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# Request for amendment on Elia's LFC block operational agreement

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June 15, 2021

*Version for public consultation*

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THE BELGIAN TRANSMISSION SYSTEM OPERATOR, TAKING INTO ACCOUNT THE FOLLOWING,

**Whereas**

1. Pursuant to Article 6(3)e and Article 119(1) of Commission Regulation (EU) 2017/1485 Article 119 of Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation (SOGL), Elia submitted a proposal regarding the Elia LFC block operational agreement (LFCBOA) to the relevant regulatory authority, the Commission for the Regulation of Electricity and Gas (hereinafter "CREG") for approval. The CREG approved the proposal on 27 May 2019.
2. In accordance with Article 7(4) of the SOGL, Elia may, in its capacity as responsible for drawing up a proposal for conditions or methodologies, request that this LFCBOA be amended.
3. This document is a request for amendment developed by Elia Transmission Belgium (hereafter referred to as "Elia") regarding the methodologies and conditions included in the LFCBOA for the Elia LFC block.
4. Elia will consult the stakeholders on the draft proposal in accordance with Article 11 of the SOGL. This consultation has taken place from June 15, 2021 until July 15, 2021.
5. The LFCBOA is compliant with the common proposals provided for under the Synchronous Area Operational Agreement developed by all TSOs of each synchronous area according to Article 118 of the SOGL, hereafter referred to as SAOA.

SUBMITS THE FOLLOWING PROPOSAL FOR APPROVAL TO THE CREG:

## Article 1. Timing for implementation

Article 2 is adapted to specify the timing of implementation of this proposal. The paragraph is replaced by :

1. *“Article 7, Article 12 and Article 13 of the LFCBOA will enter into force, the latest, 9 months after the approval by the CREG.*
2. *Article 8(6) of the LFCBOA will enter into force, the latest, 3 months after the approval by the CREG.*
3. *Article 14 of the LFCBOA will enter into force after its approval by the CREG and not before the entry into force of the next version of the Terms and Conditions for balancing service providers for manual Frequency Restoration Reserve (mFRR), hereafter referred to as T&C BSP mFRR.”*

## Article 2. Subject

Article 4 is adapted to include a procedure in case of exhausted FRR and an escalation procedure. For this reason, Article 4(2)f is removed and Article 4(4) is adapted to :

*“The methodologies and conditions in b., l., g., k., o. and p. of Article 119 of the SOGL are specified in Title 4.”*

In addition, a new paragraph is added to specify the objective and the relation of the procedures for exceptional balancing conditions.

*“5. The methodologies and conditions in g., k., q. of Article 119 of the SOGL are respectively specified in Article 7, Article 12 and Article 13.*

*a. Timing and high level goal of each measure is specified as:*

- i. operational procedures for exhausted FRR specified in Article 152(8) of the SOGL which aims to access additional reserves when (risk of) depleting reserves following events not fully accounted in the FRR needs. This procedure can be used between the day-ahead until close to real-time ;*
- ii. escalation procedure for FRR specified in Article 157(4) which aims to access additional reserve capacity when (risk of) not adequately covering the dimensioned needs. This procedure can be used between the day-ahead until close to real-time ;*
- iii. measures to reduce FCRE specified in Article 152(16) which aims to procedure when facing high FRCE values. This procedure can only be used in real-time.*

*b. Power generating modules and demand facilities , hereafter referred to as “units” which cannot be activated in compliance with the FRR processes may only be activated by Elia via the following separate measures: operational procedures for exhausted FRR (cf. Article 12), an escalation procedure for FRR (cf. Article 13) and measures to reduce the FRCE*

- c. *Measures related to emergency conditions are defined in the methodologies compliant with Commission Regulation (EU) 2017/2196 of 24 November 2017 establishing a network code on electricity emergency and restoration and are not in the scope of this LFCBOA. Measures related to the normal activation procedures of reserve capacity are compliant with the reserve process activation structure specified in Article 140 of the SOGL and are not in the scope of this LFCBOA. Measures related to the procedures for exhausted FCR are specified in the synchronous area operational agreement in line with Article 157(7) of the SOGL.”*

**Article 3. Measures to reduce the FRCE by requiring changes in the active power production or consumption of power generating modules and demand units in accordance with Article 152(16) of the SOGL**

Article 7 is modified in view of the implementation of the new procedures in case of exhausted FRR and an escalation procedure. The text is replaced by :

“1. *Under the measures to reduce the FRCE, Elia mitigates close to real time a high and enduring FRCE which is not expected to be controlled by the frequency restoration process as defined in Article 143 of the SOGL, nor by means of the mitigation measures as part of the operational procedures for exhausted FRR (cf. Article 12) and/or of the escalation procedure for FRR (cf. Article 13). The measures to reduce the FRCE are activated if Elia observes :*

- a. *as specified in Article 152(12), the 1-minute average of the FRCE of a LFC block going above the Level 2 FRCE range at least during the time necessary to restore frequency and where the TSOs of a LFC block do not expect that FRCE will be sufficiently reduced by undertaking the actions as specified in Section B-9-1 of the synchronous area operational agreement in accordance Article 152(15) of the SOGL ;*
- b. *as specified in Article 152(13), the FRCE of a LFC block exceeding 25 % of the reference incident of the synchronous area for more than 30 consecutive minutes and where the TSOs of that LFC block do not expect to reduce sufficiently the FRCE with the actions taken pursuant to Article 152(15) of the SOGL and specified in Section B-9-1 of the synchronous area operational agreement.*

2. *Within this procedure, Elia may :*

- a. *publish a balancing warning communication asking all BSPs to submit additional FRR non-contracted balancing energy bids and informing all BRPs such that they can adapt injections and off-take in their portfolio accordingly;*
- b. *activate remaining energy on FRR balancing energy bids which is available but which could no longer be selected for activation on the balancing energy exchange platforms;*
- c. *activate units subject to the Terms and Conditions Scheduling Agent, in line with Article 248 of the Federal Grid Code, and that cannot be activated via the*

*FRR processes. Elia will strive towards techno-economic efficiency by taking into account the maximum and minimum output, start-up time, start-up costs and other technical constraints if relevant;*

- d. request changes in the active power production or consumption of power generating modules and demand units within their area.*
- 3. The flexibility activated by Elia via this procedure is limited to the capacity needed to bring the large FRCE back to an acceptable level (i.e. below the conditions specified in Article 152(12) and 152(13) of the SOGL).*
- 4. Elia shall prepare, at least on annual basis, an overview with a list of events following the triggers specified in paragraph 1, as well as a short motivation on the use of one or more measures specified in paragraph 2.*
- 5. At the latest 15 working days after the use of one of the measures specified in paragraph 2(b), 2(c) or 3(d), Elia shall prepare a report containing a description and justification for this action and submit it to the CREG. The report shall at least contain:*
  - a. A description of the exceptional event;*
  - b. The result of the evaluations carried out in accordance with paragraph 1, including the values of the parameters mentioned and the timing of those evaluations;*
  - c. The energy activated per unit and per 15 minute balancing energy market time unit and the attained techno-economic efficiency in accordance with paragraph 2, including a justification for deviating from the techno-economic optimum, if applicable;*
  - d. The lessons learned from the exceptional event and, if relevant :*
    - i. concrete recommendations that could ease the management of the following exceptional events;*
    - ii. actions Elia intends to take, or is taking, in order to verify or enforce the compliance of market parties with their contractual obligations towards Elia.*

#### **Article 4. Dimensioning rules for reserve capacity on FRR**

Article 8(6) is adapted to implement an improved forecast methodology for the Nemo Link scheduled direction forecast

- *“6. “The real-time flow between Belgium and Great Britain is determined for each-quarter-hour of the next day based on a machine learning method taking into account total demand, wind and photovoltaic forecasts. For each quarter-hour the next day:*
  - Import flow  $\geq 50$  MW, the interconnector is considered in import ;*
  - Export flow  $\geq 50$  MW, the interconnector is considered in export ;*

- *Flow < 50 MW, the interconnector is considered as uncertain and both import and export direction are covered*

## **Article 5. Operational procedures in case of exhausted FRR in accordance with Article 152(8) of the SOGL**

A new Article 12 is included to specify the procedure in case of exhausted FRR. This impact the numbering of the next Articles.

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1. *As referred to in Article 152(8) of the SOGL, Elia specifies the operational procedures for cases of exhausted FRR. In this operational procedure Elia has the right to require changes in the active power production or consumption of power generating modules and demand units.*
2. *The operational procedure described in paragraph 1 shall be activated only when Elia detects an exceptional event which has not been fully taken into account in the FRR needs.*
3. *As from the detection of an upcoming exceptional event specified in paragraph 2(a), for each 15 minute balancing energy market time unit during which the exceptional event is expected to impact the FRCE in the LFC Block, Elia continuously evaluates the residual risk by subtracting (b) and (c) from (a), with :*
  - a. *the volume at risk, which is calculated as the possible loss of injection / increase of off-take following the event, corrected with mitigation measures if applicable. For sea storm events, the calculation method is described in Appendix 6 of the BRP Contract. For yet unidentified events, a description of the calculation method to cover the volume risk will be submitted to the National Regulatory Authority within one year after the event.*
  - b. *available balancing means which are calculated as the sum of :*
    - i. *the procurement of balancing capacity within control area and exchange of balancing capacity with neighbouring TSOs, when applicable pursuant to article 32(1)a of the EBGL,*
    - ii. *sharing of reserves, when applicable pursuant to Article 32(1)b of the EBGL,*
    - iii. *the volume of balancing energy bids which are not contracted by Elia and which are expected to be available both within its control area and within the European platforms taking into account the available cross-zonal capacity pursuant to Article 32(1)c of the EBGL.*
  - c. *the expected impact of the operational procedures for the alert state due to a violation of system frequency limits, as specified in the synchronous area operation agreement pursuant article 152(10) SOGL and article 152(15) SOGL.*
4. *When during two or more consecutive periods specified by the 15 minute balancing energy market time unit, the residual risk, as calculated in paragraph 3, exceeds the Level 2 FRCE range, for these periods, Elia may :*
  - a. *publish balancing warning communication with the aim of :*





- f. *the lessons learned from the exceptional event and, if relevant, concrete recommendations that could ease the management of the following exceptional events.”*

## **Article 6. Escalation Procedures in accordance with Article 157(4) of the SOGL**

A new article 13 is included to specify the escalation procedure. This impacts the numbering of the next Articles.

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1. *As referred to Article 157(4) of the SOGL, Elia ensures to have sufficient reserve capacity on FRR at any time in accordance with the FRR dimensioning rules. In cases of severe risk of insufficient reserve capacity on FRR in the LFC block, and only under exceptional circumstances, Elia uses the escalation procedure.*
2. *The operational procedure specified in paragraph 1 can only be used if the FRR means required to cover the FRR needs following the dimensioning of FRR are not available.*
3. *Elia evaluates on a continuous basis for each period specified by the 15 minute balancing energy market time unit, the residual risk by subtracting (b) from (a), with :*
  - a. *FRR needs as calculated in the FRR dimensioning (Title 3) and*
  - b. *available balancing means which are calculated as the sum of :*
    - i. *the procurement of balancing capacity within control area and exchange of balancing capacity with neighbouring TSOs, when applicable pursuant to article 32(1)a of the EBGL,*
    - ii. *sharing of reserves, when applicable pursuant to Article 32(1)b of the EBGL,*
    - iii. *the volume of balancing energy bids which are not contracted by Elia and which are expected to be available both within its control area and within the European platforms taking into account the available cross-zonal capacity pursuant to Article 32(1)c of the EBGL.*
4. *When during two or more consecutive periods specified by a 15 minute balancing energy market time unit, the residual risk, as calculated in paragraph 3, exceeds the Level 2 FRCE range, for these periods, Elia may :*
  - a. *publish a balancing warning communication with the aim of :*
    - i. *asking all BSPs to submit additional FRR non-contracted balancing energy bids;*
    - ii. *informing all BRPs such that they can adapt injections and off-take in their portfolio accordingly;*
  - b. *activate units which are available in line with requirements of the T&C Scheduling Agent, in line with Article 248 of the Federal Grid Code, and that cannot be activated via the FRR processes. Once these units are available,*

*they can activate balancing energy bids via the FRR processes. These units shall be activated at the latest point in time for Elia to take action while taking into account the latest available information following the balancing warnings. Elia will strive towards techno-economic efficiency by taking into account the duration and magnitude of the residual risk and the maximum and minimum output, start-up time, start-up costs and other technical constraints if relevant.*

5. *The units determined for activation are effectively activated taking into account the start-up time of the selected units in order to be available to provide additional capacity during the periods as specified in paragraph 3, or if not possible, as soon as possible after the beginning of this period. The unit remains activated, at least at minimum power, for the entire period of the forecasted event. The activation period can be shortened or prolonged following the updated evaluations as referred to in paragraph 3.*
6. *Elia shall prepare, at least on annual basis, an overview with a list of events following the triggers specified in paragraph 3, as well as a short motivation on the use of one or more measures specified in paragraph 4.*
7. *At the latest 15 working days after the activation of units following the measure described in paragraph 4(b), Elia shall submit a report containing a description and justification for this action to the CREG. The report shall at least contain:*
  - a. *a description of the exceptional circumstances;*
  - b. *the result of the evaluations carried out in accordance with paragraph 3, including the values of the parameters mentioned and the timing of those evaluations;*
  - c. *the result of the evaluations carried out in accordance with paragraph 4, including the timing of the evaluations;*
  - d. *the energy activated per unit and per period specified by the 15 minute balancing energy market time unit and the attained techno-economic efficiency in accordance with paragraph 5, including a justification for deviating from the techno-economic optimum, if applicable;”*

#### **Article 7. FRR availability requirements and on the control quality, defined in accordance with Article 158(2) of the SOGL**

Article 12(2) is adapted to implement a 12.5 full activation time for mFRR:

*“The maximal aFRR full activation time of the Elia LFC block and the mFRR full activation time of the Elia LFC block are defined at respectively 7.5 minutes and 12.5 minutes. Therefore, the aFRR full activation time of a LFC block and the mFRR full activation time of the LFC block shall not be more than the time to restore frequency.”*