

ELIA TRANSMISSION BELGIUM

RULES FOR THE COMPENSATION OF THE QUARTER-HOURLY IMBALANCES.

**(Hereafter also referred to as the “Balancing
Rules”)**

Date of submission for regulatory approval: 28/05/2020

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

Whereas:

- 1. Article 200 §1 of the Royal Decree with respect to a grid code for the management of the transmission grid of electricity and the access to this grid of 22 April 2019 (hereafter referred to as "**Federal Grid Code**") requires Elia Transmission Belgium S.A./N.V., (hereafter referred to as "**Elia**") to develop a set of market rules for the compensation of the quarter-hourly imbalances (hereafter referred to as "**the Balancing Rules**").*
- 2. The reserve capacity for FCR to be procured by Elia is determined by all Transmission System Operators (hereafter referred to as "**TSOs**") of the synchronous area in application of the provisions of article 153 of the Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation (hereafter referred to as "**SOGL**") and specified in the Synchronous Area Operational Agreement (hereafter referred to as "**SAOA**").*
- 3. The LFC block operational agreement (hereafter referred to as "**LFC BOA**") referred to in article 119 of SOGL specifies the dimensioning rules for Frequency Restoration Reserves or "**FRR**" (being the total of aFRR and mFRR) and the methods to fulfil the obligations of load-frequency control in execution of article 228 of the Federal Grid Code.*
- 4. Pursuant to article 228 §3 of the Federal Grid Code Elia establishes and submits for approval to the CREG a proposal regarding the methodology for determining the volumes of balancing capacity for aFRR and mFRR for the Elia LFC Block (hereafter referred to as the "**LFC Means**"). The determination of the volumes of balancing capacity takes into account the volume of reserve sharing and non-contracted balancing energy bids.*
- 5. Elia is granted an exemption formulated in accordance with article 32(3) of the Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing (hereafter referred to as "**EBGL**") for the obligation to purchase separately upward and downward balancing capacity for aFRR that has been approved by the CREG in the decision (B)1879 of 18 December 2018. The exemption has been granted until 15 December 2021.*
- 6. Article 145(4) of SOGL describes the automatic frequency restoration process according to which aFRR is activated in the Elia LFC Block.*
- 7. Article 226 of the Federal Grid Code determines the available active power for upward and downward regulation that must be put at the disposal of Elia on generation units and asynchronous storage parks of types C or D (in accordance with article 35 §2 and §4 of the Federal Grid Code) whose nominal power is higher than or equal to 25MW. Article 226 of the Federal Grid Code also defines voluntary participation in balancing*

- services from other generation units and storage parks as well as from consumer units.*
- 8. Articles 12 to 12quinquies of the law of 29 April 1999 concerning the organization of the electricity market (hereafter referred to as the “**Electricity Law**”) provide the principles to which the tariff proposal shall comply.*
 - 9. The tariff for maintaining and restoring the individual balance of the Balance Responsible Party (“**BRP**”) is included in the tariff proposal, in accordance with articles 12 to 12quinquies of the Electricity Law.*
 - 10. The impact of the activation of the balancing reserves on the balancing perimeter(s) of the BRPs concerned is described in the BRP Contract.*
 - 11. Article 17 of the Commission Regulation (EU) No 543/2013 of 14 June 2013 on submission and publication of data in electricity markets (hereafter referred to as “**Transparency Regulation**”) requires each TSO to provide information to ENTSO-e relating to balancing of the TSO’s LFC Block.*
 - 12. Article 12 of EBGL requires each TSO to publish information relating to balancing at least through the information transparency platform of ENTSO-e.*
 - 13. Article 227 of the Federal Grid Code determines that Elia has to monitor the availability of balancing services in the LFC Block according to article 163 of SOGL.*
 - 14. The operating rules of the strategic reserve (hereafter referred to as “**SR Rules**”) established according to article 7septies of the Electricity Law are taken into account when relevant.*
 - 15. Should differences and/or contradictions exist between the Balancing Rules and any of the European and/or regional regulatory methodologies coming from EBGL and Transparency Regulation, the later shall prevail.*

SUBMITS THE FOLLOWING FOR APPROVAL TO THE CREG:

TITLE 1 General Provisions

Article 1. Subject matter and scope

1. In accordance with article 200 §2 of the Federal Grid Code, the underlying Balancing Rules contain the following:
 - a. The list of balancing resources available to the TSO and the detailed modalities according to which the TSO uses them to ensure the balance of the LFC Block, as respectively described in TITLE 2 and TITLE 3.
 - b. The potential impact that the use of balancing resources may have on the components of the tariffs applicable to BRPs in accordance to the tariffs established in line with articles 12 to 12quinquies of the Electricity Law, as described in TITLE 4;
 - c. The modalities for the timely publication of the relevant information for the balancing of the LFC Block, as described in TITLE 5;
 - d. The modalities for monitoring the operation of the balancing market and the creation of the related reports for the CREG, as described in TITLE 6.
2. Only the use of the balancing resources in the context of the balancing of the Elia LFC Block is described in the Balancing Rules. The use of such resources in the context of congestion management is not part of the Balancing Rules.

Article 2. Publication and implementation of the Balancing Rules

1. The Balancing Rules will enter into force, after their approval by the CREG, on the day of the entry into force of the first version of the Terms and Conditions for the balancing service provider for automatic Frequency Restoration Reserve (hereafter referred to as “T&C BSP aFRR”).
2. The Balancing Rules will enter into force for an undetermined duration.
3. In accordance with article 200 §1 of the Federal Grid Code, Elia will publish the Balancing Rules after approval by the CREG.
4. Pursuant to article 200 §1 of the Federal Grid Code, all future evolutions of the Balancing Rules will be publicly consulted and the consequent proposal will be submitted to the CREG for approval.

Article 3. Definitions and interpretations

1. Except where there is further specification aimed at application for the purposes of the Balancing rules, and without ignoring the stipulations of public order, the concepts defined in the Electricity Act, the electricity decrees and/or ordinances in relation to the organization of the electricity market and/or the various applicable Grid Codes and EU

network codes and guidelines, as amended from time to time, are also included for the purposes of the Balancing Rules in the sense of these statutory or regulatory definitions.

2. In the Balancing Rules, unless the context requires otherwise:

- the singular indicates the plural and vice versa;
- references to one gender include all other genders;
- the table of contents, titles and headings are for convenience only and do not affect their interpretation;
- the word “including” and its variations are to be construed without limitation;
- 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.

3. For the purposes of these Balancing Rules, the following definitions shall also apply:

(1)	ACER	EU Agency for the Cooperation of Energy Regulators;
(2)	aFRR Requested	As defined in article II.1 of the T&C BSP aFRR;
(3)	Area Control Error or “ACE”	As defined in article 3(19) of SOGL. For Elia’s LFC Block, the ACE is equal to the FRCE;
(4)	Automatic Frequency Restoration Reserve or “aFRR”	As defined in article 3(99) of SOGL;
(5)	Balancing Services	As defined in article 2(3) of EBGL;
(6)	Balance Responsible Party or “BRP”	As defined in article 2(7) of EBGL and listed in the register of Balance Responsible Parties;
(7)	BRP Contract	The contract concluded between Elia and the BRP pursuant to articles 219 and 220 of the Federal Grid Code;
(8)	CIPU Contract or “CIPU”	The contract for the “Coordination of Injection of Production Units” concluded with Elia, or any other regulated contract(s) that will replace the CIPU Contract, in accordance with the dispositions in article 377 of the Federal Grid Code;
(9)	Capacity Contracting Time Unit or “CCTU”	As defined in article II.1 of the T&C BSP FCR, article II.1 of the T&C BSP aFRR and article II.1 of T&C BSP mFRR;

(10)	CREG	The federal regulatory authority of gas and electricity markets in Belgium;
(11)	Delivery Points DP _{PG}	As defined in article II.1 of the T&C BSP FCR, article II.1 of the T&C BSP aFRR and article II.1 of T&C BSP mFRR;
(12)	Electricity Act	The Belgian law of 29 April 1999 concerning the organisation of the electricity market (“Loi du 29 avril 1999 relative a l'organisation du marché de l'électricité, M.B. 11.05.1999” / “Wet van 29 april 1999 betreffende de organisatie van de elektriciteitsmarkt, B.S. 11.05.1999”), as amended from time to time;
(13)	Energy Bid	A combination of a volume (in MW) and a price (in €/MWh), submitted to Elia for activation;
(14)	ENTSO-e	European Network of Transmission System Operators for Electricity;
(15)	Federal Grid Code	The Royal Decree of 22 April 2019, as amended from time to time, establishing a federal technical regulation for the management of and access to the transmission grid;
(16)	Frequency Containment Reserve or “FCR”	As defined in article 3(6) of SOGL;
(17)	Grid Codes	The Federal Grid Code for Transmission (adopted in the form of royal decree on the basis of article 11 of the Electricity Act – currently the “Arrêté royal du 22 avril 2019 établissant un règlement technique pour la gestion du réseau de transport de l'électricité et l'accès à celui-ci, M.B. 29.04.2019” / “Koninklijk besluit van 22 april 2019 houdende een technisch reglement voor het beheer van het transmissienet van elektriciteit en de toegang ertoe, B.S. 29.04.2019”), as amended from time to time, and the grid codes for local and regional transmission, as amended from time to time;

(18)	Imbalance Netting	As defined in article 2(40) of EBGL;
(19)	Imbalance Price	As defined in article 2(12) of EBGL;
(20)	LFC BOA	LFC block operational agreement of Elia, in accordance with article 119 of SOGL;
(21)	LFC Means	A document, approved by the CREG, describing the methodology to determine the volumes of balancing capacity for aFRR and mFRR for the Elia LFC Block, pursuant to article 228 §3 of the Federal Grid Code;
(22)	Load Frequency Control Block or “LFC Block”	As defined in article 3(18) of SOGL;
(23)	Manual Frequency Restoration Reserve or “mFRR”	Frequency Restoration Reserve (FRR), as defined in article 3(7) of SOGL, that can be activated manually;
(24)	mFRR Flex	The mFRR balancing capacity product characterized by a limited activation time and a neutralization time between two successive activations, as specified in the T&C BSP mFRR;
(25)	mFRR Standard	The mFRR balancing capacity product characterized by an unlimited activation time and no neutralization time, as specified in the T&C BSP mFRR;
(26)	Reserve Type	Is a type of active power reserve, as defined in article 3(16) of SOGL and included in the list of balancing resources in Article 4;
(27)	System Imbalance	Is equal to the Area Control Error minus the Net Regulation Volume, as defined in Article 15(1);
(28)	Technical Unit	A facility connected within the LFC Block of Elia;
(29)	Terms and Conditions for the Balancing Service Provider or “T&C BSP”	The terms and conditions for balancing service providers in accordance with article 18 of EBGL;
30	Transparency Regulation	Regulation EU 543/2013 of 14 June 2013 on submission and publication of data in electricity markets and amending annex I to

		Regulation (EG) No. 714/2009 of the European Parliament and of the Council;
(31)	Unit with Technical Limitations	A Technical Unit subject article 226 §1 of the Federal Grid Code that cannot be activated via the FRR processes.

TITLE 2 Balancing resources

Article 4. List of balancing resources

1. The balancing resources available to Elia to ensure the balance of the Elia LFC Block are:
 - i. Frequency Containment Reserve;
 - ii. Imbalance Netting and automatic Frequency Restoration Reserve;
 - iii. Manual Frequency Restoration Reserve, including mFRR sharing agreements between TSOs.

Article 5. FCR

1. The terms and conditions relating to FCR products are described in the T&C BSP FCR.
2. According to article 163 §2 and annex VI of SOGL, all TSOs involved in the exchange of FCR within a synchronous area shall ensure that at least 30% of their total combined initial FCR obligations is physically provided inside their LFC Block, meaning that at maximum 70% of its initial FCR obligations can be physically provided outside the Elia LFC Block and taking into account this constraint set by SOGL, Elia participates in the Regelleistung Service for the FCR procurement.

Article 6. aFRR and Imbalance Netting

1. The terms and conditions relating to aFRR products are described in the T&C BSP aFRR.
2. Elia activates contracted and non-contracted aFRR in accordance with Article 11.
3. Imbalance Netting
 - i. The article 146(1) of SOGL states that the control target of Imbalance Netting process shall aim at reducing the amount of simultaneous counteracting FRR activations of the different participating LFC areas by Imbalance Netting power interchange.

- ii. Pursuant to article 22(3) of EBGL, the Imbalance Netting implementation framework¹ includes the minimum content for the European platform for the Imbalance Netting process.
 - iii. Article 22(5) of EBGL requires TSOs to operate the Imbalance Netting process by 1 year after approval of the Imbalance Netting implementation framework.
 - iv. Elia plans to implement the Imbalance Netting process pursuant article 22(5) of EBGL in line with the implementation plan after approval by ACER of the Imbalance Netting implementation framework.
 - v. Until the full implementation of the Imbalance Netting implementation framework, it is to be noted that Elia, as operational member of the IGCC², is already performing an Imbalance Netting process³.
4. The impact on the imbalance price of activations of contracted or non-contracted aFRR or Imbalance Netting is described in TITLE 4.

Article 7. mFRR

1. The terms and conditions relating to mFRR products are described in the T&C BSP mFRR.
2. Elia may conclude contracts with neighbouring TSOs for the exchange of energy for the regulation of the Elia LFC Block in both the upward and downward direction.
 - i. The availability of mFRR in the form of these contracts is done on a bilateral, symmetrical and voluntary basis between Elia and neighbouring TSOs. By means of this framework, Elia facilitates the sharing of reserves. The availability of the corresponding mFRR reserves is neither remunerated nor guaranteed.
 - ii. When Elia activates mFRR Energy Bids on request of a neighbouring TSO, the mFRR Energy Bids are settled according to the modalities described in the T&C BSP mFRR.
 - iii. The price and settlement process between the concerned TSOs of the activated energy in the context of the mFRR sharing agreements are agreed bilaterally between Elia and the relevant TSO.
3. Elia activates contracted and non-contracted mFRR and the mFRR available through sharing agreements in accordance with Article 12.
4. The impact on the imbalance price of activations of contracted or non-contracted mFRR or the activation of mFRR sharing agreements on the request of Elia is described in TITLE 4.

¹ The Imbalance Netting implementation framework has been submitted to ACER for approval. ACER decision is expected in June 2020.

² The International Grid Control Cooperation (IGCC) is the implementation project chosen by ENTSO-E's Market Committee in February 2016 to become the future European Platform for the imbalance netting process (IN-Platform) as defined by article 22 of EBGL.

³ published on the ENTSO-E website (https://www.entsoe.eu/network_codes/eb/imbalance-netting/)

Article 8. Additional resources in exceptional circumstances

1. In exceptional circumstances and in compliance with Article 13, Elia may use additional resources as described in §2 and §3.
2. Units with Technical Limitations
 1. In accordance with article 7(2) of the LFC BOA Elia may, under exceptional circumstances, activate reserve providing units or reserve providing groups that cannot be activated via the FRR processes (hereafter referred to as “**Units with Technical Limitations**”), via a separate measure as described in Article 13(1).
 2. Elia makes use of the Units with Technical Limitations that, in application of article 226 §1 of the Federal Grid Code, put the remaining available active power at the disposal of Elia (being all generation units and asynchronous storage units with a nominal power of 25MW or more, regardless of their responsiveness in accordance with the requirements of the balancing products).
 3. The activation of Units with Technical Limitations for the purpose of balancing is settled via the modalities of the CIPU Contract.

3. Running strategic reserves unit

In case of running strategic reserves unit, i.e. a unit in the phase of an effective delivery as defined in Chapter 7 of the SR Rules, Elia may activate the upward available margin (if any, calculated as the difference between the maximum available power on the unit and the setpoint requested for SGR activation) for balancing purposes before the activation of the load shedding plan in accordance with Article 13(2) and in accordance with the SR Rules.

TITLE 3 The use of the balancing resources to maintain the balance of the Elia LFC Block.

Article 9. Merit order list concept

1. Per quarter-hour the Energy Bids per Reserve Type can be selected for activation based on a merit order list (“MOL”) concept per direction in which the Energy Bids are ranked for upward regulation (from lowest to highest activation price) or for downward regulation (from highest to lowest activation price) and following the rules set out in Article 11 for aFRR Energy Bids and in Article 12 for mFRR Energy Bids.

Article 10. Activation of FCR

1. FCR is automatically activated based on the frequency deviation with respect to 50Hz. As a consequence, all BSPs providing FCR are activated simultaneously, and proportionally to the frequency deviation in accordance with the T&C BSP FCR.

Article 11. Selection and activation of aFRR Energy Bids

1. Each quarter-hour, before the creation of the MOL for the aFRR Energy Bids as described in Article 9, Elia may take into account the risks for grid security and may declare the aFRR Energy Bid(s) unavailable for activation as described in the T&C BSP aFRR. aFRR Energy Bid(s) that are declared as unavailable, are not retained in the MOL.
2. Each quarter-hour, the MOL for the concerned quarter-hour and the next 95 quarter-hours are sent to the aFRR controller by Elia, which overwrites the MOL of the first 95 quarter-hours and add a new MOL for the 96th quarter-hour in the aFRR controller.
3. Before the aFRR activations, the Imbalance Netting process is applied. The aFRR demand of participating LFC areas is reported to the Imbalance Netting operation system, which returns a correction signal to the aFRR controllers of each IGCC operational member after each optimisation step. In this sense, the counter-activation of aFRR balancing energy is avoided and therefore the use of aFRR is optimised.
4. aFRR in the Elia LFC Block is activated pursuant to article 145 (4) of SOGL and in accordance with the following:
 - a. The aFRR controller determines the global control target and selects, according to a merit order activation mechanism based on the MOL as defined in Article 9, each 4 seconds the aFRR Energy Bids that need to be activated and the control target (i.e. the selected volume) per Energy Bid.
 - b. Every 4 seconds, the aFRR controller calculates the volume per Energy Bid to be activated (i.e. the aFRR Requested per bid). This calculation is based on the selected Energy Bids, the control target per Energy Bid, the ramping rate of the selected Energy Bids and the activated volume of the Energy Bids during the previous 4 seconds as described in the T&C BSP aFRR.
 - c. In case the situation described in the paragraphs 4.a and 4.b. cannot be followed due to technical constraints, the following back-up procedure consisting of two steps will be used.
 - a. Elia selects those aFRR Energy Bids first available in the MOL (created as described in Article 9) up to the level of the contracted aFRR volume.
 - b. The aFRR controller determines each 4 seconds the activated volume per BSP according to a pro-rata mechanism based on the selected Energy Bids (see previous step). The activated volume per BSP is based on the control target of the BSP, the ramping rate of the Energy Bids and the activated volume of the Energy Bids during the previous 4 seconds.
5. In case Elia is not able to send the MOL in time to the aFRR controller, Elia will activate the aFRR Energy Bids according to the latest available information in the aFRR controller. If no information is available for the concerned quarter-hour, the aFRR controller uses the information of the last quarter-hour that is available (see paragraph 1).

6. In the situation described in §5, Elia will perform an ex-post correction of the selection of the aFRR Energy Bids and the activated volume per aFRR Energy Bid (based on the information submitted by the BSP on the bidding platform) for the settlement process which is described in the T&C BSP aFRR.

Article 12. Selection and activation of mFRR Energy Bids

1. In general, Elia will analyse the need for possible activation of mFRR pursuant article 145(5) of SOGL and depending on the System Imbalance of the Elia LFC Block of at least the last 10 minutes and the level of activated aFRR. For example depending on the System Imbalance, Elia may activate mFRR Energy Bids in order to keep the ACE within an acceptable range and/or to relieve aFRR in case of saturation (i.e. full activation of the available aFRR volume).
2. The need to activate mFRR referred to in §1 is determined by Elia on the basis of the System Imbalance of the Elia LFC Block, taking into account all relevant data such as generation, load forecast errors, renewable energy production forecast errors, variations of cross border energy exchanges for the relevant periods, depending on the situation, the aFRR volumes that are available for the current and the next quarter-hour and the expected reaction of the BRP in the context of reactive balancing.
3. When needed and when available, mFRR is activated in the following order and according to the following rules:
 1. Elia activates non-contracted mFRR Energy Bids and mFRR Energy Bids contracted as mFRR Standard according to a techno-economic merit order activation mechanism, meaning based on the economic MOL as defined in Article 9 while also taking into account technical properties of the mFRR Energy Bids as defined in the T&C BSP mFRR.
 2. In case of exhaustion of the mFRR means in point 1, Elia activates mFRR Energy Bids contracted as mFRR Flex according to a techno-economic merit order activation mechanism, meaning based on the economic MOL defined in Article 9 while also taking into account technical properties of the mFRR Energy Bids as defined in the T&C BSP mFRR .
 3. In case of exhaustion of the mFRR means in point 2, Elia activates mFRR sharing agreements.
4. In case of an mFRR Energy Bid related to a CIPU Technical Unit which is not running, the start-up costs of the unit are included in the activation price used to create the MOL for the activations described in §3(1) and §3(2) and this only for the first quarter-hour of activation. In that case, the activation price, expressed in €/MWh, is calculated as follows:

$$\text{Activation price} = \text{mFRR Bid Price} + ([\text{start-up costs} / \text{Pmax}] * x)$$

With:

- mFRR Bid price: price of the mFRR Energy Bid for upward regulation related to the concerned CIPU Technical Unit, expressed in €/MWh.
- Start-up costs: the costs to start up the CIPU Technical Unit as determined in the T&C BSP mFRR, expressed in €.
- Pmax: the maximum capacity of the CIPU Technical Unit as determined in the CIPU Contract, expressed in MW.
- The factor 'x' is equal to 4 as the concerned CIPU Technical Unit can start up in 15 minutes.

For Delivery Points DP_{PG}, the start-up price is included in the bid price (explicit bidding) and therefore, the calculation of the activation price in case of start-up is not required.

5. Elia may take the following into account for its mFRR activations:
 - a. The impact of the activations on grid security, meaning Elia may declare the mFRR Energy Bid(s) unavailable as described in the T&C BSP mFRR.
 - b. The need to maintain a minimum level of production on certain Technical Units delivering other balancing services or voltage regulation in order to ensure the security and reliability of the system at all times.
6. Each time an available mFRR Energy Bid is not activated in respect of §1-5, Elia sends within 3 weeks a report to the CREG with the description of the concerned mFRR Energy Bids and the justification for the deviation from the rules above .

Article 13. Activation of additional resources in exceptional circumstances

1. If the volumes activated in accordance with Article 11 and Article 12 are not sufficient, Elia may activate Units with Technical Limitations in accordance with article 7⁴ of the LFC BOA and with Article 8(1).
 - a. Elia activates Units with Technical Limitations striving towards techno-economic efficiency, i.e. at the lowest cost taking into account system constraints, and therefore the availability and the technical properties of the concerned units aiming at the lowest cost for activation.
 - b. In the case of activation of a Unit with Technical Limitations that is not running, the activation price, expressed in €/MWh, is calculated as follows:

$$\text{Activation price} = \text{Bid price} + ([\text{start-up costs} / \text{Pmax}] * x)$$

With:

⁴At the date of entry into force of these Balancing Rules, it is set out in article 7 on “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 SOGL” of the LFC BOA. approved on 6 December 2019 .

- Bid price: price of the Energy Bid for regulation in the upward direction via the concerned Unit with Technical Limitations, submitted in the framework of the nomination procedure (with possible intraday updates) as described in the CIPU Contract, expressed in €/MWh.
 - Start-up costs: the cost of starting up the concerned Unit with Technical Limitations as determined in the CIPU Contract, expressed in €.
 - Pmax: the maximum power of the concerned Unit with Technical Limitations as determined in the CIPU Contract, expressed in MW.
 - The factor 'x' is equal to 1 for Units with Technical Limitations that cannot activate the requested power within 15 minutes.
- c. In addition, the following rules shall apply:
- I. Any cancellation of an activation of a Unit with Technical Limitations that was not running before the start of the activation period will give rise to a remuneration of the start-up costs, without prejudice to the other conditions mentioned below.
 - II. Start-up costs will not be applied when a bid activation is prolonged.
 - III. Start-up costs are not applied if the Unit with Technical Limitations in question is scheduled to be in operation during one of the quarter-hours of activation, the quarter-hour before or after activation according to the last schedule within the framework of the CIPU Contract.
 - IV. In particular, in case of a Technical Unit with several production units (as defined in the CIPU Contract):
 - I. Start-up costs are not applied if at least one of the production units of the Technical Unit is planned to be in operation during one of the quarter-hours of activation, the quarter-hour before or the quarter-hour after activation according to the last program appointed under the CIPU Contract.
 - II. If different start-up costs are possible for a CIPU Technical Unit depending on the configuration of the chosen CIPU Technical Unit(s), the configuration for which the ratio of start-up costs / Pmax is the lowest is taken into account.
2. If the volumes activated in accordance with Article 11, Article 12 and Article 13(1) are not sufficient, Elia may activate the margin available on running strategic reserve units in accordance with Article 8 (3) and following the techno-economic selection determined for SGR activation in accordance with the SR Rules.

TITLE 4 The impact of the use of the balancing resources on the imbalance tariffs

Article 14. General

1. Imbalance tariffs are determined in accordance with the modalities described in the Balancing Rules and in the tariff proposal and may be modified according to the rules applicable if the strategic reserve is used as described in point 6.7 of the SR Rules.
2. The Marginal Incremental Price and Marginal Decremental Price are used in the formation of the prices for the compensation of the imbalances as described in the tariff proposal.

Article 15. Determination of System Imbalance

1. The System Imbalance ("SI"), as defined in the tariff proposal, is determined for each quarter-hour and is equal to the Area Control Error ("ACE") minus the Net Regulation Volume ("NRV").

$$SI = ACE - NRV$$

2. Net Regulation Volume:

The Net Regulation Volume during quarter-hour j (NRV_j) is calculated as follows:

$$NRV_j = GUV_j + SRV_j - GDV_j$$

With

- i. SRV_j : activated volume of the strategic reserve, i.e. the sum of the by Elia activated energy volumes at SR units during quarter-hour j
 - ii. GUV_j the Gross Upward Volume during quarter-hour j , expressed in MW
 - iii. GDV_j : the Gross Downward Volume during quarter-hour j , expressed in MW
3. Gross Upward Volume

The Gross Upward Volume during quarter-hour j (GUV_j) is the sum of all activations for upward regulation demanded by Elia, expressed in MW during the concerned quarter-hour.

$$\begin{aligned}
 GUV_j = & IMP_{iGCC,j} + \sum_{k=activated\ bids} \int_{j=q_h} aFRR_{Requested_{up,act,bid\ k,j}} dt \\
 & + \sum_{k=activated\ bids} \int_{j=q_h} mFRR_{up,act,bid\ k,j} dt \\
 & + \sum_{k=activated\ bids} \int_{j=q_h} Units\ with\ Technical\ Limitation_{up,act,bid\ k,j} dt
 \end{aligned}$$

with

- $IMP_{iGCC,j}$: the volume imported by Elia in the framework of Imbalance Netting, during the quarter-hour j, expressed in MW.
- $\int_{q_h=j} aFRR_{Requested}_{up,act,bid,k,j}$: the integral of the aFRR requested in the upward direction per bid k, during the quarter-hour j, expressed in MW.
- $\int_{j=q_j} mFRR_{up,act,bid k,j} dt$: the integral of the requested volume for mFRR Energy Bid k for activation in the upward direction, activated by Elia during quarter-hour j, including mFRR sharing with other TSOs, expressed in MW.
- $\sum_{k=activated\ bids} \int_{j=q_h} Units\ with\ Technical\ Limitation_{up,act,bid k,j} dt$: the integral of the requested volume for Energy Bid k of a Unit with Technical Limitation for activation in the upward direction⁵, activated by Elia during quarter-hour j, expressed in MW.

4. Gross Downward Volume

The Gross Downward Volume during quarter-hour j (GDV_j) is the sum of all activations for downward regulation demanded by Elia, expressed in MW during the concerned quarter-hour.

$$\begin{aligned}
 GDV_j &= EXP_{iGCC,j} + \sum_{k=activated\ bids} \int_{j=q_h} aFRR_{Requested}_{down,act,bid k,j} dt \\
 &+ \sum_{k=activated\ bids} \int_{j=q_h} mFRR_{down,act,bid k,j} dt \\
 &+ \sum_{k=activated\ bids} \int_{j=q_h} Units\ with\ Technical\ Limitation_{down,act,bid k,j} dt
 \end{aligned}$$

with

- $EXP_{iGCC,j}$: the volume exported by Elia in the framework of Imbalance Netting, during the quarter-hour j, expressed in MW.
- $\int_{q_h=j} aFRR_{Requested}_{down,act,bid k,j}$: the integral of the aFRR requested in the downward direction per bid k, during the quarter-hour j, expressed in MW.

⁵ In the context of the storm management procedure, the volume between 0 MW and Pmin activated ex-ante on Units with Technical Limitations in the framework the fall-back procedure will not be considered in the set-up of the GUD.

- $\int_{j=q_j} mFRR_{down,act,bid\ k,j} dt$: the integral of the requested volume for mFRR Energy Bid k for activation in the downward direction, activated by Elia during quarter-hour j including mFRR sharing with other TSOs, expressed in MW.
 - $\sum_{k=activated\ bids} \int_{j=q_h} Units\ with\ Technical\ Limitation_{down,act,bid\ k,j} dt$: the integral of the requested volume for Energy Bid k of a Unit with Technical Limitation for activation in the downward direction, activated by Elia during quarter-hour j, expressed in MW.
5. The Energy Bids activated in the context of congestion management within the Elia LFC Block are not taken into account in Gross Downward Volume and Gross Upward Volume.

Article 16. Determination of the Marginal Incremental Price

1. The Marginal Incremental Price during quarter-hour j (MIP_j) corresponds to the maximum of the respective prices of the different balancing resources for the upward regulation, as described in §2, activated by Elia during quarter j to maintain balance of the LFC Block. These balancing resources may be:
 - a. Energy imports by Imbalance Netting
 - b. aFRR
 - i. Non-contracted upward Energy Bids
 - ii. Contracted upward Energy Bids
 - c. mFRR:
 - i. Non-contracted upward Energy Bids
 - ii. Contracted upward Energy bids from "mFRR Standard" and "mFRR Flex"
 - iii. mFRR sharing agreements.
 - d. Units with Technical Limitations
2. The price for the upward regulation of each of these resources shall be determined as follows:
 - a. The price of upward regulation for the Imbalance Netting is equal to the price for the upward regulation of aFRR, as described in §2(b).
 - b. The price for aFRR for the upward regulation is equal to:
 - i. The weighted average price of the activated aFRR Energy Bids for the upward regulation and is calculated as follows:

$$\frac{\sum_{k=activated\ bids_{j=q_h}} (aFRR\ Requested_{up,act,bid\ k,j} * Time_{up,act,bid\ k,j} * aFRR\ Price_{up,act,bid\ k,j})}{\sum_{k=activated\ bids_{j=q_h}} (aFRR\ Requested_{up,act,bid\ k,j} * Time_{up,act,bid\ k,j})}$$

with:

- $aFRR\ Requested_{up,act,bid\ k,j}$: the aFRR requested for regulation in the upward direction per Energy bid k during quarter-hour j, expressed in MW.
 - $Time_{up,act,bid\ k,j}$: the time that Energy Bid k is activated for regulation in the upward direction during quarter-hour j, expressed in hours.
 - $aFRR\ Price_{up,act,bid\ k,j}$: the activation price for Energy Bid k for regulation in the upward direction during quarter-hour j, expressed in €/MWh.
- ii. The price of the first aFRR Energy Bid in the MOL available for the upward regulation (in accordance with Article 9) in case no aFRR Energy Bids for the upward regulation are activated during this quarter-hour.
- c. The price for mFRR for the upward regulation is equal to marginal price of the activated mFRR Energy Bids for the upward regulation.
- The price for the upward regulation of the mFRR sharing agreements between TSOs is the agreed price of the exchanged energy as defined in the bilateral contracts with the other TSOs.
- d. The price for upward regulation for Units with Technical Limitations is equal to the highest activation price, taking into account the start-up cost as described in Article 13(1)b of the upward energy activated on a Unit with Technical Limitations for balancing purposes⁶.
3. Energy Bids activated in the framework of congestion management are not included in the calculation of the price for the upward regulation of the balance of the Elia LFC Block and therefore have no direct impact on the formation of the price for the compensation of the quarter-hourly imbalances.
4. The activation of FCR does not impact the Marginal Incremental Price.
5. When Elia activates upward mFRR energy bids on request of a neighbouring TSO, this is not taken into account in the calculation of the Marginal Incremental Price for Belgium.
6. The impact of SGR on the imbalance tariffs is described in §6.7 of the SR rules.

Article 17. Determination of the Marginal Decremental Price

1. The Marginal Decremental Price during quarter-hour j (MDP_j) corresponds to the minimum of the respective prices of the different balancing resources for the downward

⁶ In the context of the storm management procedure, the costs associated to ex-ante starting up a Unit with Technical Limitations (fall-back procedure) will not be considered in the set-up of the price for upward regulation.”

regulation, as described in §2, activated by Elia during quarter j to maintain balance of the LFC Block. These balancing resources may be:

- a. Energy exports by Imbalance Netting
- b. aFRR
 - i. Non-contracted downward Energy Bids
 - ii. Contracted downward Energy Bids
- c. mFRR:
 - i. Non-contracted downward Energy Bids
 - ii. mFRR sharing agreements.
- d. Units with Technical Limitations

2. The price for downward regulation of each of these resources shall be determined as follows:

- a. The price for downward regulation of the Imbalance Netting shall be equal to the price for downward regulation of aFRR as described in §2(b).
- b. The price for aFRR for downward regulation is equal to:
 - i. The weighted average price of the activated aFRR Energy Bids for downward regulation and is calculated as follows:

$$\frac{\sum_{k=\text{activated bids}_{j=q_n}} (aFRR \text{ Requested}_{\text{down,act,bid } k,j} * Time_{\text{down,act,bid } k,j} * aFRR \text{ Price}_{\text{down,act,bid } k,j})}{\sum_{k=\text{activated bids}_{j=q_n}} (aFRR \text{ Requested}_{\text{down,act,bid } k,j} * Time_{\text{down,act,bid } k,j})}$$

With:

- $aFRR \text{ Requested}_{\text{down,act,bid } k,j}$: the aFRR requested for regulation in the downward direction per Energy bid k during quarter-hour j, expressed in MW.
 - $Time_{\text{down,act,bid } k,j}$: the time that Energy Bid k is activated for regulation in the downward direction during quarter-hour j, expressed in hours.
 - $aFRR \text{ Price}_{\text{down,act,bid } k,j}$: the activation price for Energy Bid k for regulation in the downward direction during quarter-hour j, expressed in €/MWh.
- ii. The price of the first aFRR Energy Bid in the MOL available for the downward regulation (in accordance with Article 9) in case no aFRR Energy Bids for the downward regulation are activated during this quarter-hour.

- c. The price for mFRR for the downward regulation is equal to marginal price of the activated mFRR Energy Bids for the downward regulation.

The price for the downward regulation of the mFRR sharing agreements is the agreed price of the exchanged energy as defined in the bilateral contracts with the other TSOs.
 - d. The price for downward regulation for Units with Technical Limitations is equal to the lowest activation price of the downward energy activated on a Unit with Technical Limitations for balancing purposes.
3. Energy Bids activated in the framework of congestion management are not included in the calculation of the price for the downward regulation of the balance of the Elia LFC Block and therefore have no direct impact on the formation of the price for the compensation of the quarter-hourly imbalances.
 4. The activation of FCR does not impact the Marginal Decremental Price.
 5. When Elia activates downward mFRR energy bids on request of a neighbouring TSO, this is not taken into account in the calculation of the Marginal Decremental Price for Belgium.

Article 18. Rules on the offered price for Energy Bids

1. The T&C BSP aFRR and the T&C BSP mFRR can impose a maximum price for the Energy Bids for activation in the upward direction and/or a minimum price for the Energy Bids for activation in the downward direction.
2. Whenever the price of an Energy Bid for activation in the upward (respectively downward) direction reaches 100% of the maximum price (respectively, reaches 100% of the minimum price), Elia sends within three weeks a report to the CREG stating the volume and price of the Energy Bids for activation with respect to a time interval covering at least the period from 12 hours before the (first) quarter-hour of the day on which the maximum price is reached (respectively the minimum price is offered) until 12 hours after the (last) quarter-hour for which the maximum price is reached (respectively, the minimum price is offered); this report shall also analyse the circumstances which have led the market to offer such prices.
3. Following the sending of such a report to the CREG, or in case of a change of the minimum value of the imbalance tariff upon the activation of the strategic reserve in the case of structural imbalance as defined in the tariff proposal as approved by the CREG, Elia may provide the CREG with a new proposal of the T&C BSP aFRR or T&C BSP mFRR, including an adjustment of the maximum or minimum price for the Energy Bids.

TITLE 5 Publication of information

Article 19. Publication on ENTSO-e Transparency Platform

1. Elia shall publish information via the ENTSO-e Transparency Platform in accordance with article 17 of the Transparency Regulation and article 12 of EBGL.

Article 20. Publication on the Elia web site

1. Elia shall publish on its web site information on System Imbalance, imbalance price, balancing capacity and balancing energy similar to the information published on the ENTSO-e Transparency Platform as described in Article 19, with the following added specificities:

- The publications of Energy Bids for aFRR and mFRR, in both aggregated and individual format, occur starting from day D-1 with hourly updates throughout day D.
- Elia publishes information of all offered, individual capacity bids of the BSPs contracted by Elia and not only the capacity bids that were fully or partially procured.

The data, as described in TITLE 4, on the activations of the control power requested by Elia as part of the compensation of the quarter-hourly imbalances to be made available to the market are published:

- 15 minutes after the quarter-hour in question on a non-validated manner
- the first working day following the 15th calendar day following the month of the concerned quarter-hour on a validated manner

Those quarter-hourly data are also used in the formation of the prices for the compensation of imbalances as described in the tariff proposal.

2. Elia shall publish on its web site information on balancing capacity to be procured in accordance with the LFC Means.
3. In addition to paragraphs 1 and 2, Elia shall publish on its web site the following information:
 - a) Marginal prices of balancing energy offered per type of reserves
 - b) Marginal prices of balancing energy offered by volume level
 - c) Information per minute, published cumulatively within the concerned quarter-hour and if technically feasible with a maximum delay of 2 minutes, concerning:
 - i. Volumes and prices of activated balancing energy per type of reserves
 - ii. The imbalance price

iii. The Net Regulating Volume

Per-minute publications are non-validated values.

TITLE 6 Reporting and Monitoring

Article 21. Capacity bids

1. The monitoring report of daily auction includes in a table format:
 - a. the contracted volumes via the daily regional auction, per BSP for FCR;
 - b. the contracted volumes via the daily local auction, per BSP and per Reserve Type for aFRR and mFRR;
 - c. the average price contracted through the daily auction in the local auctions per BSP and per Reserve Type for aFRR and mFRR per CCTU;
 - d. the marginal price contracted through the daily auction in the regional auctions per BSP for FCR.
2. Elia also foresees to daily transmit to the CREG the data detailing the bids for FCR, aFRR and mFRR, according to the procurement period in question.
3. This information, aggregated on a monthly basis, is included in a monthly monitoring report of Elia to the CREG.

Article 22. Secondary market

1. The monitoring of the secondary market for balancing capacity relates specifically to the follow-up of the transfer of obligations between BSPs. It is included in the statistical report:
 - a. Number of quarter-hours with transfer of obligations per pair of BSPs and per Reserve Type;
 - b. Volume of obligations transferred per pair of BSPs and per Reserve Type.
2. Elia also foresees transmitting to the CREG the volume of obligations transferred in the secondary market per pair of BSPs and per Reserve Type per quarter-hour.
3. This information is included in a monthly monitoring report of Elia to the CREG.

Article 23. Energy Bids

1. The elements listed below are the subject of indicators and monitoring:
 - a. The availability of aFRR and mFRR.
 - i. The overall availability of the balancing reserves per type of reserve and the extent to which the volumes reserved by Elia were actually available.
 - ii. The monitoring is carried out using a table and graph showing the minimum, maximum and average monthly availability of the power for upward and downward regulation per type of reserve over the 12 previous months.
 - b. The bid price for aFRR and mFRR.
 - i. The evolution of the Energy Bid price by reserve type.

- ii. The monitoring is carried out using tables and charts showing the maximum, minimum and monthly average Energy Bid prices for each reserve type over 12 previous months.
 - c. Bid concentration for aFRR and mFRR.
 - i. The control power offered by the different BSPs.
 - ii. The monitoring is drawn up on the basis of a table showing the volumes offered (in absolute and relative terms) per BSP over the 12 previous months, all reserves combined. The evolution over these 12 months of the relative volumes offered is shown visually for each BSP by means of a graph.
 - d. Bids from Units with Technical Limitations.
2. This information is included in a monthly monitoring report of Elia to the CREG.

Article 24. IGCC

1. The following indicators regarding the use of IGCC are included in the report towards the CREG:
- a. Monitoring of the prices at which energy exchanges are settled by IGCC: This is done by means of a table and a graph showing for the 12 previous months the maximum, minimum and monthly average price of IGCC exchanges.
 - b. The quarter-hourly data relating to the volumes exchanged and the prices of the exchanges are also provided to the CREG in the framework of the monthly transmission of the aforementioned quarter-hourly data.
2. This information is included in a monthly monitoring report of Elia to the CREG.

Article 25. Activation

1. The purpose of monitoring the activations is to check the functioning of the balancing mechanism.
2. The elements listed below are the subject of indicators and monitoring:
- a. Activated volumes for aFRR and mFRR.
 - i. The evolution of the activated volumes for each type of reserve and the volumes exchanged through IGCC by Elia.
 - ii. The evolution of activated/exchanged volumes per type of reserve/for IGCC is monitored over the 12 previous months using a table and a graph showing for each month the total of activated volumes per type of reserve and the total of volumes exchanged via IGCC.
 - b. Activation of bids from Units with Technical Limitations.
 - c. The net regulation volume
The evolution of the NRV is monitored by means of a graph showing, over the 12 previous months, for each month, the average quarter-hourly power corresponding to this net regulation volume. This graph shows the compensation by Elia of the overall imbalance of the BRPs at the level of the LFC Block.

3. This information is included in a monthly monitoring report of Elia to the CREG.

Article 26. Imbalance prices

1. The components of the imbalance price are part of the monitoring of the functioning of the balancing mechanism as a whole.
2. The components listed below are subject to monitoring through following indicators:
 - a. Imbalance prices

This follow-up is carried out in the form of:

- a graph showing the distribution of prices for compensating the negative quarter-hourly imbalances between 1st of January and the end of the month in question;
- a graph showing the distribution of the prices for compensating the positive quarter-hourly imbalances between 1st of January and the end of the month in question;
- a graph and a table showing for the 12 previous months the average, minimum and maximum prices for the compensation of the negative quarter-hourly imbalances;
- a graph and a table showing for the 12 previous months the average, minimum and maximum prices for the compensation of the positive quarter-hourly imbalances.

- b. The relationship between the imbalance prices and the price of the electricity market as well as the evolution of the tariff component α .

This monitoring is carried out over 12 previous months via:

- i. the ratio average imbalance price / average reference market price.
- ii. the tariff component α .

3. This information is included in a monthly monitoring report of Elia to the CREG.

Article 27. Financial monitoring of the balancing mechanism

1. Reporting to the CREG on the costs and revenues of the balancing mechanism takes place within the framework of the financial reports communicated to the CREG in accordance with the applicable provisions, but out of scope of the Balancing Rules.
2. This information is included in a monitoring report of Elia to the CREG.

Article 28. Monitoring of the use of the mechanism by the BRPs

1. The purpose of this type of monitoring is to monitor the behaviour of BRPs, as well as the use they make of the balancing mechanism.
2. In the context of this monitoring, the individual behaviour of the BRP is the subject of a follow-up.
3. A visualisation of the monthly behaviour of each BRP as well as a comparison of the behaviour of all the BRPs during the month is carried out on the basis of a monthly graph showing for each BRP the distribution of its quarter-hourly imbalances as well as the distribution of the sum of the imbalances of all BRPs. In order to follow the

evolution of this behaviour over time, the quarterly report includes three such graphs, one for each month.

4. These comparative graphs are drawn up on the basis of the absolute imbalance of each BRP and on the basis of the reported imbalance of each BRP based on his allocated off-take (or its imbalance relative to its allocated off-take). The latter representation makes it possible to compare the synchronous imbalances of different BRPs, irrespective of their size.
5. This information is included in a quarterly monitoring report of Elia to the CREG.

TITLE 7 Final Provisions

Article 29. Language

The reference language for these Balancing Rules shall be Dutch. These Balancing Rules are also published in French and English for information. For the avoidance of doubt, in case of discussion on interpretation, the Dutch version prevails over the French and English version.