Proposal for Amendment of the Terms and Conditions for balancing service providers for automatic Frequency Restoration Reserve (aFRR)

("Proposal for Amendment T&C BSP aFRR")

08/12/2021

CONTENT

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

Whereas

(1) Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing (hereafter referred to as the "EBGL") entered into force on 18 December 2017.

(2) Elia Transmission Belgium SA (hereafter referred to as "ELIA") is responsible for the operation of the Belgian transmission system, for which it holds a right of ownership or at least a right of use. ELIA has been designated as Transmission System Operator pursuant to the Act of 29 April 1999 on the organization of the electricity market, and ensures the safety, reliability and efficiency of the Belgian transmission system.

(3) Pursuant to article 4(1),article 5(4)(c) and article 18 of the EBGL, ELIA has developed the terms and conditions for balancing service providers for automatic Frequency Restoration Reserve (hereafter "T&C BSP aFRR") required by this Regulation. The T&C BSP aFRR have been approved by the CREG.

(4) In this context, the current version of the T&C BSP aFRR entered into force on the 25th of October 2020.

(5) In accordance with Article 6(3) of EBGL, ELIA may propose an amendment to this T&C BSP aFRR. The proposed amendment to the T&C BSP aFRR has been submitted for consultation from 8 December 2021 to 18 January 2022 in accordance with the procedure set out in Article 10 and shall be submitted for approval to the CREG in accordance with the procedure set out in Articles 4 and 5.

(6) This document is a proposal for amendment developed by ELIA regarding the T&C BSP aFRR and takes into account the general principles, goals and other methodologies set in the EBGL by:

(a) fostering effective competition, non-discrimination and transparency in balancing markets pursuant to article 3(1)(a) of the EBGL;

(b) enhancing efficiency of balancing as well as efficiency of European and national balancing markets pursuant to article 3(1)(b) of the EBGL;

(c) integrating balancing markets and promoting the possibilities for exchanges of balancing services while contributing to operational security pursuant to article 3(1)(c) of the EBGL;

(d) contributing to the efficient long-term operation and development of the electricity transmission system and electricity sector in the Union while facilitating the efficient and consistent functioning of day-ahead, intraday and balancing markets pursuant to article 3(1)(d) of the EBGL;

(e) ensuring that the procurement of balancing services is fair, objective, transparent and market-based, avoids undue barriers to entry for new entrants, fosters the liquidity of balancing markets while preventing undue distortions within the internal market in electricity pursuant to article 3(1)(e) of the EBGL;

(f) facilitating the participation of demand response including aggregation facilities and energy storage while ensuring they compete with other balancing services at a level playing field and,

where necessary, act independently when serving a single demand facility pursuant to article 3(1)(f) of the EBGL;

(g) facilitating the participation of renewable energy sources and support the achievement of the European Union target for the penetration of renewable generation pursuant to article 3(1)(g) of the EBGL.

(7) Pursuant to article 5(5) of the EBGL, the T&C BSP aFRR shall include a proposed timescale for their implementation and a description of their expected impact on the objectives of this Regulation.

(8) Pursuant to articles 7 and 12(3)(g) of the EBGL, Elia will publish these T&C BSP aFRR on its website in the reference languages Dutch and French and also in English.

SUBMIT THE FOLLOWING PROPOSAL OF AMENDMENT OF THE T&C BSP aFRR TO THE CREG

PART I: Amendments to the T&C BSP aFRR

Article 2
Implementation Plan

(1) The dates mentioned in the present Article refer to the delivery dates of the aFRR energy services.

(2) The entry into force of these T&C BSP aFRR will take place in 2 steps.

(3) To the exception of the definition of CBMP and of the aFRR-Platform, the new Annex 14 (Remuneration in case of fallback) and the changes related to Articles II.16.6, II.16.7, II.16.8 and II.16.9, these T&C BSP aFRR will enter into force, at the earliest, 1 month after the approval by CREG and not before April the 21st, 2022. The exact date will be fixed taking into account the following elements:

- The completion of the development of the necessary IT systems in order for Elia to implement the balancing service for automatic Frequency Restoration Reserve
- The technical, operational and commercial readiness of a sufficient amount of balancing service providers for automatic Frequency Restoration Reserve to ensure, both technically and economically, a successful go-live of the new aFRR design

The exact date of the entry into force and the implementation of the T&C BSP aFRR (with the exception of the parts mentioned above) will be set by Elia following consultation with the CREG and will be published at least 4 weeks before this entry into force.

(4) The definition of CBMP and of the aFRR-Platform, the new Annex 14 (Remuneration in case of fallback) and the changes related to Articles II.16.6, II.16.7, II.16.8 and II.16.9, of these T&C BSP aFRR will enter into force, at the earliest, 1 month after the approval by CREG and not before June the 22nd, 2022. The exact date will be fixed taking into account the following elements:

- The entry into force of the 1st step.
- An evaluation confirming that the implementation of those parts of the T&C BSP aFRR does not lead to a blocking point for the efficient functioning of the Belgian balancing market.

The exact date of the entry into force and the implementation of those specific parts of T&C BSP aFRR will be set by Elia following consultation with the CREG and with the market parties and will be published at least 1 week before this entry into force, given the fact that there is no further implementation efforts for the BSPs.

PART II: Amendments to BSP contract aFRR

Preliminary notes:

(1) As a consequence of the modifications, the numbering of the Articles, of the Annexes and of the definitions will be adapted after the 1st implementation step as well as after the 2nd implementation step as described in the implementation plan.

(2) The amendments that are proposed also include the correction of typos and of inconsistencies between the various Terms & Conditions.

ART. II.1 DEFINITIONS

(1) The following definition is added:

"aFRR Platform: The European platform for the exchange of balancing energy from frequency restoration reserves with automatic activation;"

(2) The following definition is added:

"aFRR Requested Redispatching: The aFRR Power requested (in MW) by Elia to a BSP at a certain Time Step for activation for redispatching. In case the aFRR Requested Redispatching is an activation of aFRR Up (aFRR Down), this value is positive (respectively negative). This value is not communicated in real-time to the BSP;"

(3) The following definition

"Bidding Obligations for aFRR Capacity Bids: The obligations to be respected by the BSP when submitting aFRR Capacity Bids;"

Is replaced by

"Bidding Obligations: The obligations to be respected by the BSP when submitting aFRR Capacity Bids;"

(4) The following definition is deleted:

"36. Cap Adjusting Variable or "CAV": A variable that is part of the determination of the cap on the volume procured in the "per-CCTU" capacity auction and that can be set to a non-zero value (either positive or negative) to improve the functioning of the aFRR capacity auctions. A separate CAV is determined per aFRR Capacity Product. The CAV is published on the website of ELIA."

(5) The following definition is added:

"CET: The Central European Time which alternates between UTC+1 (standard time) and UTC+2 (when daylight saving time (DST) is observed);"

(6) The following definition is deleted:

"CIPU Contract: 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;"

(7) The following definition is added:

"Cross-Border Marginal Price or "CBMP": The Cross-Border Marginal Price as defined in "Methodology for pricing balancing energy and cross-zonal capacity used for the exchange of balancing energy or operating the imbalance netting process";"

(8) The following definition

"Daily Schedule: The program of production of a Technical Unit (in MW), given on a quarter-hourly basis, provided to ELIA in day-ahead and updated in accordance with the rules of the CIPU Contract;"

Is replaced by

"Daily Schedule: The program of injection (or take-off) of a Delivery Point (in MW), given on a quarter-hourly basis, provided to ELIA in day-ahead and updated in accordance with the rules of the SA Contract, without taking into account any participation of the Delivery Point in the provision of Balancing Services;"

(9) The following definition:

"Delivery Point: A point on an electricity grid or within the electrical facilities of a Grid User, where a Balancing Service or strategic reserve service is delivered – this point is associated with one or several metering(s) and/or measure(s), according to dispositions of the BSP Contract aFRR, that enable(s) ELIA to control and assess the delivery of the aFRR Service;"

Is replaced by

"Delivery Point: A point on an electricity grid or within the electrical facilities of a Grid User, where a service is delivered – this point is associated with one or several metering(s) and/or measure(s), according to dispositions of the contract related to this service, that enable(s) ELIA to control and assess the delivery of the concerned service;"

(10) The following definition is added:

"Delivery Point with Limited Energy Reservoir: A Delivery Point that contains a Technical Unit which is unable to continuously activate its rated power in the same direction for a period of 4 hours due to the depletion of its energy reservoir, considering that the state of charge of its energy reservoir was at 50% at the start of the activation;"

(11) The following definition:

"Delivery Point DP_{PG} or "DP_{PG}": Delivery Point for which ELIA does not receive Daily Schedules and that can be pooled in Providing Group(s) for aFRR prequalification or when offered in aFRR Energy Bid(s);"

Is replaced by

"Delivery Point DP_{PG} or "DP_{PG}": Delivery Point for which ELIA does not receive Daily Schedules;"

(12) The following definition

"Forced Outage: An unplanned removal (full or partial) of a Technical Unit providing the aFRR Service for any urgent reason that is not under the operational control of the BSP;"

Is replaced by

"Forced Outage: As defined in article 3 (77) of the SOGL;"

(13) The following definition is added:

"Injection: Value indicating the injection of active power at a Delivery Point. The term injection is used to designate a certain sense of energy flow (from the Delivery Point to the synchronous electrical) and does not exclusively refer to the technical means with which the aFRR Service is provided;"

(14) The following definition is added:

"Offtake: Value indicating the offtake of active power at a Delivery Point. The term offtake is used to designate a certain sense of energy flow (from the synchronous electrical network towards the Delivery Point) and does not exclusively refer to the technical means with which the aFRR Service is provided;"

(15) The following definition is added:

"OPA Contract: Contract for the Outage Planning Agent, pursuant to Art. 244 of the Federal Grid Code;"

(16) The following definition is added:

"Operating Mode: Any subset of Technical Units being part of the same Technical Facility, that can generate or consume electricity on its own;"

(17) The following definition

"Red Zone: A zone that shows a congestion risk as determined by ELIA;"

Is replaced by

"Red Zone: A zone that shows a congestion risk as determined by ELIA or any other concept that will replace the Red Zone, in accordance with the dispositions in the Rules for Coordination and Congestion Management;"

(18) The following definition is added:

"Reference Cost factor or "RC Factor": A factor, in percentage, that is applied in the awarding procedure of the aFRR capacity auctions. The RC Factor has a maximum value of 120% and is defined per aFRR Capacity Product;"

(19) The following definition is added:

"SA contract: Contract for the Scheduling Agent, pursuant to Art. 249 of the Federal Grid Code;"

(20) The following definition is added:

"Supporting aFRR Providing Group: A set of Delivery Points part of the Pool of the BSP that can be used to deliver the aFRR Service without being part of an aFRR Energy Bid;"

(21) The following definition

"Technical Unit: A facility connected within the LFC Block of ELIA;"

Is replaced by

"Technical Unit: A device or aggregation of devices connected directly or indirectly to the synchronous electrical network that produces and/or consumes electricity;"

(22) The following definition is added:

"Technical Facility: A complete set of Technical Unit(s) that are operationally linked, and that, combined together in one or several Operating Modes, can consume or generate electricity;"

ART. II.3 CONDITIONS FOR DELIVERY POINTS

(1) The Articles II.3 are replaced by:

"

II.3.1 A Delivery Point may be any Technical Unit or a group of Technical Units identified by a Measurement Device:

- at an Access Point connected to the ELIA Grid or to a CDS;
- at an Access Point connected to the Public Distribution Grid;
- within the electrical facilities of a Grid User downstream of an Access Point connected to the ELIA Grid or to a CDS;
- within the electrical facilities of a Grid User downstream of an Access Point connected to the Public Distribution Grid.

II.3.2 All Delivery Points must comply with the measurement requirements set forth in Annex 3.

II.3.3 All Delivery Points must comply with the communication requirements set forth in Annex 9.F.

II.3.4 All Delivery Points, as mentioned in Art. II.3.1 are related to Access Point(s) included in valid Access Contract(s) and are in the perimeter of a BRP_{source} having a valid BRP Contract.

II.3.5 The BSP declares that an upward (respectively downward) activation of the aFRR Service at any Delivery Point has an overall effect of either reducing (respectively increasing) net offtake or increasing (respectively decreasing) net injection at the level of the Access Point. ELIA will request a sound justification to the BSP in case no visible effect at the level of the Access Point is observed, during an activation of the aFRR Service. If such a justification cannot be provided or remains insufficient, ELIA reserves the right to disqualify the Delivery Point after notification to the CREG.

II.3.6 Delivery Points DP_{SU} can only be part of the Pool of the BSP at the condition that the BRP_{source} holds a valid OPA Contract and SA Contract for the concerned Delivery Points DP_{SU}[1].

[1] During the transition period in which the party that is appointed as BRP_{source} takes the role of outage planning agent and scheduling agent for the concerned Delivery Point DP_{SU} in compliance with article 377 of the Federal Grid Code, the same party undertakes the roles of the BSP and the BRP_{source}.

II.3.7 All Delivery Points, connected to the ELIA Grid or to a CDS, must have successfully completed the following elements of the Procedure For Delivery Point Acceptance:

- A Private Measurement commissioning test is completed, as specified in Annex 2.A;
- In case of Delivery Point DP_{PG} for which the BSP is not the Grid User of concerned Delivery Point DP_{PG}: a Grid User Declaration is provided to ELIA, as specified in template of Annex 2.B;

II.3.8 Each Delivery Point with Limited Energy Reservoir should be included in an energy management strategy, as described in Annex 2.D. ELIA validates the energy management strategy or provides a justification for rejecting it. The BSP will, at all times, operate the Delivery Point with Limited Energy Reservoir in line with the energy management strategy validated by ELIA.

II.3.9 The BSP and ELIA agree on the list of Delivery Points connected to the ELIA Grid or to a CDS in accordance with template provided in Annex 4. The BSP declares that all listed Delivery Points connected to the ELIA Grid or to a CDS are compliant with all applicable conditions, as per Art.II.3, and technically capable to provide the aFRR Service.

II.3.10 The agreed list of Delivery Points connected to the ELIA Grid or to a CDS, based on the template in Annex 4, should at all times be kept up to date by the BSP.

II.3.11 The agreed list of Delivery Points connected to the ELIA Grid or to a CDS may be modified by submitting an updated list, based on the template in Annex 4, via e-mail to the contractual responsible as mentioned in Annex 17, under the following conditions:

- At the moment of the notification by the BSP, the Delivery Point(s) to be added must be in respect of all applicable conditions, pursuant to Art.II.3 ;
- Following the request by the BSP of an update of Annex 4, ELIA disposes of 5 Working Days to approve the modifications and notify the approval (or reasons for rejection) to the BSP by e-mail to the contractual responsible, as per Annex 17;
- The addition of a Delivery point does not modify the $aFRR_{max,up}$ or $aFRR_{max,down}$ that can be offered by the BSP in capacity auctions. In order to increase the $aFRR_{max,up}$ (respectively decrease the $aFRR_{max,down}$), the BSP asks a prequalification test in accordance with Art.II.8;
- The updated list of Delivery Points becomes effective no later than 5 Working Days following the notification of acceptance by ELIA. The exact date of entry into force is agreed between ELIA and the BSP;
- In case of removal of a Delivery Point participating to one or more aFRR Capacity Product(s), ELIA will update the $aFRR_{max,up}$ and/or the $aFRR_{max,down}$ in accordance with dispositions of Annex 6.E;
- The BSP is responsible to take, in due time, all actions necessary for technical integration, and ensures that the Delivery Point is operational at the agreed moment.

II.3.12 For each Delivery Point DP_{SU} connected to the ELIA Grid or to a CDS, the following values in Annex 4 are determined as follows:

- the $DP_{aFRR,cb,up}$ – relevant for participation to aFRR capacity auctions – is equal to the result of the prequalification test in the upward direction pursuant to Art.II.8;
- the $DP_{aFRR,cb,down}$ – relevant for participation to aFRR capacity auctions – is equal to the result of the prequalification test in the downward direction pursuant to Art.II.8;
- the $DP_{aFRR,max,up}$ – relevant for participation to upward aFRR Energy Bids submission – is determined by the difference between the Technical Pmax and the Technical Pmin of the concerned DP_{SU};
- the $DP_{aFRR,max,down}$ – relevant for participation to downward aFRR Energy Bids submission – is determined by the difference between the Technical Pmax and the Technical Pmin of the concerned DP_{SU}.

In case one of the aforementioned values does not apply, the BSP should indicate "N/A" in Annex 4.

II.3.13 For each Delivery Point DP_{PG} connected to the ELIA Grid or to a CDS, the BSP declares in Annex 4 the following values:

- the $DP_{aFRR,cb,up}$ – relevant for participation to aFRR capacity auctions – is defined in the prequalification test in the upward direction pursuant to Art.II.8;
- the $DP_{aFRR,cb,down}$ – relevant for participation to aFRR capacity auctions – is defined in the prequalification test in the downward direction pursuant to Art.II.8;
- the $DP_{aFRR,max,up}$ – relevant for participation to upward aFRR Energy Bids submission;
- the $DP_{aFRR,max,down}$ – relevant for participation to downward aFRR Energy Bids submission.

In case one of the aforementioned values does not apply, the BSP should indicate "N/A" in Annex 4.

II.3.14 A Delivery Point may be disqualified if the participation of the Delivery Point in the aFRR Service jeopardizes the security of the ELIA Grid, the Public Distribution Grid or the CDS. In such a case, a sound justification is provided to the BSP and to the CREG.''

ART. II.6 COMMUNICATION TEST

(1) Article II.6.2 is replaced by:

"After signature of the BSP Contract aFRR and before submission of any aFRR Capacity Bid, the communication requirements for the prequalification tests, activation for redispatching (if relevant) and availability tests, as described in Annex 6.F, Annex 11.C and Annex 12.F must have been successfully tested"

ART. II.8 PREQUALIFICATION TEST

(1) Article II.8.7 is replaced by:

"Any Delivery Point participating in a prequalification test cannot be included in an aFRR Energy Bid or in a Supporting aFRR Providing Group, as specified in Art. II.11."

ART. II.9 PROCUREMENT OF AFRR CAPACITY

(1) Article II.9.10 is replaced by:

"The CREG can modify the RC Factor if beneficiary for fulfilling the objectives of article 3(1)a and 3(1)b of the EBGL. The CREG informs ELIA of its decision, after which ELIA disposes of 5 Working Days to apply the updated RC Factor in the aFRR capacity auctions.

ELIA will inform the BSP of the entry in to force of the updated RC Factor by e-mail to the contractual responsible listed in Annex 17 and publishes it on the website of ELIA at least 2 Working Days prior to its application in the aFRR capacity auctions."

ART. II.11 SUBMISSION OF AFRR ENERGY BIDS

(1) The Articles II.11 are replaced by:

"

II.11.1 The duration of an aFRR Energy Bid is a single quarter-hour.

II.11.2 The BSP may choose which Delivery Points part of the Pool are included in the aFRR Energy Bid, while complying with conditions set forth in Annex 9.

II.11.3 The BSP, for the Delivery Points included in an aFRR Energy Bid, perform the data exchange, as determined in Annex 9.F, during the Validity Period of the concerned aFRR Energy Bid.

II.11.4 Contracted aFRR Energy Bids for possible activation on Day D have to be submitted by the BSP to ELIA, taking into account Art. II.11.13, at the latest in day-ahead (Day D-1) at 15:00 CET, according to the rules set out in Annex 9.

II.11.5 aFRR Energy Bids can be submitted and updated until aFRR Balancing GCT[2] in accordance with the rules set forth in Annex 9.

[2] As stipulated in Art.II.19.5, this article does not apply for aFRR Energy Bids that are activated for redispatching.

II.11.6 A validation procedure for an aFRR Energy Bid, as described in Annex 9.D, is performed each time an (update of an) aFRR Energy Bid is submitted to ELIA. In case of non-compliance with the validation procedure, the concerned aFRR Energy Bid is automatically rejected by ELIA and the BSP is directly notified of aFRR Energy Bid rejection as well as of the reason for the rejection.

II.11.7 At aFRR Balancing GCT, an aFRR Energy Bid is a firm commitment by the BSP to supply the corresponding aFRR Power.

II.11.8 For each quarter-hour the BSP may decide to list a set of Delivery Points in the Supporting aFRR Providing Group. These Delivery Points can be used to provide the aFRR Requested during the concerned quarter-hour. The rules for aFRR Energy Bids as defined in articles Art.II.11.2, Art.II.11.3, Art.II.11.5, Art.II.11.6 and Art.II.11.10 also apply for the Supporting aFRR Providing Group.

II.11.9 As of aFRR Balancing GCT and until 5 minutes before the start of the Validity Period of an aFRR Energy Bid, the BSP can submit an update of his aFRR Energy Bid with a decreased volume under the following circumstances:

- One or several Delivery Points, part of a non-contracted aFRR Energy Bid, are operated to balance the perimeter of the BRP (i.e. for self-balancing), to balance the ELIA LFC Block (i.e. for reactive balancing) or to perform a trade on the intraday market;
- A redispatching energy bid, provided by a Delivery Point DP_{SU} also included in the non-contracted aFRR Energy Bid, is activated by ELIA;
- the aFRR Energy Bid is impacted by a Forced Outage.

ELIA cannot guarantee that such an update of an aFRR Energy Bid, sent after aFRR Balancing GCT, is taken correctly into account by the aFRR Platform, mainly for technical reasons. In that case, the updated aFRR Energy Bid may not receive the validated status before the start of the Validity Period. ELIA will only take the last validated aFRR Energy Bid into account for activation.

II.11.10 The BSP is responsible for the correctness and accuracy of his aFRR Energy Bids. ELIA cannot be held responsible for any potential mistakes or errors in the aFRR Energy Bid submission to ELIA.

II.11.11 In case, after aFRR Balancing GCT, ELIA considers an aFRR Energy Bid as manifestly erroneous, ELIA has the right to put the aFRR Energy Bid as unavailable for activation. ELIA provides a justification to the BSP and the CREG at the latest 15 Working Days after the event.

II.11.12 As soon as a BSP notices a Forced Outage leading to a decrease of the volume(s) offered in an aFRR Energy Bid, the BSP submits an update of his impacted aFRR Energy Bid(s) with a decreased volume respecting the process described in Art.II.11.9. The BSP notifies the Forced Outage in accordance with Annex 9.

II.11.13 For each quarter-hour, the sum of the offered contracted volume of all aFRR Energy Bids per direction should be equal to the aFRR Obligation of the BSP in the corresponding direction.

II.11.14 In case the total contracted volume offered in the upward (respectively downward) direction in aFRR Energy Bids submitted for a quarter-hour is not equal to the corresponding aFRR Obligation for the concerned quarter-hour, following rules will apply:

- If the total contracted volume submitted in the upward (respectively downward) direction is lower than the aFRR Obligation for aFRR Up (respectively aFRR Down),

aFRR Made Available in the upward (respectively downward) direction is set to the contracted volume submitted for the concerned quarter-hour;

- If the total contracted volume submitted in the upward (respectively downward) direction is higher than the aFRR Obligation for aFRR Up (respectively aFRR Down), aFRR Made Available in the upward (respectively downward) direction is set to the aFRR Obligation for the concerned quarter-hour;

- If the BSP has not submitted any aFRR Energy Bid with contracted volume in the upward (respectively downward) direction, the aFRR Made Available in the upward (respectively downward) direction is zero for the concerned quarter-hour;

II.11.15 If, for one quarter-hour, the aFRR Made Available per direction is lower than the corresponding aFRR Obligation for the concerned quarter-hour, ELIA will apply penalties as foreseen in Art.II.17.2.

II.11.16 In case a contracted aFRR Energy Bid is impacted by a Forced Outage, leading to a non-respect of the aFRR Obligation, and pursuant to Art.II.11.12, after notification to ELIA of the Forced Outage, the BSP disposes of 4 hours to reconstruct the impacted aFRR Obligation(s). Beyond this delay, ELIA applies penalties in accordance with Art.II.17.2.

II.11.17 If, before aFRR Balancing GCT, ELIA sets a Red Zone which concerns a Delivery Point included in an aFRR Energy Bid, the BSP receives an electronic message to indicate that the concerned aFRR Energy Bid may be considered as unavailable for activation by ELIA until the end time of the Red Zone. The BSP is requested to make best effort to:

- update his aFRR Energy Bids in order to make available again for activation by ELIA, part or all of the volume of the concerned aFRR Energy Bid;

- shift the aFRR Obligation to other Delivery Point(s), in case the concerned aFRR Energy Bid is submitted in respect of an aFRR Obligation, in order to be able to supply the aFRR Obligation.

When ELIA deems that the best effort principle is not respected, ELIA may request the BSP to demonstrate the actions taken by the BSP to either update his aFRR Energy Bids or shift his aFRR Obligation. ELIA notifies the CREG when such a request is send to the BSP.

II.11.18 At aFRR Balancing GCT of an aFRR Energy Bid, the BSP is notified via an electronic message of the effective unavailability of his aFRR Energy Bids impacted by a Red Zone.

II.11.19 The BSP is informed via an electronic message of the unavailability of all Delivery Point listed in the Supporting aFRR Providing Group concerned by a Red Zone and this at the latest at aFRR Balancing GCT.”

ART. II.12 ACTIVATION

(1) The Articles II.12 are replaced by:

“

II.12.1 After aFRR Balancing GCT, ELIA may activate partially or entirely one (or more) aFRR Energy Bid(s) by sending the aFRR Requested according to the specifications set out in Annex 10.C.

II.12.2 The selection of aFRR Energy Bids is determined in accordance with the Balancing Rules.

II.12.3 The aFRR Requested is determined in accordance with Annex 10.A.

II.12.4 The activation of aFRR Energy Bids is remunerated in accordance with Art.II.16.7.

II.12.5 For each Time Step, the BSP can choose any Delivery Point included in an aFRR Energy Bid or any Delivery Point included in the Supporting aFRR Providing Group for the concerned Time Step to perform the activation. Two exceptions for which a Delivery Point cannot be used for activation exists, being:

- the Delivery Point is included in a Red Zone and all aFRR Energy Bids related to the Delivery Point are put at unavailable in line with Art.II.11.18;
- on the condition that the Delivery Point is not related to any aFRR Energy Bid, the Delivery Point is included in a Red zone and listed in the Supporting aFRR Providing Group in line with Art.II.11.19.

II.12.6 The participation of the Delivery Points to the aFRR activation is communicated in accordance with Annex 9.F.

II.12.7 The Perimeter of BRP_{BSP} and $BRP(s)_{source}$ are corrected in accordance with dispositions set forth in the BRP Contract."

ART. II.13 BASELINE CONTROL

(1) The Articles II.13 are replaced by:

"

II.13.1 ELIA checks every Month M that the baseline quality, during Month M-2, is compliant in accordance with Annex 5.C.

II.13.2 ELIA performs the baseline control on the set of Delivery Points part of an aFRR Energy Bid or Supporting aFRR Providing Group but not participating to the provision of the aFRR Requested[3] and not listed in a FCR energy bid.

II.13.3 ELIA informs the BSP via a report as foreseen in Art.II.18.1.

II.13.4 If the baseline quality is deemed as non-compliant, in accordance with Art. II.13.1, penalties are applied as foreseen in Art.II.13.2.

[3] i.e. the Delivery Points for which DP_{aFRR} equals to 0.

II.13.5 ELIA can request a baseline test, in accordance with Art. II.7, for the Delivery Point(s) excluded from the baseline control for a whole Month for reason of presence in an FCR energy bid, pursuant to Art.II.13.2.

In such a case, the BSP and ELIA agree on the Day during which the baseline test is performed taking into account that the baseline test has to be performed no later than 10 Working Days after the reception of the request of ELIA.''

ART. II.16 REMUNERATION

(1) The Articles II.16 are replaced by:

"

II.16.1 The remuneration of the aFRR Service consists of a remuneration for the aFRR Awarded, a remuneration for the aFRR Requested and a remuneration of the aFRR Redispatching.

Remuneration for aFRR Awarded

II.16.2 The remuneration for the aFRR Awarded is based on a pay-as-bid principle.

II.16.3 The remuneration for the aFRR Awarded for a given Month is the sum of the individual remuneration of each awarded aFRR Capacity Bid.

II.16.4 The remuneration for one awarded "All-CCTU" aFRR Capacity Bid is equal to the sum of the remuneration for awarded volumes upwards and downwards. The remuneration in the upward (respectively downward) direction is the multiplication of:

- The awarded volume of aFRR Up (respectively aFRR Down), in MW, for the concerned "All-CCTU" aFRR Capacity Bid, in accordance with Art.II.9;
- The corresponding price, in €/MW/h;
- The number of corresponding hours of the concerned Day D.

II.16.5 The remuneration for one awarded "Single-CCTU" aFRR Capacity Bid is equal to the multiplication of:

- The awarded volume, in MW, of the concerned "Single-CCTU" aFRR Capacity Bid in accordance with Art.II.9;
- The price, in €/MW/h, of the concerned "Single-CCTU" aFRR Capacity Bid in accordance with Art.II.9;
- The number of corresponding hours of the CCTU concerned.

Remuneration for the aFRR Requested

II.16.6 The remuneration for the aFRR Requested is based on a pay-as-cleared principle. By convention, a positive value corresponds to an amount paid by ELIA to the BSP while a negative value corresponds to an amount paid by the BSP to ELIA.

II.16.7 The applicable price in €/MWh for the concerned Time Step and in the concerned direction is defined as:

$$\text{applicable price up} = \max(CBMP\ up\ ;\ bid\ price)\ ^{4}$$

$$\text{applicable price down} = \min(CBMP\ down\ ;\ bid\ price)\ ^{11}$$

where:

- $CBMP\ up\ (down)$ is the Cross-Border Marginal Price[5] in the upward (downward) direction per Time Step. In case off a fallback scenario, the $CBMP\ up\ (down)$ is replaced by the local marginal price up (down) as defined in Annex 17;
- $bid\ price$ is the price, in €/MWh, of the concerned aFRR Energy Bid.

II.16.8 For each Time Step of a Month, the remuneration for the aFRR Requested is the sum of the remuneration for the aFRR Requested per aFRR Energy Bid.

II.16.9 For each Time Step, the remuneration for the aFRR Requested per aFRR Energy Bid is the multiplication of:

- The aFRR Requested of the concerned aFRR Energy Bid, in MW, determined in accordance with Annex 10.B;
- The applicable price in €/MWh for the concerned Time Step and in the concerned direction, in accordance with Art.II.16.7;
- The duration of a Time Step, expressed in hours (4 seconds / 3600 seconds);

$$\frac{\text{aFRR Requested}_{\text{bid}} \times \text{applicable price}}{900}$$

"

[4] The applicable price for the a direction equals the bid price in case the CMBP for that Time Step in the direction is invalid.
[5] The CBMP per Time Step is published on ENTSO-E transparency platform (ENTSO-E Transparency Platform (entsoe.eu)).

ART. II.18 INVOICING AND PAYMENT

(1) Article II.18.4 is replaced by:

"Without prejudice to Art. I.5 of the General Conditions, the BSP shall send ELIA Settlement department, in accordance with list of contact persons in Annex 17, his monthly pro-forma invoice no later than on the 25th of each calendar Month M. The pro-forma invoice includes, among other things:

- the remuneration for the aFRR Awarded for the Month M-1, calculated as described in Art. II.16.3;
- the remuneration for the aFRR Requested for the Month M-1, calculated as described in Art. II.16.8;
- the remuneration for the aFRR Redispatching for the Month M-1, calculated as described in Art. II.16.10;
- as the case may be, the availability control penalties for the Month M-3, as calculated by ELIA under Art. II.17.2 and Art. II.17.4 and reported in accordance with Art. II.18.1;
- as the case may be, the activation control penalties for the Month M-3, as calculated by ELIA under Art. II.17.6 and reported in accordance with Art. II.18.1."

ART. II.19 ACTIVATION OF AFRR SERVICE FOR OTHER PURPOSES

(1) Article II.19 is added:

"

II.19.1 Contracted aFRR Energy Bids related to Delivery Points DP_{SU} may be activated by ELIA for reason of redispatching.

II.19.2 ELIA communicates the concerned aFRR Energy Bids as well as the start and end time of an activation of aFRR Energy Bids for redispatching to the BSP at aFRR Balancing GCT of the first activated aFRR Energy Bid using the process described in Annex 11.C.

II.19.3 The aFRR Energy Bids concerned by the activation for redispatching have to be part of the same group of aFRR Energy Bids and have to be linked across quarter-hours in accordance to Annex 9.B.

II.19.4 An activation of aFRR Energy Bids for redispatching has a minimum duration of one quarter-hour. The activation exists of:

- a linear ramp up of 7.5 minutes which starts at the beginning of the first quarter-hour;
- a linear ramp down of 7.5 minutes which end at the end of the last quarter-hour;
- all time steps between the ramp up and ramp down: delivery of the complete offered volume of the activated aFRR Energy Bids.

II.19.5 Once the BSP is informed of the activation of its aFRR Energy Bids for redispatching, the BSP can no longer update the concerned aFRR Energy Bids. The concerned aFRR Energy Bids are the aFRR Energy Bids communicated by ELIA in accordance to Art.II.19.2.

II.19.6 The aFRR Energy Bids activated for redispatching as well as the aFRR Energy Bids linked to them in the opposite direction, in accordance to Annex 9.B, are set to unavailable for activation for aFRR purposes by ELIA for the duration of the redispatching activation.

II.19.7 All Delivery Points included in an aFRR Energy Bid activated for redispatching can exclusively participate to the redispatching activation; they are not allowed to participate to the provision of the aFRR Requested for the duration of the redispatching activation.

II.19.8 An activation of an aFRR Energy Bid for reason of redispatching is remunerated by ELIA in line with Art. II.16.9. For this ELIA adds to the aFRR Requested the aFRR Requested RD, calculated in accordance to Annex 11.A.

II.19.9 Activation control penalties as defined in Art.II.17.6 also apply to an activation for redispatching. In other words:

- in the calculation of the aFRR Energy Discrepancy, Elia also considers the aFRR Requested RD and the aFRR Supplied from the Delivery Points related to the aFRR Energy Bids activated for redispatching.
- in the calculation of the aFRR Energy Discrepancy penalty as per Annex 15.D, ELIA adds the aFRR Requested RD to the aFRR Requested and takes the remuneration related to the aFRR Requested RD in to account."

ANNEX 2: PROCEDURE FOR DELIVERY POINT ACCEPTANCE

(1) Annex 2.D is added:

"2D. Energy management strategy

In case the BSP wishes to add a Delivery Point with Limited Energy Reservoir to its Pool, the BSP needs to send an energy management strategy by e-mail to the contractual responsible as mentioned in Annex 17. The energy management strategy aims to prove the ability of a Delivery Point with Limited Energy Reservoir, on its own or together with other Delivery Points of the Pool, to comply with requirements for provision of the aFRR Service as these are stipulated in Art. II.12.

The required information for the energy management strategy is described in the document "aFRR Energy Management Strategy Requirements" which is published on the ELIA website and is available on demand by e-mail to contracting_AS@elia.be."

ANNEX 5: BASELINE QUALITY

(1) Annex 5.C is replaced by:

"**5C. Compliancy criteria for the baseline control**

A quality factor is computed for each Day D of Month M. The baseline control is compliant if the average quality factor for Month M is higher than 95%:

$$\frac{\sum_{D \in M} \text{quality factor(D)}}{\text{number of Days D in Month M}} \geq 95\%$$

To establish the quality factor for Day D, ELIA takes into account only the Time Steps "ts" of Day D for which at least one Delivery Point, which is not listed in a FCR energy bid, does not participate to the provision of the aFRR Requested. The set of relevant Time Steps for the baseline control is referred to as "TS" in the following explanation

For each Day D of Month M, the quality factor is determined in accordance with the following procedure

1. For each Time Step $ts \in TS$, the estimated baseline is the sum of the baseline $DP_{baseline}(ts)$ of all Delivery Points compliant with Art.II.13.2:

$$\text{estimated baseline(ts)} = \sum_{DP} DP_{baseline}(ts)$$

2. For each Time Step $ts \in TS$, the measured power is the sum of the measured power $DP_{measured}(ts)$ of all Delivery Point compliant with Art.II.13.2:

$$\text{measured power(ts)} = \sum_{DP} DP_{measured}(ts)$$

3. The deviation per Time Step $ts \in TS$ is the difference between the estimated baseline and the measured power:

$$\text{deviation(ts)} = \text{estimated baseline(ts)} - \text{measured power(ts)}$$

4. N is the number of Time Steps "ts" included in TS;

5. The reference baseline for Day D is the average of the estimated baseline, in absolute value:

$$\text{reference baseline} = \frac{\sum_{\text{Time Steps}} |\text{estimated baseline(ts)}|}{N}$$

6. The quality factor is determined by:

$$\text{quality factor(D)} = 1 - \frac{\sqrt{\frac{\sum_{\text{Time Steps}} \text{deviation(ts)}^2}{N}}}{\max(\text{reference baseline}; 1)}$$

"

ANNEX 7: CAPACITY AUCTIONS

(1) Annex 7 is replaced by:

“

7.A PRE-REQUISITES FOR PARTICIPATION TO CAPACITY AUCTIONS

As stated in Art. II.9.1, the BSP is allowed to participate in capacity auctions for aFRR Service at the condition that he holds a valid BSP Contract aFRR.

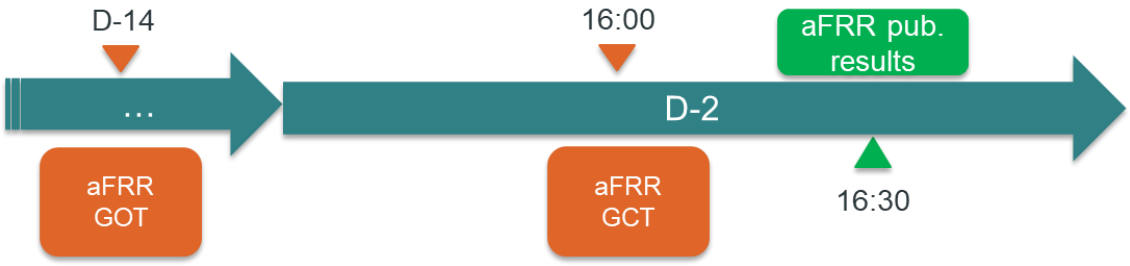
The BSP has to sign the BSP Contract aFRR at least 5 Working Days before participation to his first auction.

7.B CAPACITY AUCTION PROCESS

Organization

ELIA procures each aFRR Capacity Product for Day D by running one capacity auction in Day D-2 for all CCTUs of day D. The following timeline applies for the capacity auction for Day D:

- aFRR Capacity GOT is scheduled on Day D-14 at 00:00 CET;
- aFRR Capacity GCT is scheduled on Day D-2 at 16:00 CET;
- Publication of the aFRR Awarded is performed at the latest on Day D-2 at 16:30 CET.



Procurement Calendar

A calendar indicating each capacity auction, the corresponding Day and the corresponding aFRR Capacity GCTs to submit aFRR Capacity Bids is published on the ELIA website.

In case of modification in the calendar, the BSP is informed by e-mail to the contractual responsible and to the contact designated for auctions, as listed in Annex 17.

Publication of the required volumes per aFRR Capacity Product

ELIA publishes on the ELIA website the required volumes to be procured for Day D at the latest on Day D-3 at 16:00 CET. When the publication of required volumes is included in the LFC Means, the timing of the LFC Means prevails over the timing listed in this contract.

In case of unavailability of the ELIA website, as a fallback procedure, ELIA communicates the information to the BSP by e-mail directed to the contact for capacity auction and to the contractual responsible, as listed in Annex 17.

aFRR Capacity Bid submission

- As of aFRR Capacity GOT of a capacity auction, the BSP can submit aFRR Capacity Bids for the corresponding CCTU(s). aFRR Capacity Bids have to be introduced before aFRR Capacity GCT;
- Between aFRR Capacity GOT and aFRR Capacity GCT, aFRR Capacity Bids can be created, updated or cancelled, regardless of their status while respecting Bidding Obligations for aFRR Capacity Bids as specified in Annex 7.C;
- The BSP can submit an unlimited number of aFRR Capacity Bids;
- All aFRR Capacity Bids must be in respect of the Bidding Obligations for aFRR Capacity Bids as described in Annex 7.C. To this purpose, a validation procedure is put at disposal of the BSP in order to perform a check of the compliance with Bidding Obligations for aFRR Capacity Bids. In case of non-compliance, a report with rejected aFRR Capacity Bids is provided to the BSP;
- The BSP remains fully responsible for correctness and accuracy of his aFRR Capacity Bids;
- aFRR Capacity Bids are firm at aFRR Capacity GCT and must remain firm until the award of the concerned capacity auction. The BSP shall not use the offered capacity in any way until he has been notified of the result of the auction or until the deadline for communication of the award has passed;
- aFRR Capacity Bids should be submitted in the auction tool, as described in the "STAR Procedures and user manual" published on the ELIA website.

aFRR Capacity Bid validation

As of aFRR Capacity GCT, aFRR Capacity Bids are firm and cannot be modified nor cancelled.

All aFRR Capacity Bids are evaluated by ELIA with regards to the respect of the Bidding Obligations for aFRR Capacity Bids as described in Annex 7.C:

- aFRR Capacity Bid(s) compliant with Bidding Obligations for aFRR Capacity Bids are validated;
- aFRR Capacity Bid(s) non-compliant with Bidding Obligations for aFRR Capacity Bids are automatically rejected in accordance with Annex 7.C.

The detailed procedure on validation process for aFRR Capacity Bids is described in the "STAR Procedures and user manual" published on the ELIA website.

Award of aFRR Capacity Bids

The aFRR Capacity Bids are selected (entirely or partially) amongst the validated aFRR Capacity Bids, following the award criteria described in Annex 7.D.

End of the capacity auction & communication of auction results

The end of a capacity auction is notified by e-mail to the BSP. This e-mail also includes a report identifying his awarded aFRR Capacity Bids.

Fallback procedure in case of insufficient volume

In case insufficient volumes of aFRR Capacity are offered to ELIA in the capacity auction, ELIA awards all validated aFRR Capacity Bids submitted maximizing the total retained volume while respecting the

awarding criteria described in Annex 7.D. ELIA organizes a second capacity auction for the remaining volume, in which ELIA requests all parties holding a valid BSP Contract aFRR to make extra volume available. The procedures for the second capacity auctions is described in Annex 7.E.

Transparency publications

After the end of each capacity auction, and in accordance with article 12(3) (f) of the EBGL, ELIA publishes the required information as described in the Balancing Rules.

7.C BIDDING OBLIGATIONS FOR AFRR CAPACITY BIDS

An aFRR Capacity Bid can be offered either for all CCTUs together or for a single CCTU. The common and specific Bidding Obligations for both types of aFRR Capacity Bids are listed hereunder.

In case an aFRR Capacity Bid is not compliant with at least one of the Bidding Obligations, the concerned aFRR Capacity Bid is automatically rejected. The rejection of one aFRR Capacity Bid may lead to rejection of other aFRR Capacity Bid(s) because compliance to Bidding Obligations is not ensured anymore.

Common Bidding Obligation for "All-CCTU" and "Single-CCTU" aFRR Capacity Bids

The BSP should ensure that:

- The maximal offered volume of aFRR Up in the capacity auction must be lower or equal to $aFRR_{max,up}$;
- The maximal offered volume of aFRR Down in the capacity auction must be lower or equal to the absolute value of the $aFRR_{max,down}$.

The maximal offered volume per direction and CCTU is the sum of all "Single-CCTU" aFRR Capacity Bids for the specific direction and CCTU added with the maximal offered volume of the "All-CCTU" aFRR Capacity Bids for that direction.

In case the BSP does not respect this Bidding Obligation, ELIA rejects all submitted aFRR Capacity Bids for the concerned aFRR Capacity Product.

Specific Bidding Obligations for "All-CCTU" aFRR Capacity Bids

An "All-CCTU" aFRR Capacity Bid is indivisible and not combinable with any other "All-CCTU" aFRR Capacity Bid.

For each "All-CCTU" aFRR Capacity Bid, the BSP defines the following characteristics:

- Offered volume per aFRR Capacity Product, in MW, taking into account that the volumes are defined as an integer superior or equal to 0;
- Price applicable per aFRR Capacity Product in €/MW/h defined with two decimals.

All Bidding Obligations for "All-CCTU" aFRR Capacity Bids are listed hereunder

<u>Bidding Obligation for "All-CCTU" aFRR Capacity Bids 1 – Smallest offered volume</u>

The smallest offered volume per aFRR Capacity Product should not exceed 5MW.

Bidding Obligation for "All-CCTU" aFRR Capacity Bids 2 – Volume increment

The difference between two offered volumes of the same aFRR Capacity Product can be at maximum 5MW.

In case of "All-CCTU" aFRR Capacity Bids combining a volume of aFRR Up and a volume of aFRR Down, the maximum increment should be respected for aFRR Up (respectively aFRR Down) for all "All-CCTU" aFRR Capacity Bids with the same amount of aFRR Down (respectively aFRR Up). In other words:

- The difference of aFRR Up volume between two "All-CCTU" aFRR Capacity Bids with the same offered volume of aFRR Down, can be maximum 5MW.
- The difference of aFRR Down volume between two "All-CCTU" aFRR Capacity Bids with the same offered volume of aFRR Up, can be maximum 5MW.

Example

If a BSP wishes to offer 15 MW of aFRR Up and 14 MW of aFRR Down, he must at minimum offer the set of "All-CCTU" aFRR Capacity Bids listed in Table 1 and illustrated in Figure 1:

Offer Number	Offered Volume [MW]	
	aFRR Up	aFRR Down
1	0	5
2	0	10
3	0	14
4	5	0
5	5	5
6	5	10
7	5	14
8	10	0
9	10	5
10	10	10
11	10	14
12	15	0
13	15	5
14	15	10
15	15	14

Table 1 - Minimum set of "All-CCTU" aFRR Capacity Bids to offer 15MW of aFRR Up and 14MW of aFRR Down in a capacity auction

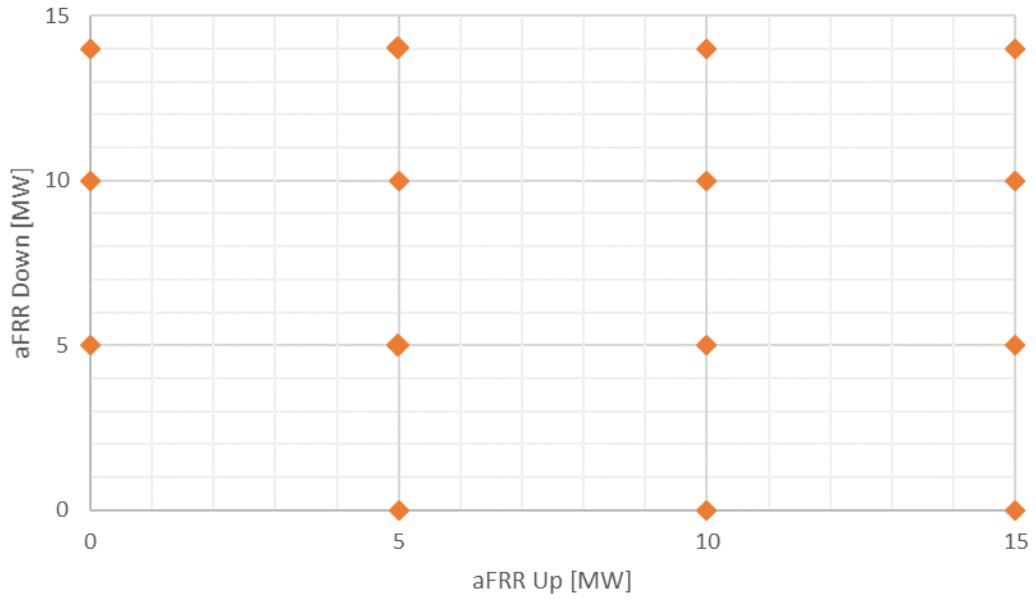


Figure 1 - Minimum set of "All-CCTU" aFRR Capacity Bids to offer 15MW of aFRR Up and 14MW of aFRR Down in a capacity auction

Bidding Obligation for "All-CCTU" aFRR Capacity Bids 3 – Total cost

The total cost (price in €/MW/h × offered volume in MW) of an "All-CCTU" aFRR Capacity Bid, should never exceed the total cost of an "All-CCTU" aFRR Capacity Bid with a larger offered volume for the same aFRR Capacity Product.

The check is performed while keeping the volume of one aFRR Capacity Product constant and varying the volume of the other aFRR Capacity Product.

Example

If a BSP wishes to offer 15 MW of aFRR Up and 14 MW of aFRR Down, he should respect the Bidding Obligation regarding the total cost check. Table 2 and Figure 2 shows an "All-CCTU" aFRR Capacity Bid set for which the total cost check of Capacity Bid 7 is lower than the total cost check of Capacity Bid 5. In consequence, Bidding Obligation for "All-CCTU" aFRR Capacity Bids 3 is no longer respected and Capacity Bid 7 will be rejected. The Capacity Bids 11 and 15 will also be rejected as they do not satisfy anymore Bidding Obligation for "All-CCTU" aFRR Capacity Bids 2.

Offer Number	Offered Volume [MW]		Price [€/MW/h]		Total cost [€/h]
	aFRR Up	aFRR Down	aFRR Up	aFRR Down	
1	0	5	0	3	15,00 €
2	0	10	0	2	20,00 €
3	0	14	0	1,8	25,20 €
4	5	0	5,1	0	25,50 €
5	5	5	4,5	2,5	35,00 €
6	5	10	3,2	2	36,00 €
7	5	14	2,4	1,5	33,00 €
8	10	0	4,2	0	42,00 €
9	10	5	3,5	2	45,00 €

10	*10*	*10*	3,4	1,8	52,00 €
11	*10*	*14*	3,2	1,7	55,80 €
12	*15*	*0*	3,8	0	57,00 €
13	*15*	*5*	3,4	1,8	60,00 €
14	*15*	*10*	3,2	1,7	65,00 €
15	*15*	*14*	3,1	1,6	68,90 €

Table 2 - Bidding Obligation for "All-CCTU" aFRR Capacity Bids 3

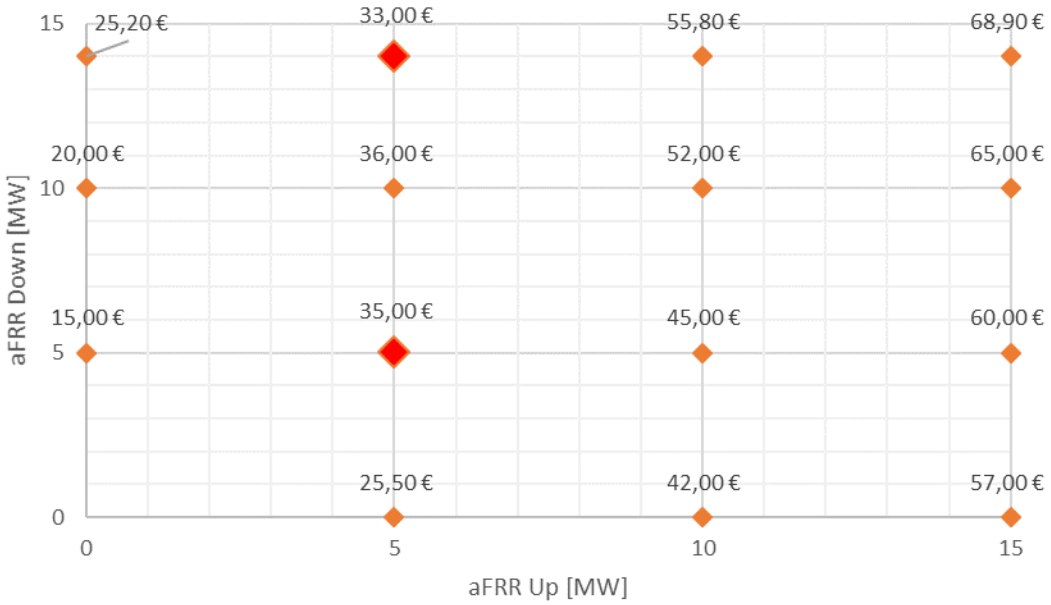


Figure 2 - Bidding Obligation for "All-CCTU" aFRR Capacity Bids 3

Specific Bidding Obligation for "Single-CCTU" aFRR Capacity Bids

All "Single-CCTU" aFRR Capacity Bids are divisible up to 1MW (i.e. ELIA can select a part or the total offered volume at the same unit price) and combinable. For each "Single-CCTU" aFRR Capacity Bid, the BSP defines the following characteristics:

- Concerned CCTU;
- aFRR Capacity Product;
- Offered volume in MW taking into account that the volumes are defined as an integer superior or equal to 1;
- Price applicable in €/MW/h defined with two decimals.

7.D AWARDING PROCEDURE AND CRITERIA

The awarding procedure is a five-step process based on 3 successive optimizations as described in this section.

Step 1: preprocessing

In the preprocessing of the capacity auctions, ELIA creates virtual aFRR Capacity Bids.

A virtual aFRR Capacity Bid is built out of six validated "Single-CCTU" aFRR Capacity Bids, i.e. one corresponding to each CCTU of the Day. A virtual aFRR Capacity Bid is related to a single aFRR Capacity Product and always features an offered volume of 1 MW for all CCTUs.

Virtual aFRR Capacity Bids are built, per aFRR Capacity Product, as follows:

- For each CCTU, ELIA ranks "Single-CCTU" aFRR Capacity Bids by increasing price[6]. Based on this ranking, ELIA selects the first available volume of 1 MW from each CCTU. A virtual aFRR Capacity Bid can only be created if there is at least 1 MW validated and available in each CCTU;
- The price, in €/MW/h, is the average price of the six "Single-CCTU" aFRR Capacity Bids from which the volume of 1 MW is selected, rounded to two decimals.
- Once a volume of 1 MW is included in a virtual aFRR Capacity Bid, ELIA removes this volume of 1 MW from the ranking of each CCTU and repeats the process until no more virtual aFRR Capacity Bid can be built;

Remark

The virtual aFRR Capacity Bids inherit the chronological order of the "Single-CCTU" aFRR Capacity Bids from which they were created.

Example

Two Balancing Service Providers offer "Single-CCTU" aFRR Capacity Bids in the capacity auction. Provider 1 offers "Single-CCTU" aFRR Capacity Bids in CCTU 1, 2 and 5. Provider 2 offers "Single-CCTU" aFRR Capacity Bids in every CCTU. ELIA applies the ranking on the validated "Single-CCTU" aFRR Capacity Bids for each individual CCTU, which results in figure 5. From this ranking ELIA creates virtual aFRR Capacity Bids and defines their price:

- *virtual aFRR Capacity Bid 1: (5 + 5 + 10 + 10 + 5 + 10) / 6 = 7.5 €/MW/h*
- *virtual aFRR Capacity Bid 2: (5 + 5 + 10 + 10 + 10 + 10) / 6 = 8.33 €/MW/h*
- *virtual aFRR Capacity Bid 3: (6 + 5 + 10 + 10 + 10 + 10) / 6 = 8.5 €/MW/h*
- *virtual aFRR Capacity Bid 4: (6 + 6 + 10 + 10 + 10 + 10) / 6 = 8.67 €/MW/h*

A fifth virtual aFRR Capacity Bid cannot be created as there is no remaining volume in CCTU 1, 3 and 6.

[6] In case two "Single-CCTU" aFRR Capacity Bids are offered at the same price, the first "Single-CCTU" aFRR Capacity Bid submitted is ranked first.

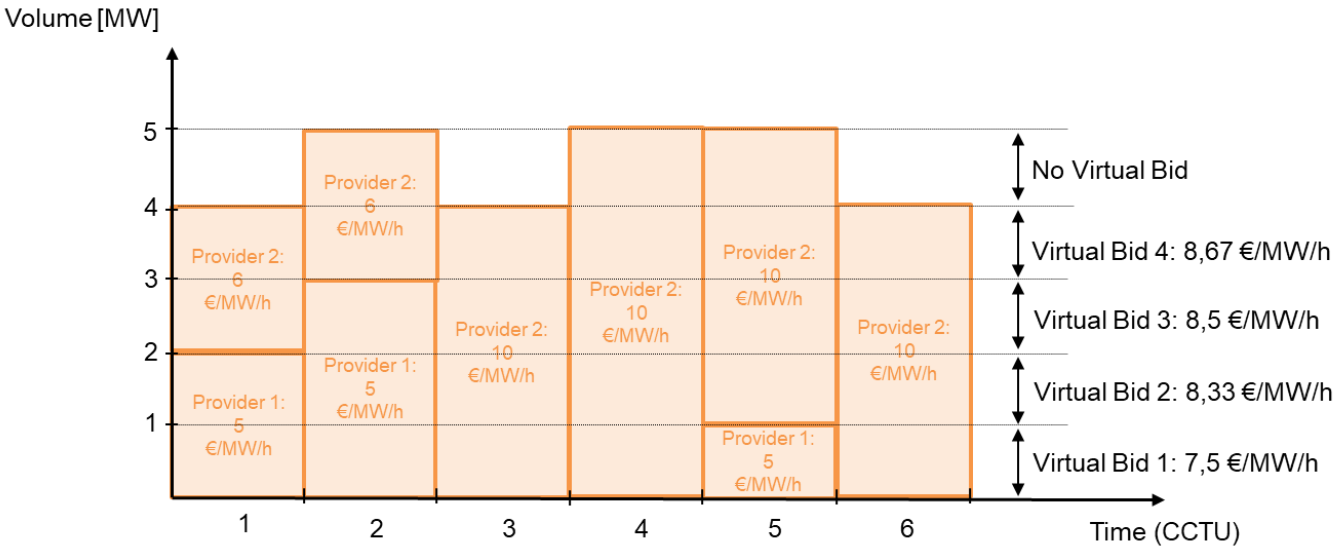


Figure 5 – Defining virtual aFRR Capacity Bids from the ranking of each CCTU

Step 2: first total cost optimization

In step 2, ELIA performs a total cost optimization taking as an input:

- validated "All-CCTU" aFRR Capacity Bids;
- virtual aFRR Capacity Bids.

The outputs of step 2 are:

- A selection of virtual aFRR Capacity Bids;
- A remaining volume to be procured;
- The reference cost per aFRR Capacity Product.

The following constraints apply on the total cost optimization:

- Selecting the total volume to procure for each aFRR Capacity Product;
- Minimizing the total cost of the aFRR Capacity to be procured in the capacity auction.

In case an alternative optimum exists the following criteria are successively applied to determine the solution:

1. The solution maximizing the sum of the selected volume is applied:

$$\max_{\text{solutions}} (\text{selected volume aFRR Up} + \text{selected volume aFRR Down})$$

2. The solution maximizing the number of selected parties[7] is applied;

[7] Elia considers that all virtual aFRR Capacity Bids in the same direction are offered by the same third party.

3. The solution maximizing the equal distribution of the volume amongst all selected parties[16] is applied;
4. The first solution proposed by the optimization tool is applied.

The virtual aFRR Capacity Bids that are selected in step 2 are not considered anymore in the steps 3 and 4. “All-CCTU” aFRR Capacity Bids selected in step 2 are not awarded and will feature again in step 4.

The reference cost per aFRR Capacity Product, in €/MW/h, is calculated as follows:

$$reference\ cost = \frac{Total\ cost}{selected\ volume * 24h}$$

Where the selected volume is the sum of the selected virtual and “All-CCTU” aFRR Capacity Bids in step 2 for the concerned aFRR Capacity product and the total cost is computed from the aFRR Capacity Bid prices of this selected volume.

Step 3: merit order selection

For the third step, ELIA performs a merit order selection on virtual aFRR Capacity Bids not selected in step 2. The output of this second optimization is a selection of virtual aFRR Capacity Bids.

The virtual aFRR Capacity Bids are sorted according to increasing price[8] and selected, per aFRR Capacity Product, taking into account the following constraints:

- ELIA selects at maximum the remaining volume to procure, i.e. the difference between the volume to procure and the volume of selected virtual aFRR Capacity Bids in step 2;
- ELIA selects only virtual aFRR Capacity Bid(s) which are characterized by a price lower or equal to

  $$reference\ cost * RC\ Factor$$

  where the RC Factor initially equals 120%. The value of the RC Factor may be adapted in accordance to Art.II.9.10 and is published on the website of ELIA.

The virtual aFRR Capacity Bids that are selected in step 3 are not considered anymore in the step 4.

Step 4: second total cost optimization

For step 4, ELIA performs a total cost optimization taking as an input :

8 In case two virtual aFRR Capacity Bids have an equal price, they are ranked based on the chronological order as defined in the first step of the capacity auction

- validated “All-CCTU” aFRR Capacity Bids
- virtual aFRR Capacity Bids not selected in steps 2 and 3

The outputs of step 4 are:

- A selection of “All-CCTU” aFRR Capacity Bids
- A selection of virtual aFRR Capacity Bids

The following constraints apply on the total cost optimization:

- Selecting the remaining volume to procure, i.e. the difference between the volume to procure and the volumes of selected virtual aFRR Capacity Bids in steps 2 and 3;
- Minimizing the total cost of the aFRR Capacity to be procured in step 4.

In case an alternative optimum exists, ELIA applies the same criteria as defined in step 2.

Step 5: Award of aFRR Capacity Bids

The “All-CCTU” aFRR Capacity Bids selected in step 4 are awarded.

Taking into account the total selected volume of virtual aFRR Capacity Bids from steps 2, 3 and 4, ELIA awards “single-CCTU” aFRR Capacity Bids using the relation created between “Single-CCTU” aFRR Capacity Bids and virtual aFRR Capacity Bids in the preprocessing step as shown in the example below. This may lead to a partial or complete award of the volume of the “Single-CCTU” aFRR Capacity Bid.

Example

Consider that in the example of step 1 after the third optimization only the first 2 virtual aFRR Capacity Bids are selected. This results in a clearing of the first 2MW in the ranking of each CCTU.

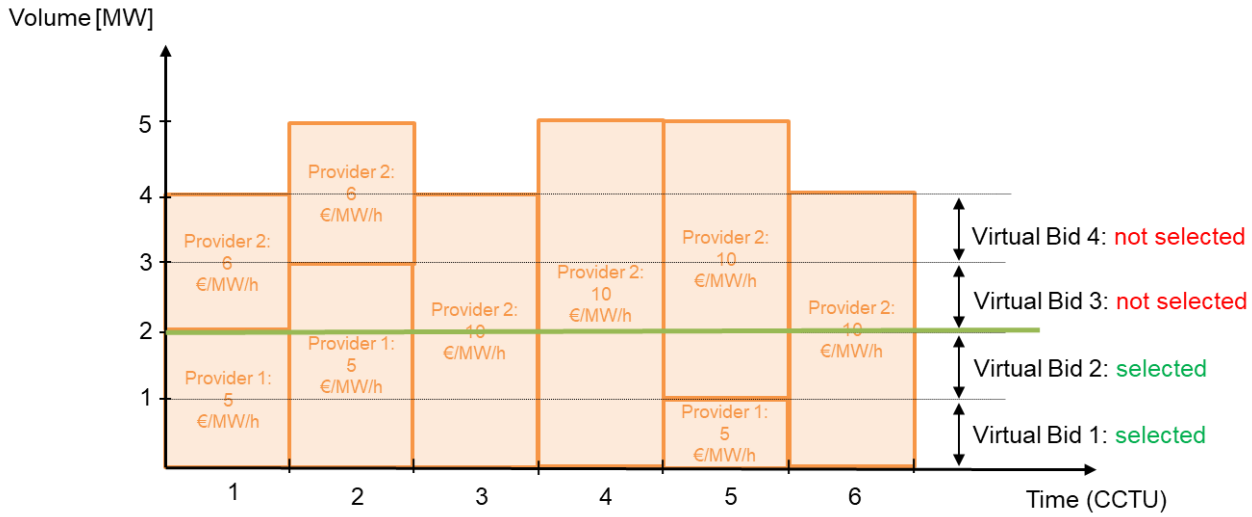


Figure 6 – Defining virtual aFRR Capacity Bids from the ranking of each CCTU

The awarded volume and remuneration per Balancing Service Provider would be the following:

Provider 1:

- *CCTU 1: 2 MW awarded at price of 5 €/MW/h = 40€*
- *CCTU 2: 2 MW awarded at price of 5 €/MW/h = 40€*
- *CCTU 5: 1 MW awarded at price of 5 €/MW/h = 20€*

Provider 2:

- *CCTU 3: 2 MW awarded at price of 10 €/MW/h = 80€*
- *CCTU 4: 2 MW awarded at price of 10 €/MW/h = 80€*
- *CCTU 5: 1 MW awarded at price of 10 €/MW/h = 40€*
- *CCTU 6: 1 MW awarded at price of 10 €/MW/h= 80€*

7.E FALLBACK PROCEDURE

A fallback procedure is launched if ELIA receives insufficient offered volume for one or both Capacity Product(s) on Day D.

ELIA opens a second capacity auction for Day D, with the following characteristics:

- aFRR Capacity GOT is opened on Day D-2, no later than 30 minutes after publication of the award of the first capacity auction;
- Publication of the required volumes per Capacity Product is performed by ELIA on Day D-2, no later 30 minutes after publication of the award of the first capacity auction;
- aFRR Capacity GCT is scheduled on Day D-1 at 9:00 CET;
- Publication of the award is performed at the latest Day D-1 at 9:30 CET.

The Bidding Obligations for aFRR Capacity Bids, as described in Annex 7.C, apply for the second capacity auction.

The awarding procedure and criteria of the capacity auction, as described in Annex 7.D, apply for the second capacity auction. In case after applying this procedure the volume to procure for Day D remains uncovered, ELIA procures remaining “Single-CCTU” aFRR Capacity Bids according to the merit order principle:

- All validated but not yet (fully) awarded “Single-CCTU” aFRR Capacity Bids per CCTU are ranked following increasing price[9];
- From the ranking, the set of cheapest “Single-CCTU” aFRR Capacity Bids fulfilling the remaining required volume per CCTU is awarded.”

[9] In case two “Single-CCTU” aFRR Capacity Bids are offered at the same price, the first “Single-CCTU” aFRR Capacity Bid submitted is ranked first.

ANNEX 9: AFRR ENERGY BID SUBMISSION

(1) Annex 9 is replaced by:

"As provided by Art. II.11, the BSP submits aFRR Energy Bids and the Supporting aFRR Providing Group through a dedicated web-based platform put at disposal by ELIA. The user manual for this platform is available on ELIA website and can be requested by e-mail to contracting_AS@elia.be.

9.A SPECIFICATIONS FOR AFRR ENERGY BID

For each aFRR Energy Bid, the BSP defines the following specifications which are in line with the aFRR implementation framework:

- The quarter-hour for which the aFRR Energy Bid applies;
- The offered contracted or non-contracted volume for a single direction (upwards or downwards), expressed in MW, considering that:
    - The minimum offered volume is 1 MW;
    - The volume granularity is 1 MW;
    - The total offered volume of an aFRR Energy Bid related to Delivery Points DP_{PG} must be lower or equal to 50MW.
- The activation price expressed in €/MWh considering that:
    - The price is defined with 2 decimals.
    - Until the first time ELIA connects to the aFRR Platform:
        - The price in the upward direction must be inferior or equal to 1000€/MWh;
        - The price in the downward direction must be superior or equal to -1000€/MWh;
    - After the first time ELIA has connected to the aFRR Platform[10]:
        - The price must be in line with the rules stipulated in "Methodology for pricing balancing energy and cross-zonal capacity used for the exchange of balancing energy or operating the imbalance netting process";
- The list of Delivery Point(s) included in the aFRR Energy Bid, taking into account that:

[10] This also includes the fallback scenario's stipulated in Annex 14

- Only Delivery Points included in the Pool of the BSP can be included in an aFRR Energy Bid;
- An aFRR Energy Bid related to a Delivery Point DP_{SU} can only include Delivery Points DP_{SU} corresponding to the same Technical Facility;
- Any Delivery Point DP_{PG} included in an aFRR Energy Bid for a certain quarter-hour cannot be included in a mFRR energy bid or supporting mFRR Providing Group for the same quarter-hour;
- For Delivery Points DP_{PG} characterized by an EAN for Injection and an EAN for Offtake, the BSP should only mention the EAN for Offtake.

The ramping rate, expressed in MW/Time Step, is automatically determined per aFRR Energy Bid.

The ramping rate is equal to the total offered volume of the aFRR Energy Bid divided by the number of Time Steps comprised in the FAT of an aFRR Energy Bid, i.e. 7.5 min * 15 Time Step/min:

$$\mathrm{RR} = \frac{\text{total offered volume}}{7{,}5 \times 15}$$

9.B GROUPING AND LINKING OF AFRR ENERGY BIDS

The BSP may link multiple aFRR Energy Bids by listing them in the same group of aFRR Energy Bids, but only under the following conditions:

- per quarter-hour, only one aFRR Energy Bid in upward and downward direction is listed in the same group;
- aFRR Energy Bids related to a Delivery Point DP_{SU} cannot be listed together in a group in case they contain Delivery Points DP_{SU} of different Technical Facilities.

The linking of aFRR Energy Bids in a single group of aFRR Energy Bids has two consequences for the concerned aFRR Energy bids:

- upward and downward aFRR Energy Bids for the same quarter-hour are linked: ELIA will not select both an upward and downward aFRR Energy Bid of the same group of aFRR Energy Bids during a single Time Step;
- aFRR Energy Bids in the same direction for consecutive quarter-hours are linked: ELIA considers the $\mathrm{aFRR\ Requested}_{\mathrm{bid}}$ at the end of the Validity Period of the first aFRR Energy Bid for the calculation of the reference setpoint $\mathrm{SP}_{\mathrm{ref}}$ at the start of the Validity Period of the second aFRR Energy Bid according to the principles as described in Annex 10.B.

9.C COMBINING GROUPS OF AFRR ENERGY BIDS

Every group of aFRR Energy Bids must be related to an aFRR Providing Group. The BSP may choose to combine multiple groups of aFRR Energy Bids in the same aFRR Providing Group under the conditions that:

- a Delivery Point listed in an aFRR Energy Bid of an aFRR Providing Group cannot be listed in an aFRR Energy Bid of another aFRR Providing Group. In other words, a Delivery Point can exclusively be used in one aFRR Providing Group;
- groups of aFRR Energy Bids related to a Delivery Point DP_{SU} cannot be listed together in an aFRR Providing Group in case they contain Delivery Points DP_{SU} of different Technical Facilities;
- per quarter-hour and direction, the sum of the offered volumes of aFRR Energy Bids related to Delivery Points DP_{PG} and part of the same aFRR Providing Group is lower or equal to 50MW.

9.D CHECKS PERFORMED ON AN AFRR ENERGY BID

ELIA performs the following checks at any submission or update of an aFRR Energy Bid:

- The BSP holds a valid BSP Contract aFRR with ELIA;
- Delivery Points mentioned in the aFRR Energy Bid must be part of the Pool (i.e. included in Annex 4 or in the BSP-DSO Contract);
- Per quarter-hour and direction, the sum of the offered volumes of aFRR Energy Bids related to Delivery Points DP_{PG} and part of the same aFRR Providing Group is lower or equal to 50MW.
- For upward (respectively downward) aFRR Energy Bid, the total offered volume must be inferior or equal to the sum of the $DP_{aFRR,max,up}$ (respectively $DP_{aFRR,max,down}$ in absolute value) of each Delivery Points.

Once Red Zones are identified and communicated to the BSP (as of 18h day-ahead):

- the BSP is not authorized to introduce nor increase the offered volume of a contracted aFRR Energy Bid corresponding to the direction of the Red Zone and including a Delivery Point located in one of the Red Zones.

An aFRR Energy Bid is automatically rejected if one of the above-mentioned checks is not satisfied. The BSP is notified of rejection and reason for rejection.

9.E TRANSPARENCY

In accordance with article 12(3) (b) and (e) of the EBGL, ELIA publishes information on the aFRR Energy Bids as described in the Balancing Rules.

9.F COMMUNICATION REQUIREMENTS FOR AFRR ENERGY BIDS AND SUPPORTING AFRR PROVIDING GROUP

For each Time Step "ts" of the Validity Period of an aFRR Energy Bid or Supporting aFRR Providing Group, the following values are transmitted to ELIA, per Delivery Points included in the concerned aFRR Energy Bid:

- $\mathrm{DP}_{\mathrm{aFRR}}(\mathrm{ts})$, being either 0 or 1, is transmitted at Time Step "ts" and applies for Time Step "ts". In other words, $\mathrm{DP}_{\mathrm{aFRR}}$ is sent in real-time;

- $\mathrm{DP}_{\mathrm{measured}}(\mathrm{ts})$, in MW, is transmitted at Time Step "ts" and applies for Time Step "ts". In other words, $\mathrm{DP}_{\mathrm{measured}}$ is sent in real-time;
- $\mathrm{DP}_{\mathrm{baseline}}(\mathrm{ts})$, in MW. is transmitted at Time Step "$\mathrm{ts}-15$" and applies for Time Step "ts". In other words, $\mathrm{DP}_{\mathrm{baseline}}$ is sent 60 seconds before the Time Step for which it applies;
- $\mathrm{DP}_{\mathrm{aFRR,supplied}}(\mathrm{ts})$, in MW, is transmitted at Time Step "ts" and applies for Time Step "ts". In other words, $\mathrm{DP}_{\mathrm{aFRR,supplied}}$ is sent in real-time.

The data exchange must respect the communication requirements set forth in the document "aFRR communication requirements" published on the ELIA website and available on demand by e-mail to contracting_AS@elia.be."

ANNEX 10: ACTIVATION

(1) Annex 10 is replaced by:

"**10.A DETERMINATION OF AFRR REQUESTED**

ELIA determines the aFRR Requested per Time Step. The aFRR Requested is the sum of the aFRR Requested per aFRR Energy Bid, determined in accordance with Annex 10.B:

$$\text{aFRR Requested}(\mathrm{ts}) = \sum_{\text{aFRR Energy Bids}} \text{aFRR Requested}_{\mathrm{Bid}}\,(\mathrm{ts})$$

10.B DETERMINATION OF THE AFRR REQUESTED PER AFRR ENERGY BID

For each Time Step, the aFRR Requested per aFRR Energy Bid is determined in accordance with the following procedure:

1. The control target $\mathrm{CT}(\mathrm{ts})$ per aFRR Energy Bid is equal to:
   - the volume of aFRR Up if selected by ELIA's controller;
   - the volume of aFRR Down if selected by ELIA's controller, taken as a negative value;
   - zero in all other cases;
2. ELIA determines the reference setpoint $\mathrm{SP}_{\mathrm{ref}}(\mathrm{ts})$:
   - In case the concerned aFRR Energy Bid is not linked to another aFRR Energy Bid in the same direction, the reference setpoint $\mathrm{SP}_{\mathrm{ref}}(\mathrm{ts})$ at the start of the Validity Period of the aFRR Energy Bid is equal to zero (point 1 in Figure 7) ;
   - In case the concerned aFRR Energy Bid is linked to another aFRR Energy Bid in the same direction for the previous quarter-hour, respecting the conditions put forth in Annex 9.B, the reference setpoint $\mathrm{SP}_{\mathrm{ref}}$ at the start of the Validity Period of the aFRR Energy Bid is the $\text{aFRR Requested}_{\mathrm{bid}}$ of the Time Step "ts-1" of the linked aFRR Energy Bid of the previous quarter-hour, capped by the total offered volume in the upward (respectively downward) direction: (point 3 in Figure 7)

     $$-\text{downward offered volume} \leq \text{aFRR Requested}_{\mathrm{bid}}(\mathrm{ts}-1) \leq \text{upward offered volume}$$

- During the Validity Period of the aFRR Energy Bid the reference setpoint $\mathrm{SP_{ref}}$ is the $\mathrm{aFRR\ Requested_{bid}}$ of the Time Step “ts-1”;

3. ELIA determines the aFRR Requested per aFRR Energy Bid $\mathrm{aFRR\ Requested_{bid}(ts)}$ in accordance with the following rules:

   - In case during its Validity Period the concerned aFRR Energy Bid is linked to another aFRR Energy Bid in the opposite direction, respecting the conditions put forth in Annex 9.B, the $\mathrm{aFRR\ Requested_{bid}}$ of the concerned aFRR Energy Bid is set to zero when the linked aFRR Energy Bid at “ts-1” has a non-zero $\mathrm{aFRR\ Requested_{bid}}$;

   - if the control target $\mathrm{CT(ts)}$ is larger or equal to the $\mathrm{SP_{ref}(ts)}$, there is a ramp-up until the control target is reached:

$$\mathrm{aFRR\ Requested_{bid}(ts) = \min\ [\ SP_{ref}(ts) + RR\ ;\ CT(ts)\ ]}$$

   - if the control target $\mathrm{CT(ts)}$ is lower than the $\mathrm{SP_{ref}(ts)}$, there is a ramp-down until the control target is reached:

$$\mathrm{aFRR\ Requested_{bid}(ts) = \max\ [\ SP_{ref}(ts) - RR\ ;\ CT(ts)]}$$

   taking into account the ramping rate RR as determined in Annex 9.A.

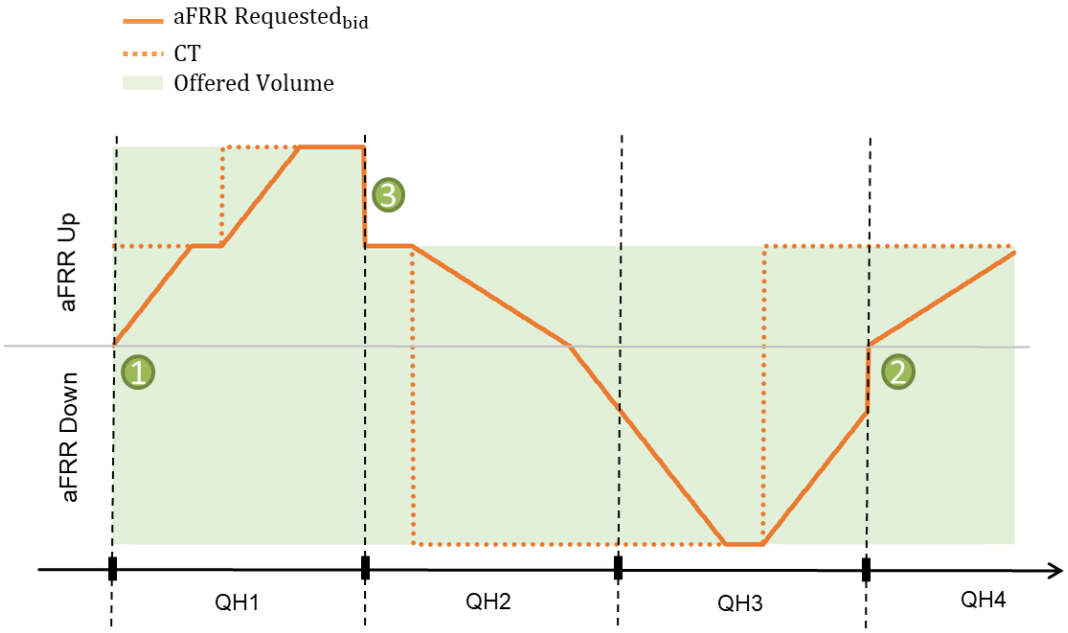


Figure 7 - Determination of $aFRR\ Requested_{bid}$

10.C COMMUNICATION REQUIREMENTS FOR ACTIVATION

The aFRR Requested transmitted at Time Step “ts” by ELIA to the BSP must be reached by the BSP at Time Step “ts+2” in accordance with the activation control described in Annex 13.

In addition, the following data is communicated, per Time Step "ts", from the BSP to ELIA:

- The aggregated aFRR Power supplied $P_{aFRR,supplied}(ts)$, in MW. This value must be equal to the sum of the aFRR Power supplied $DP_{aFRR,supplied}(ts)$ by the Delivery Points for which $DP_{aFRR}(ts)$ equals to 1;

- Optionally, the FCR Correction(ts), in MW, in case part of the Pool of the BSP offers the FCR Service. The FCR Correction, expressed in MW, represents the sum of the FCR power delivered by the Delivery Points for which $DP_{aFRR}(ts)$ equals to 1.

The BSP makes best effort to ensure the coherence between the aggregated data and the data per Delivery Point, as specified in Annex 9.F. The data exchange is considered as coherent by ELIA if:

$$P_{aFRR,supplied}(ts) = \sum_{DP} DP_{aFRR}(ts) \times DP_{aFRR,supplied}(ts)$$

The requirements for the real-time communication is specified in the document "aFRR communication requirements" published on the ELIA website and available on demand by e-mail to contracting_AS@elia.be."

ANNEX 11: ACTIVATION FOR REDISPATCHING

(1) A new Annex 11 is added:

"In accordance with Art.II.19.1, ELIA can request an activation for redispatching on contracted aFRR Energy Bid(s) related to a Delivery Point DP_{SU} by sending an electronic message in line with Annex 11.C.

The settlement (both remuneration and activation control) of an activation of aFRR Energy Bid(s) for redispatching is based on the aFRR Requested RD. ELIA calculates the aFRR Requested RD per Time Step in accordance with Annex 11.A. The aFRR Requested RD is not communicated in real-time to the BSP.

11.A DETERMINATION OF AFRR REQUESTED RD

ELIA determines the aFRR Requested RD per Time Step. The aFRR Requested RD is the sum of the aFRR Requested RD per aFRR Energy Bid, determined in accordance with Annex 10.B:

$$\text{aFRR Requested RD}\ (ts) = \sum_{\text{aFRR Energy Bids}} \text{aFRR Requested RD}_{\text{Bid}}\ (ts)$$

11.B DETERMINATION OF THE AFRR REQUESTED RD PER AFRR ENERGY BID

For each Time Step, the aFRR Requested RD per aFRR Energy Bid is determined in accordance with the following procedure:

- During the ramp-up phase as defined in Art.II.19.4, the aFRR Requested RD per aFRR Energy Bid is equal to:

  For an upward aFRR Energy Bid:

$$\text{aFRR Requested RD}_{bid}(ts) = min\begin{pmatrix}\text{aFRR Requested RD}_{\text{Bid}}(ts-1) + RR \\ volume\ of\ aFRR\ Energy\ Bid\end{pmatrix}$$

  For a downward aFRR Energy Bid:

$$\text{aFRR Requested RD}_{bid}(\text{ts}) = max\begin{pmatrix}\text{aFRR Requested RD}_{\text{Bid}}(\text{ts}-1) - RR \\ -volume\ of\ aFRR\ Energy\ Bid\end{pmatrix}$$

Considering that the aFRR Requested RD at the first Time Step of an activation for redispatching is equal to 0 MW;

- During the ramp-down phase as defined in Art.II.19.4, the aFRR Requested RD per aFRR Energy Bid is equal to:

  For an upward aFRR Energy Bid:

  $$\text{aFRR Requested RD}_{bid}(\text{ts}) = max\begin{pmatrix}\text{aFRR Requested RD}_{\text{Bid}}(\text{ts}-1) - RR \\ 0\end{pmatrix}$$

  For a downward aFRR Energy Bid:

  $$\text{aFRR Requested RD}_{bid}(\text{ts}) = \min\begin{pmatrix}\text{aFRR Requested RD}_{\text{Bid}}(\text{ts}-1) + RR \\ 0\end{pmatrix}$$

- During the delivery of complete offered power of the aFRR Energy Bid as defined in Art.II.19.4, the aFRR Requested RD per aFRR Energy Bid is equal to:

  For an upward aFRR Energy Bid:

  $$\text{aFRR Requested RD}_{bid}(\text{ts}) = volume\ of\ aFRR\ Energy\ Bid$$

  For a downward aFRR Energy Bid:

  $$\text{aFRR Requested RD}_{bid}(\text{ts}) = -volume\ of\ aFRR\ Energy\ Bid$$

11.C COMMUNICATION REQUIREMENTS FOR ACTIVATION FOR REDISPATCHING

In order to trigger an activation of an aFRR Energy Bid for redispatching, ELIA notifies the BSP by an electronic message. The detailed technical specifications of the communication protocols are described in the document “aFRR communication requirements”. This document can be consulted on the ELIA website or can be requested by e-mail to contracting_AS@elia.be or to the contractual responsible, as listed in Annex 17. ELIA can modify unilaterally the content of these messages. In such a case, ELIA informs the BSP taking into account reasonable delay, not less than 20 Working Days, for implementation before changes become effective.

ANNEX 13: ACTIVATION CONTROL

(1) Annex 13 (activation control) is replaced by:

“**13.A Determination of the AFRR Energy discrepancy**

For Month M, ELIA determines the aFRR Energy Discrepancy as follows:

$$\text{aFRR Energy Discrepancy(M)} = \sum_{\text{Time Steps in Month M}} \frac{\text{aFRR MW discrepancy (ts)}}{900}$$

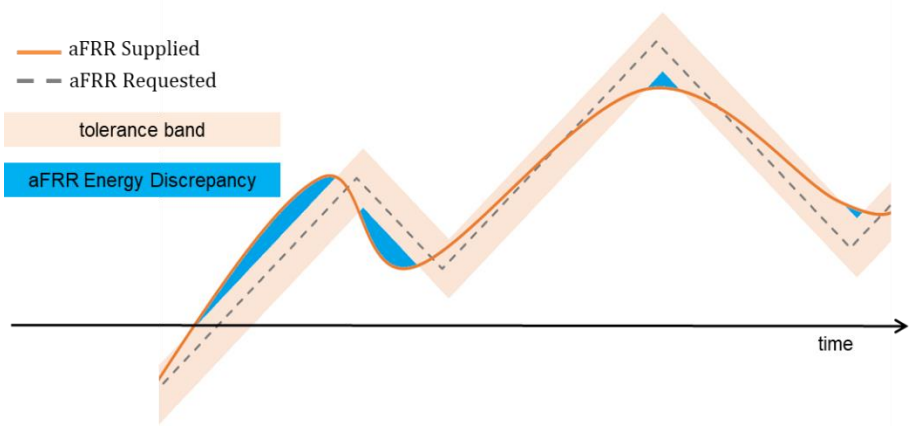


Figure 9 - aFRR Energy Discrepancy

The $\text{aFRR MW discrepancy}$ is determined, per Time Step ts, as follows:

$$\text{aFRR MW discrepancy}(\text{ts}) = \max\left[\left|\text{aFRR Requested}(\text{ts}-2) - \text{aFRR Supplied}(\text{ts})\right| - \delta_{\text{perm}}(\text{ts}); 0\right]$$

where

- $\text{aFRR Supplied}(\text{ts})$ is determined in accordance with Annex 13.C;
- $\delta_{\text{perm}}(\text{ts})$ is the permitted deviation determined in accordance with Annex 13.B

The $\text{aFRR MW discrepancy}$ for each Time Step is capped to the V(QH) of the concerned quarter-hour as defined in Annex 13.B.

Exclusion of Time Steps from the determination of the aFRR Energy Discrepancy

Time Steps are excluded from the calculation of the aFRR Energy Discrepancy for Month M in case:

- erroneous data is received for the considered Time Step;
- a jump has been identified in the aFRR Requested at the start of a quarter-hour. ELIA identifies a jump in the following way:

$$\frac{\left|\text{aFRR Requested}(\text{ts}-1) - \text{aFRR Requested}(\text{ts}+8)\right|}{11} > RR(QH)$$

Where

1. ts is the first Time Step of a quarter-hour;
2. $RR(QH)$ is the ramping rate for the quarter-hour after the jump, as defined in Annex 9.A. It is calculated for the aFRR Energy Bid(s) selected by ELIA's controller of the BSP for the concerned quarter-hour.

In case a jump is identified, the first 113 Time Steps of the concerned quarter-hour are excluded from the calculation of the aFRR Energy Discrepancy for Month M.

13.B DETERMINATION OF THE PERMITTED DEVIATION

The permitted deviation δ_{perm} is calculated per quarter-hour "QH" and per direction in accordance with the following procedure:

1. ELIA determines the volume V(QH), which is the sum of the offered volume of each aFRR Energy Bid selected by ELIA's controller in the concerned direction for at least one Time Step of the concerned quarter-hour;

2. The permitted deviation is equal to 15% of V(QH):

$$\delta_{\text{perm}}(\text{QH}) = 15\% \times \text{V(QH)}$$

13.C DETERMINATION OF THE AFRR SUPPLIED

The aFRR Supplied is determined per Time Step "ts" as follows:

$$\text{aFRR Supplied(ts)} = \sum_{\text{participating Delivery Points}} [\text{DP}_{\text{baseline}}(\text{ts}) - \text{DP}_{\text{measured}}(\text{ts})] - \text{FCR correction(ts)}$$

where the participating Delivery Points are all Delivery Points included in an aFRR Energy Bid or Supporting aFRR Providing Group for the concerned Time Step "ts" , compliant with Art.II.12.5 and for which the parameter $\text{DP}_{\text{aFRR}}(\text{ts})$ is equal to 1.

ELIA excludes a Delivery Point from the calculation of the aFRR Supplied of a Time Step in case not all the required data for the Delivery Point, as stipulated in Annex 9.F, is received for that Time Step."

ANNEX 14: REMUNERATION IN CASE OF FALLBACK

(1) A new Annex 14 is added :

"As stipulated in Art.II.16.7, ELIA replaces the CBMP by the local marginal price in case one of the following fallback scenarios occurs:

- a disconnection from the aFRR platform;
- the merit-order activation cannot be performed due to technical constraints.

Both fallback scenarios are explained in detail in the Balancing Rules.

14.A DETERMINATION OF THE LOCAL MARGINAL PRICE IN CASE OF FALLBACK

Per Time Step only one local marginal price is calculated, being either the local marginal price up or the local marginal price down. The direction for which the local marginal price is calculated depends on the

direction of the global control target[11]. In case of a positive (negative) global control target, the local marginal price up (down) is calculated and replaces the CBMP up (down) in Art.II.16.7. In that case, no local marginal price down (up) is calculated and therefor the CBMP down (up) is invalid[12].

ELIA applies the following principles to define the local marginal price per Time Step:

1. In case the merit-order activation cannot be performed due to technical constraints, the merit order of all validated aFRR Energy Bids for the concerned Time Step is generated ex-post;

2. From the global control target and the (ex-post) merit order, ELIA identifies the aFRR Energy Bids that (would) have been selected by ELIA's controller. These aFRR Energy Bids are used in step 3;

3. The local marginal price up (down) is set to the maximal (minimal) price of the selected aFRR Energy Bids upwards (downwards) identified in the previous step.

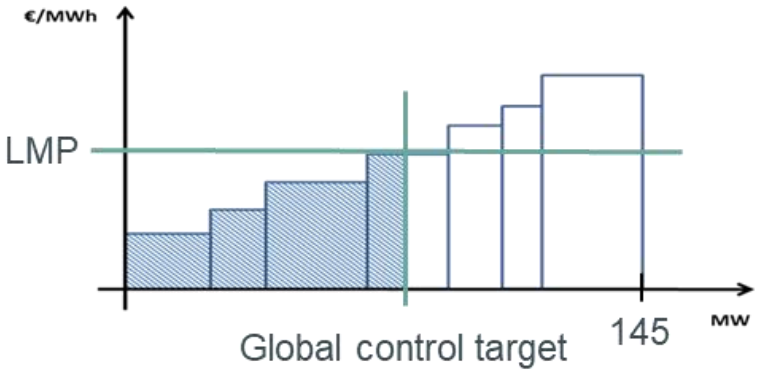


Figure 10 – Determination of local marginal price from global control target and (ex-post) merit order

"

ANNEX 15: PENALTIES

(1) Annex 15.D is replaced by:

"**15.D PENALTIES FOR ACTIVATION CONTROL**

In accordance with Art II.17.6, the penalty resulting from aFRR Energy Discrepancy is calculated on a monthly basis as follows:

$$\text{aFRR Energy Discrepancy penalty(M)} = 1{,}3 \times \frac{\text{aFRR Energy Discrepancy(M)}}{\text{aFRR energy requested(M)}} \times \text{remuneration(M)}$$

[11] Calculated by the aFRR Controller as stated in the Balancing Rules.
[12] In other words, the applicable price down (up) in art.II.16.7 is set by the bid price.

where

- the aFRR Energy Discrepancy(M) is determined in accordance with Annex 13.A;
- the aFRR energy requested(M) is determined as follows:

$$\text{aFRR energy requested(M)} = \sum_{\text{Time Steps}} \frac{|\text{aFRR Requested(ts)}|}{900}$$

  Any Time Step excluded from the calculation of the aFRR Energy Discrepancy (M) is also excluded from the calculation of aFRR energy requested (M).

- the remuneration is the sum of the remuneration for the aFRR Awarded, determined in accordance with Art. II.16.3, and the absolute value of the remuneration for the aFRR Requested, determined in accordance with Art.II.16.9:

$$\text{remuneration aFRR Awarded} + |\text{remuneration aFRR Requested}|$$

”