

**APPROVAL BY REGULATORY AUTHORITIES**

**OF**

**ALL CONTINENTAL EUROPE TSOs' PROPOSAL FOR  
THE DIMENSIONING RULES FOR FCR IN  
ACCORDANCE WITH ARTICLE 153(2) OF THE  
COMMISSION REGULATION (EU) 2017/1485 OF 2  
AUGUST 2017 ESTABLISHING A GUIDELINE ON  
ELECTRICITY TRANSMISSION SYSTEM OPERATION**

**31 March 2019**

## I. Introduction and legal context

This document elaborates an agreement of the Regulatory Authorities of Continental Europe synchronous area (hereinafter: Regulatory Authorities), agreed on 31 March 2019 on the Continental Europe TSOs' (hereinafter: TSOs) proposal for the Dimensioning Rules for FCR (hereinafter: FCR dimensioning proposal) in accordance with Article 153(2) of the Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on Electricity Transmission System Operation (hereinafter: SO GL).

This agreement of the Regulatory Authorities shall provide evidence that a decision on the FCR dimensioning proposal does not, at this stage, need to be adopted by ACER pursuant to Article 6(8) of SO GL. It is intended to constitute the basis on which the Regulatory Authorities will each subsequently approve the above-mentioned methodology pursuant to Article 6 of SO GL.

The legal provisions building the basis for the FCR dimensioning proposal, and this Regulatory Authorities agreement on the above-mentioned methodology, can be found in Articles 4, 118 and 153 of SO GL. They are set out here for reference.

### Article 4 – 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) *[...]*
  - (d) *[...]*
  - (e) *respect the responsibility assigned to the relevant TSO in order to ensure system security, including as required by national legislation;*

[...]

### Article 118 – Synchronous area operational agreements

1. *By 12 months after entry into force of this Regulation, all TSOs of each synchronous area shall jointly develop common proposals for:*
  - (a) *the dimensioning rules for FCR in accordance with Article 153;**[...]*
2. *All TSOs of each synchronous area shall submit the methodologies and conditions listed in Article 6(3)(d) for approval by all the regulatory authorities of the concerned synchronous area. Within 1 month after the approval of these methodologies and conditions, all TSOs of each synchronous area shall conclude a synchronous area operational agreement which shall enter into force within 3 months after the approval of the methodologies and conditions.*

## Article 153 – FCR dimensioning

1. All TSOs of each synchronous area shall determine, at least annually, the reserve capacity for FCR required for the synchronous area and the initial FCR obligation of each TSO in accordance with paragraph 2.
2. All TSOs of each synchronous area shall specify dimensioning rules in the synchronous area operational agreement in accordance with the following criteria:
  - (a) the reserve capacity for FCR required for the synchronous area shall cover at least the reference incident and, for the CE and Nordic synchronous areas, the results of the probabilistic dimensioning approach for FCR carried out pursuant to point (c);
  - (b) the size of the reference incident shall be determined in accordance with the following conditions:
    - i. for the CE synchronous area, the reference incident shall be 3 000 MW in positive direction and 3 000 MW in negative direction;
    - ii. [...]
  - (c) for the CE and Nordic synchronous areas, all TSOs of the synchronous area shall have the right to define a probabilistic dimensioning approach for FCR taking into account the pattern of load, generation and inertia, including synthetic inertia as well as the available means to deploy minimum inertia in real-time in accordance with the methodology referred to in Article 39, with the aim of reducing the probability of insufficient FCR to below or equal to once in 20 years; and
  - (d) the shares of the reserve capacity on FCR required for each TSO as initial FCR obligation shall be based on the sum of the net generation and consumption of its control area divided by the sum of net generation and consumption of the synchronous area over a period of 1 year.

## II. The Continental Europe TSOs' proposal

The FCR dimensioning proposal was consulted by the Continental Europe TSOs through ENTSO-E for one month from 30 March 2018 to 3 May 2018, in line with Article 11 of SO GL<sup>1</sup>. The proposed methodology was received by the last Regulatory Authority of the Continental Europe synchronous area on 2 October 2018, thus a decision is required by 2 April 2019, according to Article 6(7) of SO GL.

The FCR dimensioning proposal aims to set the rules to define the amount of FCR needed in the Continental Europe synchronous area: the TSOs intend to refer only to the reference incident (3000 MW in either positive and negative directions) as set by Article 153(2)(b)(i) of SO GL, without adopting a probabilistic approach. On one side, in fact, such approach would be quite complicated to implement due to the fact that most starting assumptions, as for example full activation time of aFRR, tripping rates of the generation plants, patterns of load, generation and inertia (including synthetic inertia), are difficult to estimate and have a strong influence on the final results; on the other side, instead, FCR dimensioned on the reference incident basis only has been proven reliable and sufficient to cope with the perturbations for years.

Moreover, the FCR dimensioning proposal identifies the initial obligation for each TSO (i.e. the initial share of FCR each TSO is required to procure): it is based on the share of the net generation and load of each TSO with reference to the overall net generation and load in the synchronous area, as set by Article 153(2)(d) of SO GL.

The proposal includes proposed timescales for its implementation and a description of its expected impact on the objectives of SO GL, in line with Article 6(6) of SO GL.

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<sup>1</sup> The public consultation is available on the ENTSO-e website: [https://consultations.entsoe.eu/system-operations/synchronous-area-operational-agreement-policy-1-lo/consult\\_view/](https://consultations.entsoe.eu/system-operations/synchronous-area-operational-agreement-policy-1-lo/consult_view/)

The proposal will be implemented within one month after the Regulatory Authorities' approvals and it will become part of the wider synchronous area operational agreement to be signed by the TSOs in accordance with Article 118(2) of SO GL.

### III. The Regulatory Authorities' position

The Regulatory Authorities consider that the FCR dimensioning proposal is in line with the SO GL provisions: the adoption of a probabilistic approach is not compulsory and the TSOs have the right to refer to the reference incident only.

Nonetheless, the Regulatory Authorities are concerned that the growing electricity generation from intermittent renewable sources along with the expected increase of the electricity load due to the decarbonization policies may affect the FCR performances in the future. The situation may also be worsened by the expected stepwise shutdown of traditional power plants currently providing FCR through their rotational inertia.

Therefore, the Regulatory Authorities are encouraging the TSOs to investigate further whether implementing a probabilistic approach towards FCR dimensioning in the next few years would better consider the increasing electricity production from intermittent renewable sources and result in a robust FCR dimensioning.

### IV. Conclusions

The Regulatory Authorities have consulted and closely cooperated and coordinated to reach the agreement that **they approve the FCR dimensioning proposal submitted by Continental Europe TSOs pursuant to Article 153(2) of SO GL**. The Regulatory Authorities must take their national decisions on the basis of this agreement by 2 April 2019.

The TSOs are nonetheless encouraged to investigate, whether a probabilistic approach for FCR dimensioning in accordance with the provisions set in Article 153(2)(c) of SO GL will be necessary in the next few years in order for the TSOs to face imbalances in a secure and efficient manner, as stated by Article 152(1) of SO GL. In particular, as the ambition to develop such an approach was already indicated by the TSOs, the Regulatory Authorities auspicate a frequent and fruitful interaction with the TSOs about this topic: for this reason they recommend the TSOs to define, develop and share with them (as soon as possible, hopefully by 30 June 2019) a detailed timetable listing all the activities and associated timings & milestones planned in order to assess the need for and establish the probabilistic approach (including and in coherence with the studies - such as on inertia - currently already ongoing).

Finally the Regulatory Authorities clarify that, if the investigations run by the TSOs show the need to establish a probabilistic approach for FCR dimensioning, such approach should be developed in due course and the FCR dimensioning methodology should be amended accordingly and submitted for regulatory approval in due time.