1485 – Objectives and regulatory aspects

1. *This Regulation aims at:*
  - a) determining common operational security requirements and principles;**
  - b) *determining common interconnected system operational planning principles;*
  - c) determining common load-frequency control processes and control structures;**
  - d) *ensuring the conditions for maintaining operational security throughout the Union;*
  - e) *ensuring the conditions for maintaining a frequency quality level of all synchronous areas throughout the Union;*
  - f) *promoting the coordination of system operation and operational planning;*
  - g) *ensuring and enhancing the transparency and reliability of information on transmission system operation;*
  - h) contributing to the efficient operation and development of the electricity transmission system and electricity sector in the Union.**

2. *When applying this Regulation, Member States, competent authorities, and system operators shall:*
  - a) *apply the principles of proportionality and non-discrimination;*
  - b) *ensure transparency;*
  - c) *apply the principle of optimisation between the highest overall efficiency and lowest total costs for all parties involved;*
  - d) *ensure TSOs make use of market-based mechanisms as far as possible, to ensure network security and stability;*
  - e) *respect the responsibility assigned to the relevant TSO in order to ensure system security, including as required by national legislation;*
  - f) *consult with relevant DSOs and take account of potential impacts on their system; and*
  - g) *take into consideration agreed European standards and technical specifications.*

**Article 5 – Regulation 2017/1485 – Terms and conditions or methodologies of TSOs**

1. *TSOs shall develop the terms and conditions or methodologies required by this Regulation and submit them for approval to the Agency in accordance with Article 6(2), to the competent regulatory authorities in accordance with Article 6(3), or to the entity designated by the Member State in accordance with Article 6(4) and (5) within the respective deadlines set out in this Regulation. In exceptional circumstances, notably in cases where a deadline cannot be met due to circumstances external to the sphere of TSOs, the deadlines for terms and conditions or methodologies may be prolonged by the Agency in procedures pursuant to Article 6(2), jointly by all competent regulatory authorities in procedures pursuant to Article 6(3), and by the competent regulatory authority in procedures pursuant to Article 6(4) and (5).*
2. *Where a proposal for terms and conditions or methodologies pursuant to this Regulation needs to be developed and agreed by more than one TSO, the participating TSOs shall closely cooperate. TSOs, with the assistance of the ENTSO for Electricity, shall regularly inform the regulatory authorities and the Agency about the progress of developing those terms and conditions or methodologies.*  
(...)

**Article 6 – Regulation 2017/1485 – Approval of terms and conditions or methodologies of TSOs**

1. *Each regulatory authority or where applicable the Agency, as the case may be, shall approve the terms and conditions or methodologies developed by TSOs under paragraphs 2 and 3. The entity designated by the Member State shall approve the terms and conditions or methodologies developed by TSOs under paragraph 4. The designated entity shall be the regulatory authority unless otherwise provided by the Member State. Before approving the terms and conditions or methodologies, the regulatory authority, the Agency or the designated entity shall revise the proposals where necessary, after consulting the respective TSOs, in order to ensure that they are in line with the purpose of this Regulation and contribute to market integration, non-discrimination, effective competition and the proper functioning of the market.*
2. (...)
3. *The proposals for the following terms and conditions or methodologies and any amendments thereof 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:*
  - a) (...)
  - b) (...)
  - c) (...)
  - d) (...)
  - e) (...)
  - f) (...)
  - g) *common proposal per synchronous area for the determination of LFC blocks in accordance with Article 141(2);*

4. (...)
5. (...)
6. *The proposal for terms and conditions or methodologies shall include a proposed timescale for their implementation and a description of their expected impact on the objectives of this Regulation. Proposals for terms and conditions or methodologies subject to the approval by several regulatory authorities in accordance with paragraph 3 shall be submitted to the Agency within 1 week of their submission to regulatory authorities. Proposals for terms and conditions or methodologies subject to the approval by a designated entity in accordance with paragraph 4 may be submitted to the Agency within 1 month of their submission at the discretion of the designated entity while they shall be submitted upon the Agency's request for information purposes in accordance with Article 3(2) of Regulation (EU) 2019/942 if the Agency considers the proposal to have a cross-border impact. Upon request by the competent regulatory authorities, the Agency shall issue an opinion within 3 months on the proposals for terms and conditions or methodologies.*
7. *Where the approval of the terms and conditions or methodologies in accordance with paragraph 3 or the amendment in accordance with Article 7 requires a decision by more than one regulatory authority pursuant to paragraph 3, the competent regulatory authorities shall consult and closely cooperate and coordinate with each other in order to reach an agreement. Where the Agency issues an opinion, the competent regulatory authorities shall take that opinion into account. Regulatory authorities or, where competent, the Agency shall take decisions concerning the submitted terms and conditions or methodologies in accordance with paragraphs 2 and 3 within 6 months following the receipt of the terms and conditions or methodologies by the Agency or the regulatory authority or, where applicable, by the last regulatory authority concerned. The period shall begin on the day following that on which the proposal was submitted to the Agency in accordance with paragraph 2 or to the last regulatory authority concerned in accordance with paragraph 3.*
8. *Where the regulatory authorities have not been able to reach an agreement within the period referred to in paragraph 7 or upon their joint request, or upon the Agency's request according to the third subparagraph of Article 5(3) of Regulation (EU) 2019/942, the Agency shall adopt a decision concerning the submitted proposals for terms and conditions or methodologies within 6 months, in accordance with Article 5(3) and the second subparagraph of Article 6(10) of Regulation (EU) 2019/942.*

**Article 7 – Regulation 2017/1485 – Amendments to the terms and conditions or methodologies of TSOs**

1. (...)
2. (...)
3. (...)
4. *The Agency or regulatory authorities or designated entities, where they are responsible for the adoption of terms and conditions or methodologies in accordance with paragraphs 2, 3 and 4 of Article 6, may respectively request proposals for amendments of those terms and conditions or methodologies and determine a deadline for the submission of those proposals. TSOs responsible for developing a proposal for terms and conditions or methodologies may propose amendments to regulatory authorities and the Agency. Proposals for amendment to the terms and conditions or methodologies shall be submitted to consultation if applicable in accordance with the procedure set out in Article 11 and approved in accordance with the procedure set out in Articles 5 and 6.*

**Article 139 – Regulation 2017/1485 – Basic structure**

1. *All TSOs of each synchronous area shall specify the load-frequency-control structure for the synchronous area in the synchronous area operational agreement. Each TSO shall be responsible for implementing the load-frequency-control structure of its synchronous area and operating in accordance with it.*
2. *The load-frequency control structure of each synchronous area shall include:*
  - a) *a process activation structure in accordance with Article 140; and*

b) a process responsibility structure in accordance with Article 141.

## **Article 141 – Regulation 2017/1485 – Process responsibility structure**

1. (...)
  2. *By 4 months after entry into force of this Regulation, all TSOs of a synchronous area shall jointly develop a common proposal regarding the determination of the LFC blocks, which shall comply with the following requirements:*
    - a) *a monitoring area corresponds to or is part of only one LFC area;*
    - b) *a LFC area corresponds to or is part of only one LFC block;*
    - c) *a LFC block corresponds to or is 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.*
- (...)

## **II. The CE LFC Blocks Determination Proposal History**

The CE LFC Blocks Determination Proposal was consulted by All TSOs of the synchronous area Continental Europe through ENTSO-E for one month from 22 February 2021 to 21 March 2021, in line with Article 11 of Regulation 2017/1485<sup>1</sup>.

The final version of the CE LFC Blocks Determination Proposal, dated 26 January 2021, was received by the last Regulatory Authority of the synchronous area Continental Europe on 17 August 2021. The CE LFC Blocks Determination Proposal gave a description of the monitoring areas, LFC areas and LFC blocks, in line with Article 141(2) of Regulation 2017/1485, and also described the timescale for the implementation and a description of the expected impact on the objectives of Regulation 2017/1485, in line with Article 6(6) of this Regulation.

Article 6(7) of Regulation 2017/1485 requires All Regulatory Authorities of the synchronous area Continental Europe to consult, closely cooperate, and coordinate with each other in order to reach agreement, and make decisions within six months following receipt of submissions of the last Regulatory Authority concerned. A decision will therefore be required by each Regulatory Authority of the synchronous area Continental Europe by 17 February 2022.

## **III. All Regulatory Authority position**

According to Regulation 2017/1485, the CE LFC Blocks Determination Proposal shall determine the LFC blocks for the synchronous area Continental Europe, which shall comply with the following requirements:

- a monitoring area corresponds to or is part of only one LFC area;
- a LFC area corresponds to or is part of only one LFC block;
- a LFC block corresponds to or is part of only one synchronous area; and
- each network element is part of only one monitoring area, only one LFC area and only one LFC block.

All Regulatory Authorities of the synchronous area Continental Europe acknowledge the proposal made by all TSOs of the synchronous area Continental Europe to the CE LFC Blocks Determination Proposal. The central point of the proposal is the separation of the current Denmark West monitoring area from the TenneT TSO GmbH LFC area. Denmark West becomes its own LFC area, but remains part of the German-Danish-Luxemburgish LFC block.

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<sup>1</sup> The public consultation held from 22 February 2021 to 21 March 2021 is available on the ENTSO-E website: <https://consultations.entsoe.eu/system-operations/amendment-lfc-blocks-continental-europe/>

First, the CE LFC Blocks Determination Proposal overall complies with Article 4 of Regulation 2017/1485 by contributing to improve the efficient operation and development of the electricity transmission system and electricity sector in the Union. This is the case because It will allow Denmark West to directly participate on the European platform for the imbalance netting process and the European platform for the exchange of balancing energy from frequency restoration reserves with manual and with automatic activation. This is to the benefit of all market participants and electricity consumers, as it will reduce energy costs, increases competition between market participants and increases the security of supply.

Secondly, the CE LFC Blocks Determination Proposal brought clarity to ensure that TSOs make use of market-based mechanisms as far as possible, to ensure network security and stability. By making Denmark West its own LFC Area, Energinet can participate independently in the European Balancing Platforms on all borders between West Denmark and the rest of Continental Europe.

Finally, the CE LFC Blocks Determination Proposal brought transparency on the DE-DK1 border for all market participants. The CE LFC Blocks Determination Proposal clarifies that Energinet is responsible for the frequency restoration control error (FRCE) process in Denmark West as described in the Agreement on Grid and System Operation between TenneT and Energinet. The Agreement on Grid and System Operation between TenneT and Energinet obliges Energinet to maintain the balance through both the manual and the automatic frequency restoration process in Denmark West. The separation of Denmark West monitoring area from the TenneT TSO GmbH LFC area will therefore have no impact on the other LFC blocks within the synchronous area Continental Europe.

All Regulatory Authorities of the synchronous area Continental Europe decided to apply Article 6(1) of Regulation 2017/1485, hence revised the methodology themselves prior to approval. The whereas section has been changed to include a reasoning of the proposal (recital 8) and a short description of the effects on other LFC-blocks within the synchronous area Continental Europe (recital 9). Additionally, an Explanatory Note (not subject to approval) was provided by Energinet.

The revised methodology has been consulted with the ENTSO-E from 14 January 2022 till 03 February 2022.

#### **IV. Actions / Conclusion**

Based on the above rationale, All Regulatory Authorities of the synchronous area Continental Europe agree to approve the revised version of the CE LFC Blocks Determination Proposal, as annexed to this document.

According to Article 6(7) of Regulation 2017/1485, All Regulatory Authorities of the synchronous area Continental Europe shall issue their national decisions, on the basis of this agreement.

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# **Determination of LFC blocks for the Synchronous Area Continental Europe**

in amended version of 11 February 2022

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### Whereas

- (1) To comply with Article 141(2) of Commission Regulation (EU) 2017/1485 establishing a guideline on electricity transmission system operation as amended by Commission Implementing Regulation (EU) 2021/280 of 22 February 2021 amending Regulations (EU) 2015/1222, (EU) 2016/1719, (EU) 2017/2195 and (EU) 2017/1485 in order to align them with Regulation (EU) 2019/943 (“SO GL”), the Transmission System Operators of Synchronous Area Continental Europe (the “CE TSOs”) jointly developed “All TSOs proposal for the determination of LFC blocks for the Synchronous Area Continental Europe” of 15/07/2018 (the “LFC blocks determination”).
- (2) The Load-Frequency Control blocks (the “LFC blocks”) determination was approved by all regulatory authorities of Continental Europe pursuant to Article 6(3)(g) of SO GL. It determines not only LFC block configuration but also LFC areas and monitoring areas within each LFC block.
- (3) This document is the amended LFC blocks determination in respect of LFC area configuration within the German-Danish-Luxemburgish LFC block, cf. Article 7(4) of SO GL.
- (4) The amendment implies the current Denmark West (“DKW”) monitoring area being separated from the TenneT TSO GmbH LFC area and becoming an LFC area of its own, but will still be a part of the German-Danish-Luxemburgish LFC block.
- (5) The LFC-block determination generally contributes towards determining the common load-frequency control processes and control structures required by Article 4(1)(a)(c) of SO GL. In particular, the LFC blocks determination 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. The structure contributes to system security and a common control process and structures, and therefore to the achievement of the objectives of Article 4 of SO GL. This new determination maintains these benefits and further introduces a minor adjustment, which increases transparency on the DE-DK1 border.
- (6) In conclusion, the new determination of the LFC blocks contributes to the general objectives of the SO GL to the benefit of all market participants and electricity end consumers.
- (7) Furthermore, it contributes to the general objectives of the Commission Regulation (EU) 2017/2195 establishing a guideline on electricity balancing (“EB GL”), as it will allow DKW to directly participate on the European platform for imbalance netting process (according to Article 22 of EB GL) and the European platform for the exchange of balancing energy from frequency restoration reserves with manual (according to Article 20 of EB GL) and with automatic activation (according to Article 21 of EB GL), which is to the benefit of all market participants and electricity end consumers, as it will reduce energy costs, increases competition between market participants and increases the security of supply.
- (8) In accordance with section 5(2)(g) of the LFC Block Operational Agreement for the German-Danish-Luxembourgish LFC Block as required by Article 119(1)(e) of SO GL, Energinet is responsible for the frequency restoration control error (the “FRCE”) process in West Denmark

as also described in the Agreement on Grid and System Operation between TenneT and Energinet and therefore already acts as it would be an independent LFC area, without any impact on other LFC blocks. Jointly all CE TSOs shall in accordance with the LFC Block Operational Agreement fulfil the obligations of an LFC Block in accordance with Article 141(5) of SO GL thus ensuring that no other LFC Blocks are impacted by imbalances in West Denmark or the entire German-Danish-Luxembourgish LFC Block regardless of the status of West Denmark.

### **Article 1**

#### **Subject matter and scope**

1. The determination of LFC blocks as specified in this document shall be considered as the a methodology developed in accordance with Article 7(4) of SO GL to amend the LFC Blocks determination, established to comply with Article 141(2) of SO GL.
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 CE TSOs with the third country TSOs in accordance with Article 13 of SO GL.

### **Article 2**

#### **Definitions and interpretation**

1. For the purpose of this proposal, terms used in this document shall have the meaning of the definitions included in Article 3 of SO GL.
2. In this LFC blocks determination, 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.

## Determination of LFC blocks for the Synchronous Area Continental Europe

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+DKW+CREOS
	TenneT TSO GmbH	TenneT GER	TTG	TTG	TNG+TTG+AMP+50HZT+DKW+CREOS
	Amprion GmbH	Amprion	AMP	AMP+CREOS	TNG+TTG+AMP+50HZT+DKW+CREOS
	50Hertz Transmission GmbH	50Hertz	50HZT	50HZT	TNG+TTG+AMP+50HZT+DKW+CREOS
Denmark West	Energinet	Energinet	DKW	DKW	TNG+TTG+AMP+50HZT+DKW+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+DKW+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 CE TSOs shall publish the LFC blocks determination without undue delay after all regulatory authorities of the synchronous area Continental Europe have approved it.
2. The CE TSOs shall implement the LFC blocks determination proposal no later than two months after the regulatory authorities of the synchronous area Continental Europe have approved it in accordance with Article 6(3) of SO GL.

#### **Article 5**

##### **Language**

The reference language for this LFC blocks determination shall be English. For the avoidance of doubt, where TSOs need to translate this LFC blocks determination into their national language(s), in the event of inconsistencies between the English version published by TSOs in accordance with Article 8 of SO GL 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..