ELIA TRANSMISSION BELGIUM

RULES FOR THE COMPENSATION OF THE QUARTER-HOURLY IMBALANCES.

(Hereafter also referred to as the "Balancing Rules")

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Table of content

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 Bblock 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)22991879 of 918 December 202118. The exemption has been granted until 15 December 20244.*

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~~Act**") 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~~Act.*

10. *The methodology for the harmonisation of the main features of imbalance settlement in accordance with article 52(2) of EBGL has been fixed by the ACER Decision 18-2020 on the imbalance settlement harmonisation methodology.*

~~10.~~11.   *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.~~12.   *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~~e relating to balancing of the TSO's LFC Block.*

~~12.~~13.   *Article 12 of EBGL requires each TSO to publish information relating to balancing at least through the information transparency platform of ENTSO-~~E~~e.*

~~13.~~14.   *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~~Act, 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 and at the moment Elia becomes a Participating TSO of the aFRR-Platform for the first time~~, on the day of the entry into force of the first~~ second 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 Rrules, 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;
	aFRR Implementation Framework or "aFRR IF"	The Implementation framework for the European platform for the exchange of balancing energy from frequency restoration reserves with automatic activation, Cf. ACER Decision N°02/2020 of 24 January 2020;
	aFRR-Platform	The European platform for the exchange of balancing energy from aFRR;
(2)	aFRR Requested	As defined in article II.1 of the T&C BSP aFRR;
	aFRR Satisfied Demand	The part of Elia's aFRR demand that is satisfied by the aFRR-Platform. This includes the demand satisfied by bids to be activated in the Belgian LFC Block, but excludes the part of Elia's demand that is covered by the IN-Platform. This value is expressed in MW;
(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;
	Balancing Service Provider or "BSP"	As defined in article 2(6) of the EBGL;
(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;
	Cross-Border Marginal Price or "CBMP"	As referred to in the Methodology for pricing balancing energy and cross-zonal capacity used for the exchange of balancing energy or operating the imbalance netting process;
(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 Eliaby a BSP for activation;

(14)	ENTSO-Ee	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;
	Frequency Restoration Reserves Or "FRR"	As defined in article 3(7) 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;
	Imbalance Price	As defined in article 2(12) of EBGL;
	Imbalance Netting Implementation Framework or "IN IF"	The Implementation Framework for a European platform for the imbalance netting process, cf. ACER Decision N°13/2020 of 24 June 2020;
	IN-Platform	The European platform for the Imbalance Netting process;
	Load-Frequency Control area or "LFC area"	As defined in article 3(12) of SOGL;

(20)	LFC BOA	LFC Bblock 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;
	Local Merit Order List or "LMOL"	A list of balancing energy bids available in Elia's LFC Block and sorted in order of their bid prices, used for the activation of those bids;
(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;
	mFRR Requested	As defined in article II.1 of 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;
	Optimisation Cycle or "OC"	An Optimisation Cycle of the Activation Optimisation Function (AOF) of the aFRR-Platform and of the IN-Platform;
	Participating TSO	As defined in aFRR IF article 2(1)(m)
(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, aAs defined in Article 15(1), in accordance with ISH;
(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;
(31)	Terms and Conditions for the Scheduling Agent or "T&C SA"	Terms and Conditions for the Scheduling Agent in accordance with article 249 of the Federal Grid Code, which governs the exchange of information between the Scheduling Agent and Elia with respect to active power schedules (Daily Schedules) and possible amendments thereof;.
	Time Step	As defined in article II.1 of the T&C BSP aFRR. The duration of a Time Step is 4 seconds.
(32)0	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;
(331)	Unit with Technical Limitations	A Technical Unit subject article 226 §1 of the Federal Grid Code that cannot be activated via the FRR processes;.
	Value of Avoided Activation or "VoAA"	The VoAA in a given direction corresponds to the first aFRR Energy Bid in the LMOL available for regulation in that direction.

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:

    a. Frequency Containment Reserve;

    b. ~~Imbalance Netting and a~~Automatic Frequency Restoration Reserve, including Imbalance Netting via the IN-Platform and aFRR exchange via the aFRR-platform;

    c. 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. As a Participating TSO of the IN-platform, Elia performs the Imbalance Netting process pursuant article 22(5) of EBGL.

3. Imbalance Netting

   a. 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 Pparticipating TSOsLFC areas by Imbalance Netting power interchange.

   b. Pursuant to article 22(3) of EBGL, the Imbalance Netting implementation framework[1]IN IF includes the minimum content for the European platform for the Imbalance Netting process.

      i.

      ii. Article 22(5) of EBGL requires TSOs to operate the Imbalance Netting process by 1 year after approval of the Imbalance Netting implementation framework.

      iii. 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.

      iv. Until the full implementation of the Imbalance Netting implementation framework, it is to be noted that Elia, as operational member of the IGCC[2], is already performing an Imbalance Netting process[3].

4. As a Participating TSO of the aFRR-Platform, Elia performs the cross-border aFRR activation process pursuant article 21(6) of EBGL.

   a. The article 147(1) of SOGL states that the control target of the cross-border FRR activation process shall aim at enabling a TSO to perform the frequency

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[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/)

restoration process by frequency restoration power interchange between LFC areas.

b. Pursuant to article 21(3) of EBGL, the aFRR IF includes the minimum content for the European platform for the exchange of balancing energy from aFRR.

c. It's to be noted that the aFRR-Platform will supersede the IN-Platform when all Participating TSOs of the IN-Platform become Participating TSO of the aFRR-Platform.

4.5. 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 positive and negativedownward direction.

a. 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.

b. 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.

c. 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.

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 §13.

2. Units with Technical Limitations

a. 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).

b. 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).

c. The activation of Units with Technical Limitations for the purpose of balancing is settled via the modalities of the ~~CIPU Contract.~~ Terms and Conditions for the Scheduling Agent (T&C SA.~~)~~

~~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 for aFRR and for mFRR in the Elia LFC Block can be selected for activation by Elia based on a Local Mmerit Oorder Llist ("LMOL") concept per direction in which the Energy Bids are ranked, ~~for upward regulation (~~from lowest to highest activation price for the positive direction~~)~~ ~~or for downward regulation and(~~ from highest to lowest activation price for the negative direction~~)~~, 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 LMOLs 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~~marked as such in the LMOLs.

2. Each quarter-hour, the LMOLs for the concerned quarter-hour and the next 95 quarter-hours are sent to the aFRR controller by Elia, which overwrites the LMOLs of the first 95 quarter-hours and add ~~a~~ the 2 new LMOLs for the 96th quarter-hour in the aFRR controller.

3. Each quarter-hour, Elia sends the 2 LMOLs to the aFRR-Platform. Based on the LMOLs received from each Participating TSO, the aFRR-Platform will generate a common merit order lists ("CMOL") for each direction, used to optimise aFRR activations among those TSOs.

4. In real-time, the aFRR demand of each Participating TSOs is continuously reported to the aFRR-Platform and to the IN-Platform, which return correction signals to each respective TSO after each Optimisation Cycle of the platforms. These corrections signals are taken into account in the input of the aFRR controllers. In this sense:

   a. The counter-activation of aFRR balancing energy is avoided and therefore the use of aFRR is optimised;

   ~~a.~~ The available aFRR energy bids with the lowest price for positive activation (with the highest price for negative activation) are selected by the aFRR-Platform and therefore the cost of activations is optimised.

~~2. 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.~~

~~3.~~5. On this basis, 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 LMOLs as defined in Article 9, each ~~4 seconds~~Time Step the aFRR Energy Bids that need to be activated and the control target (i.e. the selected volume) per aFRR Energy Bid.

   b. Every Time Step~~4 seconds~~, the aFRR controller calculates the volume per aFRR Energy Bid to be activated (i.e. the aFRR Requested per bid). This calculation is based on the ~~selected~~ aFRR Energy Bids selected by Elia's aFRR controller, the control target per aFRR Energy Bid, the linking of aFRR Energy Bids, the ramping rate of the ~~selected~~ aFRR Energy Bids and the ~~activated~~ volume of the aFRR Energy Bids requested for activation during the previous ~~4 seconds~~Time Step as described in the T&C BSP aFRR.

   c. In case Elia is disconnected from the aFRR-Platform, the corresponding correction signal will be equal to 0MW and the following fallback procedure will be used:

      i. Elia applies a volume cap by limiting the LMOLs (created as described in Article 9) to the aFRR Energy Bids first available up to the level of the contracted volume, as defined in the LFC Means.

> ii.   aFRR will still be activated according to §5.a and 5.b.
>
> iii.   When possible, Elia will still participate to the Imbalance Netting process.

c.d. In case the situation described in the ~~paragraphs~~ §45.a and 45.b. cannot be followed due to technical constraints, the following ~~back-up~~fallback procedure consisting of ~~two~~three steps will be used:~~.~~

> i.   Elia disconnects from the aFRR-Platform. When possible, Elia still participates to the Imbalance Netting process.
>
> i.ii.   Elia applies a volume cap by limiting the LMOLs (created as described in Article 9) to the aFRR Energy Bids first available up to the level of the contracted volume, as defined in the LFC Means.~~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~~.
>
> ii.iii.   The aFRR controller determines each ~~4 seconds~~Time step the ~~activated~~ volume to be activated per BSP according to a pro-rata mechanism based on the ~~selected~~ aFRR Energy Bids selected by Elia's aFRR controller (see previous step). The ~~activated~~ volume requested for activation per BSP is based on the control target of the BSP, the linking of aFRR Energy bids, the ramping rate of the aFRR Energy Bids and the ~~activated~~ volume of the aFRR Energy Bids requested for activation during the previous ~~4 seconds~~Time step as described in the T&C BSP aFRR.

4.6. 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).

5.7. In the situation described in §65, 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:

    a. 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 LMOL 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.

    b. 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 LMOL defined in Article 9 while also taking into account technical properties of the mFRR Energy Bids as defined in the T&C BSP mFRR .

    c. In case of exhaustion of the mFRR means in ~~point~~ §b2, Elia activates mFRR sharing agreements.

4. In case of an mFRR Energy Bid related to a ~~CIPU~~ Technical Unit subject to the T&C SA which is not running, the start-up costs of the unit are included in the activation price used to create the LMOL for the activations described in §3(a~~1~~) and §3(b~~2~~) and this only for the first quarter-hour of activation. In that case, the activation price, expressed in €/MWh, is calculated as follows:

    Activation price = mFRR Bid Price + ([start-up costs / Pmax] * x)

    With:

    - mFRR Bid price: price of the mFRR Energy Bid for ~~upward~~ regulation in the positive direction related to the concerned ~~CIPU~~ Technical Unit subject to the T&C SA, expressed in €/MWh.

    - Start-up costs: the costs to start up the ~~CIPU~~ Technical Unit subject to the T&C SA as determined in the T&C BSP mFRR, expressed in €.

    - Pmax: the maximum capacity of the ~~CIPU~~ Technical Unit subject to the T&C SA as determined in the ~~CIPU Contract~~T&C SA, expressed in MW.

    - The factor 'x' is equal to 4 as the concerned ~~CIPU~~ Technical Unit subject to the T&C SA 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 7[4] 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.a. 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:

    Activation price = Bid price + ([start-up costs / Pmax] * x)

    With:

    - Bid price: price of the Energy Bid for regulation in the upward positive 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 ContractT&C SA, expressed in €/MWh.

    - Start-up costs: the cost of starting up the concerned Unit with Technical Limitations as determined in the CIPU ContractT&C SA, expressed in €.

    - Pmax: the maximum power of the concerned Unit with Technical Limitations as determined in the CIPU ContractT&C SA, 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.b. In addition, the following rules shall apply:

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[4]At 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 .

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~~T&C SA.

iv. In particular, in case of a Technical Unit with several production units (as defined in the ~~CIPU Contract~~T&C SA):

- 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~~T&C SA.

- If different start-up costs are possible for a ~~CIPU~~ Technical Unit subject to the T&C SA 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 mMarginal iIncremental pPrice and mMarginal dDecremental pPrice 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 referred to in the tariff proposal and in accordance with ISH, is determined for each quarter-hour and is equal to the average value over the quarter-hour of the instantaneous SI_t, calculated as follows:

$$SI_t = \Delta P_t + k\Delta f_t - (aFRR\ requested_t + mFRR\ requested_t)$$

With

- ΔP_t: the difference between the measured and the scheduled cross-border flows, expressed in MW.

- $k\Delta f_t$: the frequency control error, expressed in MW.

- $aFRR\ requested_t$: as defined in article II.1 of the T&C BSP aFRR, expressed in MW.

- $mFRR\ requested_t$: as defined in article II.1 of the T&C BSP mFRR, expressed in MW.

2. ΔP_t:

ΔP_t is the difference between the measured and the scheduled cross-border flows, expressed in MW.

$$\Delta P_t = P_{measured,t} - P_{scheduled,t}$$

With

- $P_{measured,t}$: the sum of measured flow on interconnections between Elia and neighbouring TSOs. An exported flow is considered positive, an imported flow is considered negative. The value is expressed in MW.

- $P_{scheduled,t}$: the sum of the scheduled flow on interconnections between Elia and neighbouring TSOs. This term does not include the cross-border flows resulting from IN-Platform and from the aFRR-Platform. An exported flow is considered positive, an imported flow is considered negative. The value is expressed in MW.

3. $k\Delta f_t$:

The frequency control error is the estimation for the actual amount of Active Power which is adjusted in the LFC area in response to the system frequency. In other words, this corresponds to the reaction that is expected from the FCR delivering units in Elia's LFC Block. ~~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~~

~~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~~

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

GUV$_j$: the Gross Upward Volume during quarter-hour j, expressed in MW

GDV$_j$: the Gross Downward Volume during quarter-hour j, expressed in MW

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.

$$GUV_j = IMP_{iGCC,j} + \sum_{k=activated\ bids} \int_{j=q_k} aFRR\ Requested_{up,act,bid\ k,j} dt$$
$$+ \sum_{k=activated\ bids} \int_{j=q_k} mFRR_{up,act,bid\ k,j} dt$$
$$+ \sum_{k=activated\ bids} \int_{j=q_k} Units\ with\ Technical\ Limitation_{up,act,bid\ k,j} dt$$

with

IMP$_{iGCC,j}$: the volume imported by Elia in the framework of Imbalance Netting, during the quarter-hour j, expressed in MW.

$\int_{q_k=j} aFRR\ Requested_{up,act,bid,k,j}$: 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.

$\sum_{k=activated\ bids} \int_{j=q_k} Units\ with\ Technical\ Limitation_{up,act,bid\ k,j} dt$: the integral of the requested volume for Energy Bid k of a Unit with Technical Limitation for activation in the upward direction[5], activated by Elia during quarter-hour j, expressed in MW.

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.

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[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.

$$GDV_j$$

$$= EXP_{iGCC,j} + \sum_{k=activated\ bids} \int_{j=q_k} \overline{aFRR\ Requested_{down,act,bid\ k,j}}\,dt$$

$$+ \sum_{k=activated\ bids} \int_{j=q_k} \overline{mFRR_{down,act,bid\ k,j}}\,dt$$

$$+ \sum_{k=activated\ bids} \int_{j=q_k} \overline{Units\ with\ Technical\ Limitation_{down,act,bid\ k,j}}\,dt$$

with

~~EXP~~_{iGCC,j}: the volume exported by Elia in the framework of Imbalance Netting, during the quarter-hour j, expressed in MW.

$\int_{q_k=j} \overline{aFRR\ Requested_{down,act,bid\ k,j}}$: the integral of the aFRR requested in the downward direction per bid k, during the quarter-hour j, expressed in MW.

$\int_{j=q_j} \overline{mFRR_{down,act,bid\ k,j}}\,dt$: 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.

$\sum_{k=activated\ bids} \int_{j=q_k} \overline{Units\ with\ Technical\ Limitation_{down,act,bid\ k,j}}\,dt$: 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.

~~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 ~~m~~Marginal ~~I~~incremental ~~p~~Price

1. The ~~m~~Marginal ~~i~~incremental ~~p~~Price during quarter-hour j (MIP_j) corresponds to the maximum of the respective prices of the different balancing resources for ~~the upward~~ positive regulation, as described in §2, ~~activated~~ used 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.   The aFRR Satisfied Demand calculated by the aFRR-Platform in the positive direction

        ~~i.~~ii.   When disconnected from the aFRR-Platform, the aFRR Energy Bids in the positive direction available in Elia's LFC Block

        ii.   ~~Non-contracted upward Energy Bids~~

             ~~Contracted upward Energy Bids~~

    ~~b.~~c. mFRR:

    i.   Non-contracted ~~upward~~ mFRR Energy Bids in the positive direction

    ii.   Contracted ~~upward~~ mFRR Energy bids in the positive direction from "mFRR Standard" and "mFRR Flex"

    iii.   mFRR sharing agreements.

  ~~c.   Units with Technical Limitations~~

2.   The price for the ~~upward~~ positive regulation of each of these resources shall be determined as follows:

    a.   The price of ~~upward~~ regulation in the positive direction for the Imbalance Netting is equal to the price for the ~~upward~~ regulation in the positive direction of aFRR, as described in §2(b).

    b.   The price for aFRR for ~~the upward~~ regulation in the positive direction is equal to:

        i.   ~~The~~ A weighted average ~~price~~ of prices for ~~the activated aFRR Energy Bids for the upward~~ regulation in the positive direction ~~and is~~ calculated as follows:

$$\frac{\sum_{\substack{OC \text{ where aFRR } SD_{OC,j}>0 \\ j=qh}}\left(df_{OC,j} * aFRR\ SD_{OC,j} * CBMP_{OC,pos,j} + (1-df_{OC,j}) * aFRR\ SD_{OC,j} * VoAA_{pos,j}\right)}{\sum_{\substack{OC \text{ where aFRR } SD_{OC,j}>0 \\ j=qh}}\left(aFRR\ SD_{OC,j}\right)}$$

with:

- Optimisation Cycle or "*OC*": as defined in Article 3.

- $df_{OC,j}$: the direction factor of the Optimisation cycle OC during the concerned quarter-hour j. The direction factor is equal to 1 when the aFRR-Platform selects at least one aFRR Energy bid in the direction requested by Elia and 0 otherwise.

- $aFRR\ SD_{OC,j}$: the aFRR Satisfied Demand, as defined in Article 3, of the Optimisation Cycle OC during the concerned quarter-hour j, expressed in MW.

- $CBMP_{OC,pos,j}$: the CBMP, as defined in Article 3, of the Optimisation Cycle OC during the concerned quarter-hour j, in the positive direction, expressed in €/MWh.

- $VoAA_{pos,j}$: the Value of Avoided Activation, as defined in Article 3, in the positive direction of the concerned the quarter-hour j, expressed in €/MWh. The VoAA_{pos} corresponds to the first aFRR Energy Bid in the LMOL available for regulation in the positive direction (in accordance with Article 9).

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

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. In case there is no aFRR Satisfied Demand in the positive direction during this quarter-hour, the VoAA in the positive direction of that quarter-hour. 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.

iii. In case Elia is disconnected from the aFRR-Platform as described in §11.5.c, a weighted average of the price for regulation in the positive direction calculated as follows:

$$\frac{\sum_{ts\ where\ Global\ CT>0_{j=qh}}(Global\ CT_{ts,j} * LMP_{ts,pos,j})}{\sum_{ts\ where\ Global\ CT>0_{j=qh}}(Global\ CT_{ts,j})}$$

with:

- Time Step or "*ts*": as defined in Article 3.

- *Global CT*$_{ts,j}$: the global control target, as described in Article 11(5)(a), for the Time Step "ts" during the concerned quarter-hour j, expressed in MW.

- *LMP*$_{ts,pos,j}$: the Local Marginal Price, as defined in Annex 14 of the T&C BSP aFRR, for the Time Step "ts" during the concerned quarter-hour j, in the positive direction, expressed in €/MWh.

iv. In case Elia is disconnected from the aFRR-Platform as described in §11.5.c, and that the global control target is never higher than 0MW during the quarter hour, the VoAA in the positive direction of that quarter-hour.

> v. In case Elia is connected to the aFRR-Platform during a part of the quarter-hour and disconnected during the other part of the quarter-hour, the weighted average of the components defined in 2(b)(i) and 2(b)(iii).

  c. The price for mFRR for the ~~upward~~ regulation in the positive direction is equal to marginal price of the ~~activated~~ mFRR Energy Bids ~~for the upward regulation~~ activated in the positive direction, as defined in the T&C BSP mFRR.

  The price for the ~~upward~~ regulation in the positive direction 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.

  ~~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 purposes[6].~~

3. Energy Bids activated ~~in the framework of congestion management~~for redispatching purposes are not included in the calculation of the price for the ~~upward~~ regulation in the positive direction ~~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 in the positive direction on request of a neighbouring TSO, this is not taken into account in the calculation of the Marginal Incremental Price for Belgium.

~~6.~~5. ~~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~~ regulation in the negative direction, as described in §2, ~~activated~~ used 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

    a. The aFRR Satisfied Demand calculated by the aFRR-Platform in the negative direction

    b. When disconnected from the aFRR-Platform, the aFRR Energy Bids in the negative direction available in Elia's LFC Block

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[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."~~

> > i. ~~Non-contracted downward Energy Bids~~
>
> > ii. ~~Contracted downward Energy Bids~~
>
> c. mFRR:
>
> > i. Non-contracted ~~downward~~mFRR Energy Bids in the negative direction
> >
> > ii. mFRR sharing agreements.
>
> d. ~~Units with Technical Limitations~~

2. The price for ~~downward~~ regulation in the negative direction of each of these resources shall be determined as follows:

   a. The price for ~~downward~~ regulation in the negative direction of the Imbalance Netting shall be equal to the price for ~~downward~~ regulation in the negative direction of aFRR as described in §2(b).

   b. The price for aFRR for ~~downward~~ regulation in the negative direction is equal to:

   > i. ~~The~~ A weighted average of price~~s~~ ~~of the activated aFRR Energy Bids~~ for ~~downward~~ regulation in the negative direction ~~and is~~ calculated as follows:

$$\frac{\sum_{OC\ where\ aFRR\ SD_{OC,j}<0_{j=qh}} \left(df_{OC,j} * aFRR\ SD_{OC,j} * CBMP_{OC,neg,j} + \left(1 - df_{OC,j}\right) * aFRR\ SD_{OC,j} * VoAA_{neg,j} \right)}{\sum_{OC\ where\ aFRR\ SD_{OC,j}<0_{j=qh}} \left(aFRR\ SD_{OC,j} \right)}$$

with:

- Optimisation Cycle or "*OC*": as defined in Article 3.

- $df_{OC,j}$: the direction factor of the Optimisation Cycle OC during the concerned quarter-hour j. The direction factor is equal to 1 when the aFRR-Platform selects at least one bid in the direction requested by Elia and 0 otherwise.

- $aFRR\ SD_{OC,j}$: the aFRR Satisfied Demand, as defined in Article 3, of the Optimisation Cycle OC during the concerned quarter-hour j, expressed in MW.

- $CBMP_{OC,neg,j}$: the CBMP, as defined in Article 3, of the Optimisation Cycle OC during the concerned quarter-hour j, in the negative direction, expressed in €/MWh.

- $VoAA_{neg,j}$: the Value of Avoided Activation, as defined in Article 3, in the negative direction of the concerned the quarter-hour j, expressed in €/MWh. The VoAA_{neg} corresponds to the first aFRR Energy Bid in the LMOL

available for regulation in the negative direction (in accordance with Article 9).

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

- ~~With:~~

- ~~aFRR Requested$_{down,act,bid\ k,j}$: the aFRR requested for regulation in the downward direction per Energy bid k during quarter-hour j, expressed in MW.~~

- ~~$Time_{down,act,bid\ k,j}$: the time that Energy Bid k is activated for regulation in the downward direction during quarter-hour j, expressed in hours.~~

- ~~$aFRR\ Price_{down,act,bid\ k,j}$: the activation price for Energy Bid k for regulation in the downward direction during quarter-hour j, expressed in €/MWh.~~

ii.   In case there is no aFRR Satisfied Demand in the negative direction during this quarter-hour, the VoAA in the negative direction of that quarter-hour. ~~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.~~

iii. In case Elia is disconnected from the aFRR-Platform as described in §11.5.c, a weighted average of the price for regulation in the negative direction calculated as follows:

$$\frac{\sum_{ts\ where\ Global\ CT<0_{j=qh}}(Global\ CT_{ts,j} * LMP_{ts,neg,j})}{\sum_{ts\ where\ Global\ CT<0_{j=qh}}(Global\ CT_{ts,j})}$$

with:

- Time Step or "ts": as defined in Article 3.

- $Global\ CT_{ts,j}$: the global control target, as described in Article 11(5)(a), for the Time Step "ts" during the concerned quarter-hour j, expressed in MW.

- $LMP_{ts,neg,j}$: the Local Marginal Price, as defined in Annex 14 of the T&C BSP aFRR, for the Time Step "ts" during the concerned quarter-hour j, in the negative direction, expressed in €/MWh.

iv.   In case Elia is disconnected from the aFRR-Platform as described in §11.5.c, and that the global control target is never lower than 0MW

during the quarter hour, the VoAA in the negative direction of that quarter-hour.

        ii.v.   In case Elia is connected to the aFRR-Platform during a part of the quarter-hour and disconnected during the other part of the quarter-hour, the weighted average of the components defined in 2(b)(i) and 2(b)(iii)

    c.   The price for mFRR for the downward regulation in the negative direction is equal to marginal price of the activated mFRR Energy Bids for the downward regulationactivated in the negative direction, as defined in the T&C BSP mFRR.

        The price for the downward regulation in the negative direction of the mFRR sharing agreements is the agreed price of the exchanged energy as defined in the bilateral contracts with the other TSOs.

        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 managementfor redispatching purposes are not included in the calculation of the price for the downward regulation in the negative direction 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 in the negative direction 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 defines the rules on the offered price for aFRR Energy bids.

1.2. The T&C BSP aFRR and the T&C BSP mFRR can impose a maximum price for the mFRR Energy Bids for activation in the upward positive direction and/or a minimum price for the Energy Bids for activation in the downward negative direction.

2.3. Whenever the price of an mFRR Energy Bid for activation in the upward positive (respectively downwardnegative) 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 mFRR 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.

3.4. 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 mFRR Energy Bids.

TITLE 5   Publication of information

Article 19.   Publication on ENTSO-Ee Transparency Platform

1. Elia shall publish information via the ENTSO-Ee Transparency Platform in accordance with article 17 of the Transparency Regulation, ~~and~~ article 12 of EBGL, the IN IF and the aFRR IF[7].

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. The publications are complementary ~~similar~~ to the information published on the ENTSO-eE Transparency Platform as described in Article 19, with the following added specificities:

    - The publications of Energy Bids for aFRR and mFRR, per quarter-hour and per direction, 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, per direction and per CCTU, 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~~on each of the components 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.

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[7] A detailed description of the published data, known as the "DDD" (Detailed Data Description), has been publicly consulted and will be published on following website as soon as it is approved by ACER: https://www.entsoe.eu/data/transparency-platform/mop/

3. In addition to ~~paragraphs~~ §1 and 2, Elia shall publish on its web site the following information:

    a. The balancing energy volumes activated in Elia's LFC Block per type of reserves, on a quarter-hourly basis

    b. The balancing energy volumes activated for Elia's LFC Block per type of reserves, on a quarter-hourly basis

    ~~a.~~c. Marginal prices of balancing energy offered in Elia's LFC Block per type of reserves[8]

    ~~b.   Marginal prices of balancing energy offered by volume level~~

    ~~c.~~d. Information per minute, published cumulatively within the concerned quarter-hour and if technically feasible with a maximum delay of 2 minutes, concerning:

        i. The volume and price components of the compensation of the quarter-hourly imbalances ~~Volumes and prices of activated balancing energy~~ per type of reserves;

        ~~i.~~

        ii. The alpha;

        ~~ii.~~iii. The resulting imbalance price;

        iv. The System Imbalance;

        v. The ACE.

        ~~i.   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;

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[8] The CBMP can be higher than the price published, as the latter only considers aFRR energy bids offered in Elia's LFC Block. aFRR Energy bids from other LFC Blocks are published on ENTSO-E Transparency Platform.

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 in Elia's LFC Block

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 in the positive and negative directions 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 in the Elia LFC Block.

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~~IN-Platform and aFRR-Platform

1. The elements listed below regarding the use of IN-Platform are the subject of indicators and monitoring ~~The following indicators regarding the use of IGCC are included in the report towards the CREG~~:

   a. Monitoring of the settlement prices at which energy exchanges are settled by the ~~IGCC~~IN-Platform: This is done by means of a table and a graph showing for the 12 previous months the maximum, minimum and monthly average settlement prices of ~~IGCC~~ imbalance netting 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. The elements listed below regarding the use of aFRR-Platform are the subject of indicators and monitoring :

   a. Monitoring of the CBMP at which energy exchanges are settled by the aFRR-Platform: this is done by means of a table and a graph showing for the 12 previous months the maximum, minimum and monthly average CBMP in the positive and negative directions.

~~2.~~3. This information is included in a monthly monitoring report of Elia to the CREG.

Article 25. ~~Activation~~ Balancing energy volumes activated for Elia's LFC Block

1. The purpose of monitoring the ~~activations~~ balancing energy volumes activated for Elia's LFC Block 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~~Balancing energy volumes activated for Elia's LFC Block.

      i. The evolution of the activations of mFRR balancing energy volumes

      ii. The evolution of the aFRR Satisfied Demand and of the volumes imported through the IN-Platform

i. The evolution of the activated volumes for each type of reserve and the volumes exchanged through IGCC by Elia.

ii.iii. The evolution of the activations of mFRR, the aFRR Satisfied demand and the imports through the IN-Platformactivated/exchangevolumes per type of reserve/for IGCC is monitored over the 12 previous months using a table and a graph with a monthly granularityshowing 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.b. The net regulation volumeSystem Imbalance

The evolution of the NRV System Imbalance 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 volumeSystem Imbalance. 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, Elia provides a quarterly report to the CREG containing the information specified in §3 to §6the 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 their monthly imbalance invoice

- a graph showing for each BRP their monthly average absolute imbalance

- a graph showing for each BRP their monthly median imbalance

- a graph showing for each BRP their monthly 5th percentile of the highest positive and highest negative imbalances

3. Two versions of each of these graphs are presented: one version containing absolute values and one version where the data is shown relative to the size of the portfolio of the BRP[9]. 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. A visualization of the daily contribution to the BRPs' monthly imbalance invoice. This is shown individually for the five BRPs with the highest monthly imbalance invoice and aggregated for all other BRPs.

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[9] The size of the portfolio of the BRP as described in article 24 of the BRP Contract

5. A description, including information on the observed system imbalance and imbalance tariff, of the days in the respective quarter for which the total gross imbalance revenues exceed 1 million euros.

4. These comparative graphs in §3 and §4 are drawn up on the basis of the quarter-hourlyabsolute imbalances of each BRP, of the imbalance tariff for the concerning quarter hours and on the basis of the size of the portfolio of the BRPreported 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 behaviour of different BRPs, irrespective of their size.

5.6. Theis information in §3 is included in a quarterly monitoring report of Elia to the CREG. In order to follow the evolution of the BRP's behaviour over time, the quarterly report contains the information indicated in §3 and §4 for each of the three months of the quarter.

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.