



MFRR 2020 PRODUCT DESIGN NOTE

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1. Introduction

1.1. Context

In its implementation plan on the evolution towards a daily procurement of mFRR, ELIA determined a go-live date (1st February 2020)¹ for a new mFRR design taking into consideration the interactions with other projects such as dynamic dimensioning and daily procurement. The different implementation tracks are reminded in the figure below.

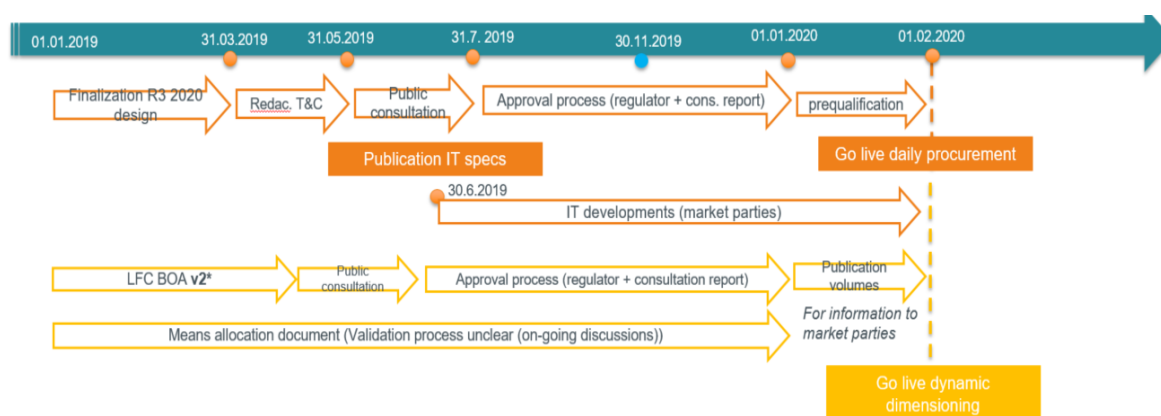


Figure 1 – mFRR implementation plan as presented end 2018 by ELIA

1.2. Scope

This document gathers and summarizes each mFRR product design evolutions (related to both the capacity reservation and the balancing energy) foreseen to enter into force as of 1st February 2020. On one hand, it confirms **design changes already presented and consulted with market parties in 2018** in the following discussions:

- R3 down design note²

This design document has been presented to the Working Group Balancing on 15th May 2018 and consulted from 22th May 2018 until 15th June 2018. The following sections of the present design note come from the R3 down design note:

- Section 3 on portfolio organization;
- Section 5 on the prequalification procedure ;

¹ Please note this timing is indicative and represents ELIA's target go live. Seen the numerous interactions with other projects (as highlighted in the mFRR implementation plan), this timing might need to be reviewed in 2019 in order to take most recent evolutions on all of these topics into consideration.

²http://www.elia.be/~media/files/Elia/users-group/Working-Group-Balancing/Projects%20and%20publications/20180905_Design-note-R3-down.pdf

- Section 7 (until and including section 7.2.4) on energy bid submission process;
- Section 10 on the availability controls;
- Section 11 on the activation controls;

- Study on the evolution towards a daily procurement of mFRR³

This study has been presented to the Working Group Balancing on 15th May 2018 and consulted from 22th May 2018 until 15th June 2018 and introduced – among other things – ELIA’s long term vision to evolve towards one single standard mFRR product.

- Implementation plan related to the evolution towards a daily procurement of mFRR⁴

This implementation plan has been presented in a specific workshop on 19th November 2018 and consulted from 9th November 2018 until 5th December 2018. The following sections come from the implementation plan:

- Section 2 on mFRR product mix and characteristics applicable in 2020;
- Section 6 on the procurement of balancing capacity;

- Study on the evolution to paid as cleared for the settlement of activated balancing energy⁵

This study has been presented to market parties during an ad-hoc meeting on 8th November 2017 and consulted (public consultation) between 23th October and 20th November 2017.

Section 9.2 on the evolution to paid-as-cleared methodology comes from this document.

³www.elia.be/~media/files/Elia/publications-2/Public-Consultation/2018/20181031_STUDY_Formal-public-consultation-evolution-daily-procurement-mFRR-may-2018.pdf

⁴www.elia.be/~media/files/Elia/publications-2/Public-Consultation/2018/20181220-final-implementation-plan-evolution_mFRR-sans-TC.pdf

⁵http://www.elia.be/~media/files/Elia/users-group/Working-Group-Balancing/Paid-as-cleared/Paid_as_Cleared_FRR_Study_Final.pdf

On the other hand, this document clarifies the following **additional evolutions**, not yet discussed and consulted with market parties. Those evolutions are described in the sections listed hereunder:

- Section 3 on the contractual organization;
- Section 7 (from section 7.2.5) on indivisibility in the energy bid submission process;
- Section 8 on the energy bid activation;

Important remark

ELIA will only consider as relevant the feedback from market parties on design elements which have not been presented nor consulted yet. It is not ELIA's intention to re-open discussions on design aspects that were previously aligned.

1.3. Out of scope

The following design evolutions are not considered by ELIA as part of the scope of the 2020 mFRR design evolutions:

Identified local design evolutions

- **Explicit nomination of free bids CIPU** in the nomination platform (volumes and prices). This evolution will be considered in parallel to the evolution of roles and responsibilities as foreseen in the ICAROS project.
- **Allocation rules** to determine the minimal volume of mFRR standard to be procured during the capacity auction (and in consequence, the maximal volume of MFRR flex). These rules will be presented and discussed with market parties in the context of 2020 dimensioning methodology.
- The evolution towards a **full merit-order activation**. This evolution is closely related to the allocation rules that will be determined in 2020 dimensioning methodology and with ELIA's LT product vision (one standard product).

Identified European design evolutions

Design evolution due to current EU discussions (MARI project; definition of standard products...) are not included in the scope of mFRR 2020. The MARI project is expected to enter into force by end 2021.

Principles already applicable in mFRR market (since last design update of 1st December 2018)

ELIA would like to remind that the following elements do not change compared to the currently implemented design (last update of 1st December 2018). For more information regarding these elements, please consult the product General Framework Agreement.

- Rules to add/delete a delivery point in the prequalification process;
- Data exchange (IT communication) requirements;
- Rules on the secondary market (transfer of obligation);
- Baseline requirements;
- Metering requirements;

2. mFRR 2020 product mix and product characteristics

Based on the feedback provided by BDRA, FEBEG and FEBELIEC during the consultation of its study on the evolution towards a daily procurement of mFRR⁶, ELIA decided to develop a **transition period** of its mFRR flex product for a **limited period of time** with **updated product characteristics**. Indeed, the constraints defining the mFRR flex product (as of 1.12.2018: up to 2 hours of energy delivered, 8 hours of neutralization time and maximal number of activation of 8 per month) do not provide an adequate answer to the expected evolution of the system's needs (caused by increased RES, offshore integration...). As a result, and taking into account the shift from monthly to daily procurement, the following product characteristics have been proposed by ELIA:

- Energy delivery up to 4 hours;
- On a daily basis, neutralization time between the beginning of the first activation and the second of 8 hours and;
- No maximal number of activations as this is not relevant anymore when considering a daily procurement cycle.

The Figure 2 below illustrates the characteristics of the mFRR product mix that will be implemented in 2020 and compares it with 2019 mFRR flex characteristics.

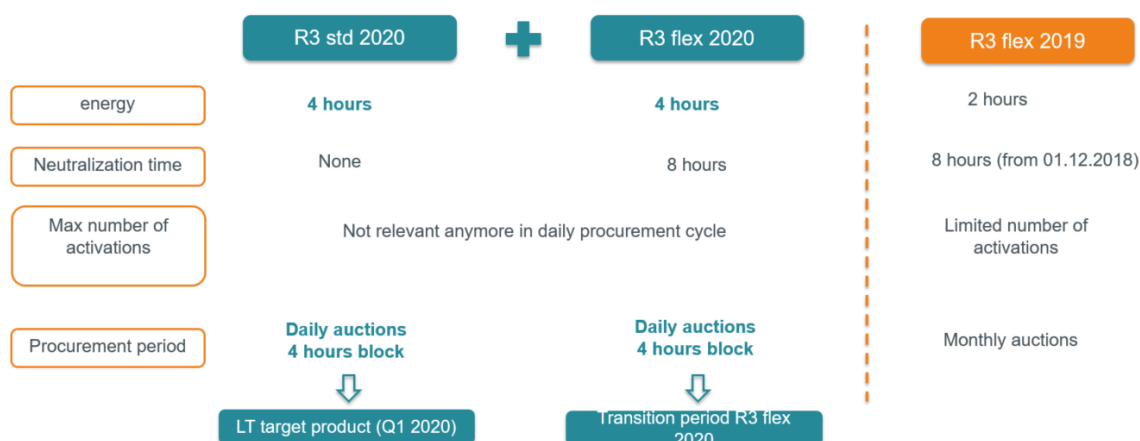


Figure 2 – Evolution of the mFRR product mix in 2020

⁶ www.elia.be/en/about-elia/publications/Public-Consultation/Archives/Formal-public-consultation-evolution-daily-procurement-mFRR-may-2018

3. Contractual organization

3.1. Current contractual structure

3.1.1. Procurement of balancing capacity

Historically, the delivery of ancillary services was conditioned to the signature of a **CIPU**⁷ **contract** by the BRP's of concerned units. To develop market liquidity and competition, ELIA elaborated - from 2012 onwards and in close cooperation with its stakeholders – a new separate contractual framework accessible to new technologies (e.g: batteries for FCR) and to Balancing Service Providers (hereafter “BSP”). This framework is named “**non-CIPU**” and exists for Frequency Containment Reserve (hereafter “FCR” or “R1”) and manual Frequency Restoration Reserve (hereafter “mFRR” or “R3”).

3.1.2. Non reserved balancing energy

In addition to the “CIPU” process –which has been designed specifically to schedule, redispatch and modify the output of large power plants - ELIA had to develop a new platform where market players could bid their available flexibility via an easier process. The contractual rules applicable to this platform are currently described in the “**Tertiary control Non-reserved Service**” or “**R3 NR non CIPU**” General Framework Agreement (hereafter “GFA”).

Both the “CIPU” contract and the “R3 NR non CIPU” GFA allow the participation of upward and downward non-reserved balancing capacity.

3.1.3. Balancing rules

This document describes the market functioning rules related to the compensation of quarter-hour imbalances as required in article 159 of current federal grid code. Once the regulator approves it, ELIA's framework agreements are adapted accordingly to guarantee their compliancy with these balancing rules.

The balancing rules contain – among other things - mFRR related requirements on both the capacity reservation and the balancing energy aspects.

The current contractual structure relevant for the procurement of balancing capacity and delivery of non-reserved balancing energy at the moment of redaction of this document is summarized in Figure 3 below:

⁷ Coordination for the Injection of Production Units

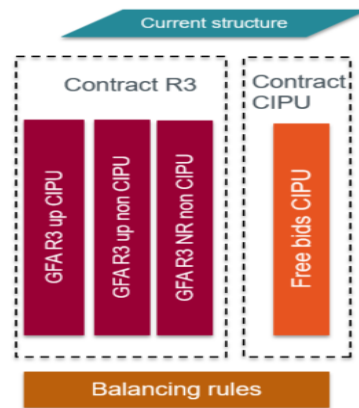


Figure 3: current contractual structure for delivering the tertiary control (procurement of capacity and balancing energy) to ELIA.

3.1.4. Terms & Conditions BSP R3

Six months after its entry into force, the European Electricity Balancing Guideline (hereafter “EBGL”) requires ELIA to submit to the national regulator the “Terms & Conditions for BSP”. When approved by the national regulator, this new structure will replace current GFAs and Balancing Rules.

The structure presented in Figure 4 below has been consulted by ELIA and submitted to the CREG after integration of consultation comments in June 2018. In ELIA’s proposal, the current 4 GFAs organizing the delivery of flexibility and illustrated in Figure 4 above are gathered into a single “R3 Contract”. ELIA expects this new framework to become active in the course of 2019 after amendments which include the consideration of the CREG and updates of design evolution (as approved via balancing rules) which occurred since June 2018 (submission date to CREG).

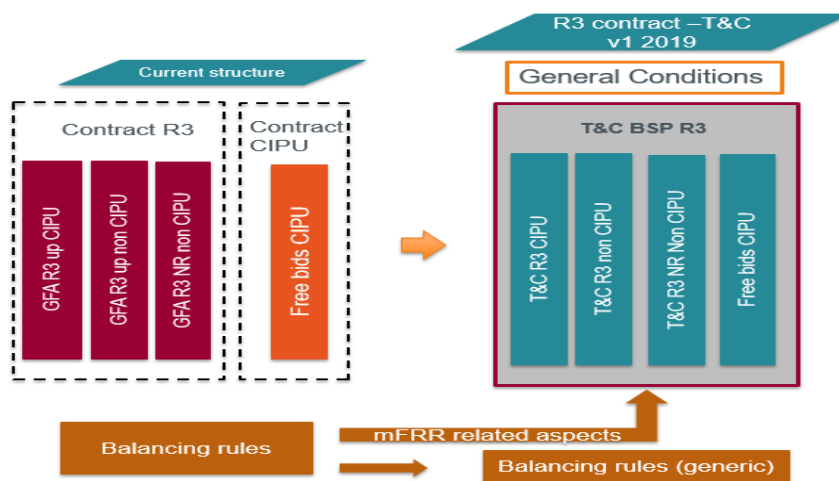


Figure 4 : contractual structure for delivering tertiary control to ELIA as of entry into force of Terms & conditions BSP

3.2. 2020 contractual organization

3.2.1. Difference between “CIPU” and “non CIPU”

As already presented by ELIA in ICAROS Task Force and related design documents published on ELIA’s website⁸, the historical organization of all key tasks regarding system operation and market procedures via the CIPU contract is being reviewed as the definition of new roles is required by the European Guideline on Electricity Transmission System Operation.

As a consequence, the current contractual organization must be reviewed as **the historical classification in “CIPU” and “non-CIPU” will no longer be applicable.**

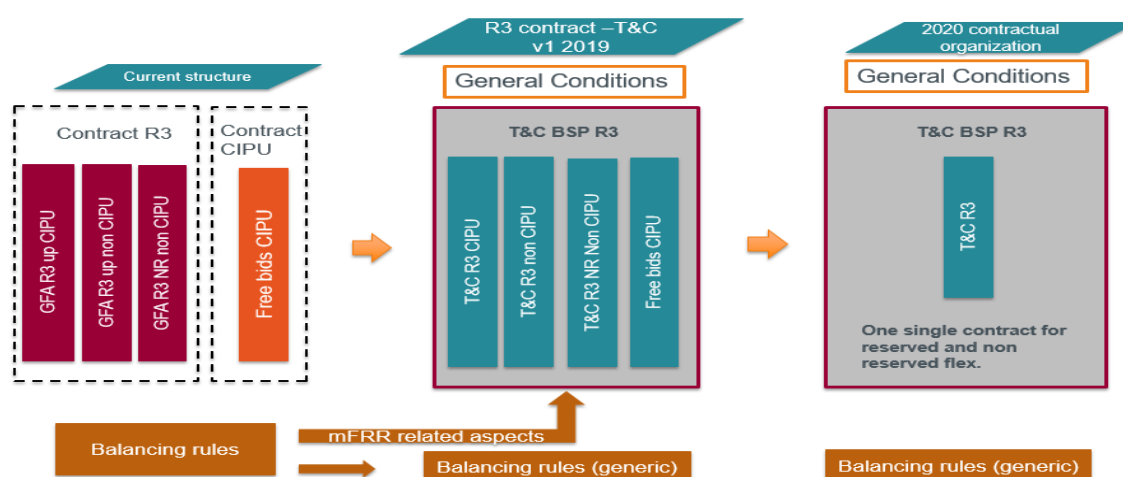
3.2.2. Difference between “reserved” and “non-reserved” balancing energy

The current contractual organization where the split between “reserved” and “non-reserved” balancing energy is clearly organized must evolve towards **a single contract** in which delivery rules are applicable to both **without distinction in the activation process or in its settlement (Guidelines on Electricity balancing).**

3.2.3. 2020 contractual organization

As of 1st February 2020, there will only be one mFRR contract applicable. This document will propose harmonized rules related to the procurement of balancing energy as well as for the activation of balancing energy resulting from both “reserved” and “non-reserved” tertiary control.

2020 contractual organization is illustrated in the figure below.



⁸<http://www.elia.be/en/about-elia/publications/Public-Consultation/New-eu-guideline-compliant-approach-for-the-coordination>

4. Portfolio organization

In this section, the principles ruling the organization of the BSP's portfolio are detailed. In this way, the requirement to follow an individual process (prequalification, nomination, activation) is explained, along with the limitations set by ELIA on the size of a "pool prequalification" (prequalification of several delivery points to benefit from portfolio effect).

4.1. Individual vs portfolio processes

The rules related to the obligation to individually follow the entire product process from the prequalification to the settlement for each prequalified delivery point currently differ in CIPU and non-CIPU contracts. In the current R3 CIPU contract, all delivery points must individually follow the product process while in the R3 non-CIPU pools can be organized.

In the future, this organization will have to **evolve to match the notion of individual MW scheduling obligation developed** in replacement of current CIPU rule.

This way, each delivery point subject to the obligation to exchange individual MW schedules with ELIA will have to individually follow the entire product process described in this document (except for the capacity auction described in section 6). Other delivery points can be pooled by the BSP.

4.2. mFRR (R3) providing groups

To benefit from his portfolio effect when adding a new delivery point to its portfolio, BSPs may ask ELIA the authorization to perform a prequalification test on a group of delivery points. This is acceptable for ELIA as long as:

- The **operational impact** on ELIA's grid remains limited; and
- **The financial impact** is minimized.

This way, ELIA applies the notion of "providing group" (System Operation Guidelines) and authorizes the BSP to gather delivery points in a "subpool" up to a target of mFRRmax of **100 MW**, a threshold set by ELIA to limit their operational impacts.

The example below illustrates a concrete case of a BSP with a flexibility potential of 150 MW in his portfolio: to comply with ELIA's requirement, the BSP will organize his portfolio in two providing groups.

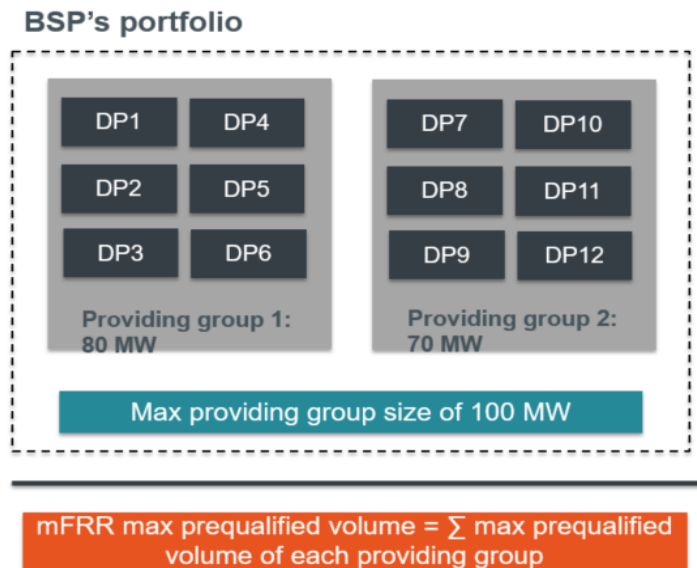


Figure 5 : example of the use of providing groups in the prequalification process

The notion of providing group is only used for the prequalification test and the determination of the mFRRmax and will not be used anywhere else. The BSP will not be limited because of the providing group in its energy nomination nor in its bidding behaviour for ELIA's capacity auction.

Remark: the rules to add / remove a delivery point to/from a prequalified portfolio currently applicable (see most recent version of the general framework agreements for more information) remains valid in 2020. They are therefore not reminded here.

5. Pre-requisite to mFRR delivery

This section describes the 5 steps that a BSP has to respect to add delivery point(s) to its pool, as summarized in the figure below. **This process is applicable to each BSP willing to deliver balancing capacity (step 3 to step 5) or balancing energy (step 1 to step 3).**

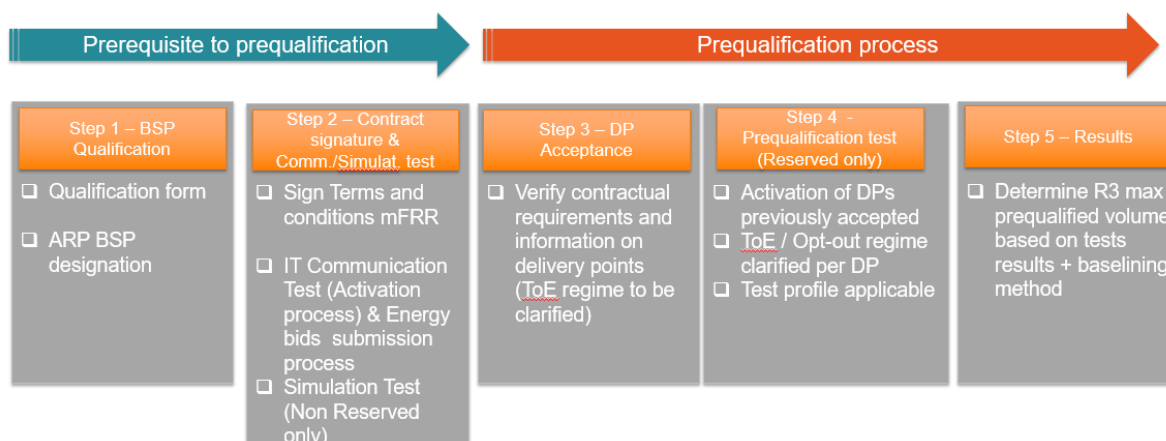


Figure 6 : overview of the pre-requisite procedure to mFRR delivery

5.1. Step 1 – BSP qualification

A candidate BSP can apply by submitting a completed application form and the required documents to the applicable service to ELIA. The application form can be found on the [ELIA website](#) or requested via email to contracting_AS@elia.be.

After submitting an application form, Elia will reply to the BSP's request at latest 15 days after reception.

5.2. Step 2 – Contract signature and communication tests

The signature of the Terms and Conditions BSP mFRR is a pre-condition for the next steps of the prequalification.

During this step, the BSP and ELIA will check together before the first participation to the auction the functioning of the IT communication; with a specific focus on the exchange of information needed for the whole process (from balancing capacity reservation to the settlement of balancing energy).

The communication test is applicable for both the participation to a capacity reservation tender and the delivery of balancing energy (currently known as “non-reserved non-CIPU”).

5.3. Step 3 – Delivery point acceptance

In this step, ELIA verifies the contractual requirements and gathers the needed information on the delivery points identified by the BSP. In this way, ELIA makes sure the BSP respects the following requirements on:

- The specified **metering requirements**;

Remark: the metering requirements currently applicable (see most recent version of mFRR general framework agreements for more information) remain valid in 2020 and are therefore not reminded in this document.

- The information required for the concerned delivery points (localisation; inclusion in a valid access contract, **DPmFRR,max, DPmFRR, ref** values...)

Remark: as currently implemented for reserved and non-reserved (non-CIPU) flexibility, **the DPmFRR max value** is an indication on the maximal flexibility potential of a concerned delivery point. In other words, it corresponds to the maximal flexibility (reserved and “non-reserved” together) ELIA could activate on this delivery point. This information is not calculated by ELIA but communicated by the supplier during the procedure for acceptance of a delivery point.

- In case of Delivery Points in CDS, the CDSO declaration;
- In case of submetering Delivery Points: Submeter Commissioning Test
- The grid user declaration ;
- The document and information related to the transfer of energy rules.

5.4. Step 4 - prequalification test

The prequalification test is applicable from the moment a supplier is willing to offer a volume and to participate to the auction organized for the reservation of balancing capacity (see section 6).

The prequalification test is realized upon supplier’s request and will be organized within a 48h time window during which ELIA will trigger the activation by surprise. ELIA will **not remunerate the prequalification test**. To avoid negative influence on ELIA’s balancing position; ELIA can **neutralize the effect of the prequalification test with a compensation bid**.

The objective of the prequalification test is to measure the **supplier’s aptitude to respect the product’s technical and operational constraints**.

ELIA will seize the opportunity offered by the merge of current contractual framework into one single Terms and Conditions to harmonize the applicable prequalification test profiles.

Figure 7 below details the prequalification test profile applicable for the mFRR standard product while the Figure 8 illustrates the one for the mFRR flex product and Figure 9 – prequalification test profile applicable to the combination of mFRR standard and mFRR flex product illustrates the combined (standard + flex) test profile.

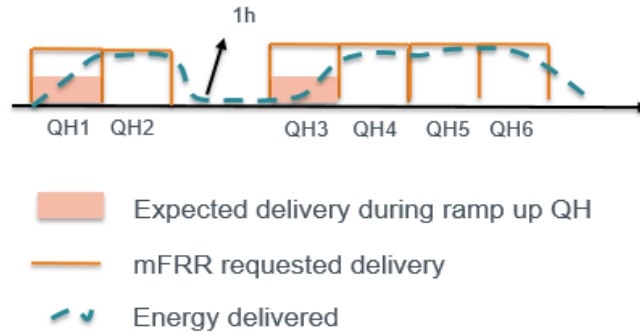


Figure 7 : prequalification test profile applicable to mFRR standard product

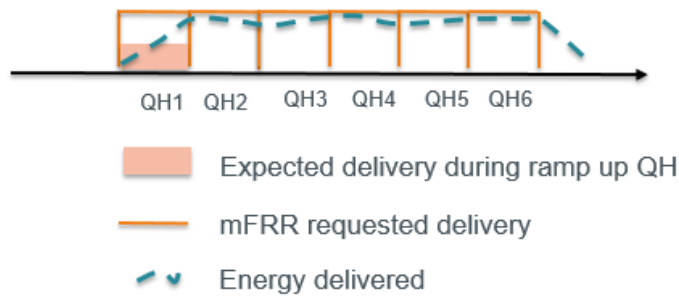


Figure 8 – prequalification test profile applicable to mFRR flex product



Figure 9 – prequalification test profile applicable to the combination of mFRR standard and mFRR flex product

5.5. Test results

ELIA analyses BSP's actual response to the prequalification test triggered by surprise to calculate the mFRR prequalified power for the concerned delivery point(s).

To determine the max prequalified power, ELIA applies the following principles:

1. The minimum power of mFRR delivered during all QHs (except the 1st ramp-up QHs) is calculated;
2. For the ramp-up QH, the double of the measured delivered power is considered;
3. The mFRR max prequalified power for the concerned delivery points corresponds to the minimum between the 2 values calculated in steps 1 and 2.

Furthermore, it is important to remind that the Transfer of Energy rules as currently implemented will be applied for the prequalification test.

Finally, ELIA reminds that the current two baseline methodologies ("High X of Y" and "last QH" are applicable and that it is up to the BSP to determine (per delivery point) which one should be considered by ELIA for the determination of max mFRR prequalification volume and later on in the process (activation).

6. Procurement of balancing capacity

6.1. Daily procurement cycle

To determine how the procurement cycle of its three reserves (FCR, aFRR and mFRR) could be organized in the most optimal way possible, ELIA considered the following constraints:

- 1) From the moment an auction result is known, market parties must have sufficient time to re-optimize and offer non-retained volumes in the following auction. This signifies that aFRR, FCR and mFRR auctions must be organized **in sequence**;
- 2) Last auction results (mFRR) must be known ahead of the gate closure time of day-ahead market. Sufficient time should be given to market parties to re-optimize and offer non-retained volumes on this market;
- 3) Timing of FCR auction is fixed in the regional cooperation and cannot be changed. As of 1st July 2020, FCR gate closure time is 8:00 in day-ahead, while publication of FCR results is 8:30;
- 4) The procurement of FCR, aFRR and mFRR must be **organized in day-ahead (4 hour blocks)** following transparent and simple procurement rules.

The figure below illustrates ELIA's vision on the organization of daily procurement cycle for FCR, aFRR and mFRR. **It is important to remind that FCR and aFRR will only evolve to daily procurement cycle and respect the timing below as of July 2020⁹ while mFRR is expected to start as of 1st February 2020¹⁰.**

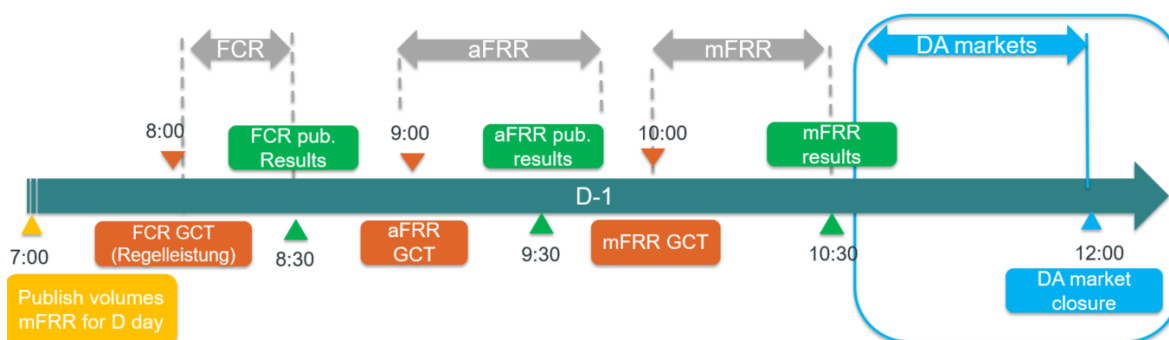


Figure 10 – organization of daily procurement cycle of FCR, aFRR and mFRR in 2020

⁹http://www.elia.be/en/about-elia/publications/Public-Consultation/Archives/20181109_Implementation-plan-for-a-new-aFRR-design

¹⁰ Please note this timing is indicative and represents ELIA's target go live. Seen the numerous interactions with other projects (as highlighted in the mFRR implementation plan), this timing might need to be reviewed in 2019 in order to take most recent evolutions on all of these topics into consideration.

For the procurement of mFRR capacity, the gate closure time of the auction is set to 10:00 a.m while the result publication is expected at 10:30 (at latest).

6.2. Second round

In case the volume to be procured by ELIA cannot be found during the product auction or in case of IT troubles, a second auction round will be foreseen by ELIA. It will be organized in day-ahead after closure of DA markets.

6.3. Bidding rules applicable to the balancing capacity reservation process

During the consultation of the study on the evolution towards a daily procurement of mFRR¹¹, market parties clearly formulated their concern with regards to the **expected operational impact** of daily procurement cycle and highlighted the necessity to **simplify the current set of bidding rules**. Moreover, the limits of the current rules and related optimization function (total cost optimization) with respect to **transparency** were mentioned.

These concerns are shared by ELIA and have led to a complete review of the current bidding instructions, keeping in mind that the capacity tender is **portfolio based** (which means that technical specificities of individual power units only have to be considered in the energy bid submission process). This way, the following evolutions are confirmed:

- 1) Evolution of the optimization function from total cost optimization (on both mFRR standard and mFRR flex) towards a **merit order selection** implemented for both products with a procurement organized in two steps;
- 2) Evolution from a non-combinable bids logic towards full combinable bids **per** mFRR product ;
- 3) Evolution from non-divisible bids towards **full divisible bids**;
- 4) As a consequence of the three above mentioned evolutions, suppression of complex bidding instructions.

The evolution in bidding rules proposed by ELIA is illustrated in the graph below:

¹¹<http://www.elia.be/en/about-elia/publications/Public-Consultation/Archives/Formal-public-consultation-evolution-daily-procurement-mFRR-may-2018>

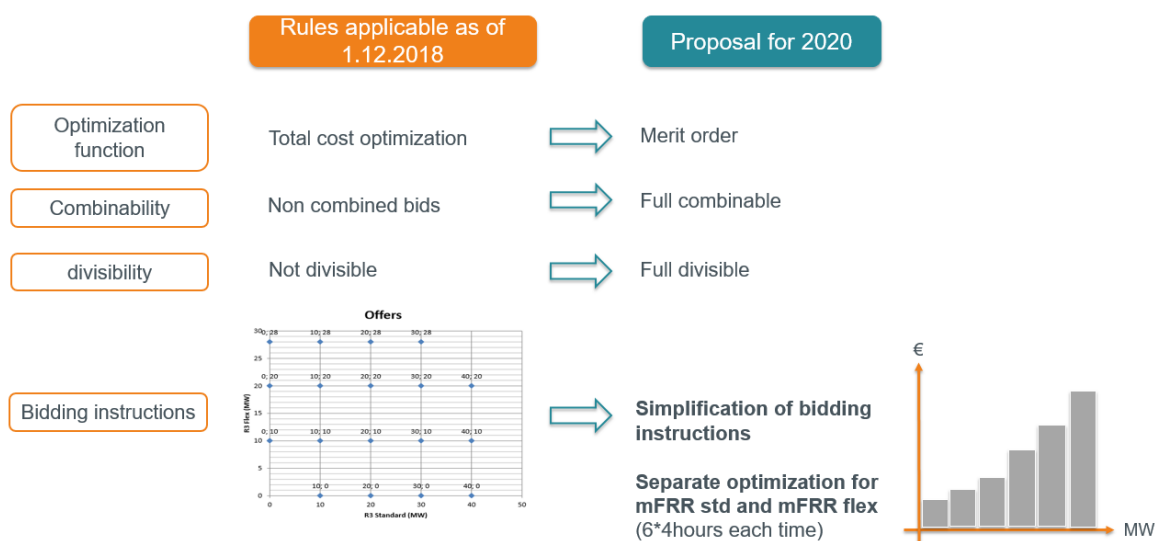


Figure 11 – summary of the evolution in bidding rules proposed by ELIA and applicable to the 2020 mFRR product mix (mFRR standard and mFRR Flex).

Important remark – notion of indivisibility on energy bids

ELIA proposes – to facilitate and improve the current energy bid submission process – to introduce the notion of **indivisibility on energy bids**. In this way and as the energy bid submission process can be unit-based, a supplier will be able to consider asset specific technical constraints (if any). The requirements and constraints related to the notion of indivisibility are detailed in section 7.3 of this document.

6.4. Organization of mFRR auctions for the procurement of balancing capacity

6.4.1. mFRR auction timing

Both mFRR products will be procured per block of 4 hours with a capacity auction organized in D-1 before market gate closure time (12:00). ELIA foresees one single gate closure time for the mFRR products at 10:00 and the publication of both auction's results at 10:30.

6.4.2. mFRR procurement – organization in daily procurement cycle

The procurement of mFRR products consists in two steps:

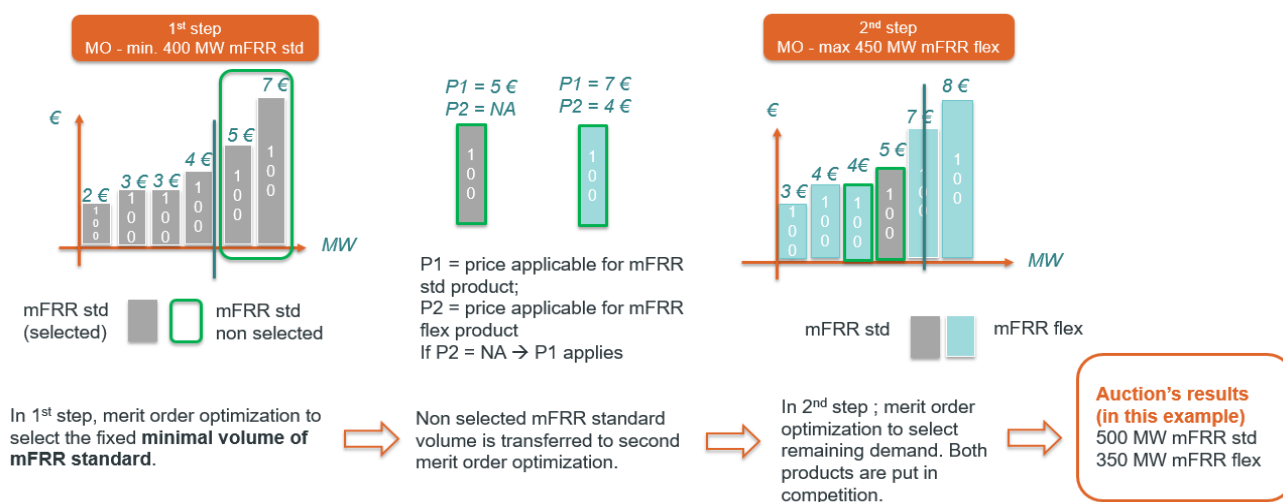
1. In the first step, ELIA procures a minimal volume of mFRR standard as determined as outcome of 2020 dimensioning methodology;

2. In the second step, ELIA procures **the rest of ELIA's mFRR need** (calculated dynamically for the concerned delivery period of 4 hour).

In this second step, the **non-selected offered mFRR standard capacity bids during the first step is put in competition with the mFRR flex bids for the remaining volume of reserves which need to be procured**. This non-selected volume shall be either considered as “mFRR standard” or as “mFRR flex” by ELIA, based on the prices nominated by the BSP. Indeed, a BSP participating to the first merit order selection for mFRR standard will have two bidding possibilities:

- One price (P1) corresponding to the volume **offered in mFRR standard** and;
- A second price (P2) corresponding to the same volume offered (in case it is not retained in first step) in **mFRR flex**. In case P2 is not nominated by the BSP, ELIA will consider the related volume as mFRR standard (with P1).

Both prices (P1 & P2) are nominated by the BSP beforehand, before the product gate closure time (10:00). The example below illustrates the proposed procurement process.



The organization of mFRR auctions proposed above provides the following advantages and answers to the concerns raised by market parties during the consultation of the study on the evolution towards a daily procurement of mFRR:

- Minimize operational (IT & operators) complexity and required development, especially when considering the mFRR flex product is a **transition product** with a **limited lifetime**;
- Allow the implementation of simple and transparent bidding rules;
- Increase market transparency;
- Provide an incentive to market parties to offer mFRR standard.

6.4.3. Volume split between mFRR standard and mFRR flex products

Volumes to be procured will be published by ELIA in the morning (around 7:00 am) when the results of the dynamic dimensioning methodology are known. The methodology determining the volume repartition between mFRR standard and mFRR flex will be elaborated later on in ELIA's 2020 dimensioning methodology and its related documents (a.o LFC Bloc Operational Agreement) and is therefore not part of this design note. However, ELIA reminds the following high level principles put forwards in its implementation plan:

- 1) Compared to 2019 mFRR standard volume, 2020 mFRR standard volume should increase;
- 2) ELIA will gradually reduce the relative share of mFRR flex which needs to be procured and therefore provide the right incentive to market parties to evolve towards the long term standard mFRR balancing capacity product.;
- 3) As of 2020, the mFRR need will be calculated dynamically and will evolve per block of 4 hours; the difference between the pre-determined volume of mFRR standard and the total need calculated for a specific 4 hour block will be covered by the mFRR flex product. This might concretely lead to 6 different volumes of mFRR flex being procured during same auction in day-ahead.

7. Submission of Balancing energy bids

This section details the requirements according to which a BSP must submit its balancing energy bids. **Those rules are applicable to both balancing energy bids resulting from a reserve obligation and to the additional flexibility offered to ELIA as “non-reserved” energy bids”.**

In 2020, there will still be two possible ways to submit balancing energy bids:

- Explicit bidding via the nomination platform (BMAP). This concerns the flexibility currently known as:
 - o mFRR reserved CIPU;
 - o mFRR reserved non-CIPU and;
 - o mFRR non-reserved non-CIPU
- Implicit bidding (calculated by ELIA) via the current tools (a.o: PROBID). This concerns the flexibility known as “free-bids CIPU” and remains valid in 2020. Rules applicable to the implicit bidding are described in the current CIPU contract and are therefore not reminded here.

7.1. Individual vs portfolio bid submission process

As already mentioned in section 4.1, **delivery points subject to the obligation to submit an individual MW schedule must respect an individual energy nomination process in the nomination platform (BMAP).**

Other delivery points may be aggregated in portfolio bids by the BSP if needed.

7.2. Bid characteristics

7.2.1. Max bid size

If an energy bid consists of more than one delivery point, **the maximal bid size is fixed at 100 MW**. This threshold is determined considering on one hand ELIA’s objective to give BSPs the highest possible flexibility for their portfolio optimization and by doing so; to benefit from potential portfolio effects and on the other hand the operational and financial aspects related to the merit order activation (for balancing) and the organization of availability tests.

Indeed, a portfolio bid without maximal bid size could be difficult to activate for balancing purposes (if the bid is flagged as “indivisible”) or for availability test purposes (if the bid is flagged as “reserve”).

An energy bid related to a delivery point with individual MW schedule is not limited in size.

7.2.2. Granularity

The granularity of energy balancing bid is 1 MW, with a minimal bid size of 1 MW.

7.2.3. Price

There is only one price per energy bid. As the CIPU contract currently organizes the information exchange related to the price of incremental and decremental bids between the BSP(s) and ELIA (free bids), this information will be used as input to remunerate the mFRR activated energy flagged as “CIPU” reserve and offered via BMAP.

For “non-reserved non-CIPU” flexibility as well as for “reserved” non-CIPU flexibility, the BSP will respect the process currently in place and introduce its activation price via the nomination platform (BMAP) in € / MWh.

7.2.4. EAN of nominated delivery points

The BSP must always indicate to ELIA for each introduced bid which delivery points are concerned by the offered volume by identifying each delivery point's EAN in the bidding platform (BMAP).

This information is required **to apply the Transfer of Energy rules** as well as **to filter out of the bid the delivery points located in a congested area (in both directions)**, from the moment they are identified by ELIA.

Operationally, once a congested area is identified, the following principles are followed by ELIA:

- 1) The energy bid including delivery points located in congested area (with DPmFRR max > 25 MW) can only be adapted **to reduce** the nominated volume. ELIA will not accept a modification of nomination (or a new bid) that aggravates the congestion problematic;
- 2) The individual energy bids with DPmFRR max > 25 MW are excluded from the activation merit order;
- 3) In case of portfolio bids, ELIA will reduce the nominated volume of energy by the DPmFRRmax of each delivery point concerned by the congestion problematic (delivery point with DPmFRRmax > 25 MW);

The volume of energy left on this portfolio bid (being provided from delivery points not concerned by the congestion problem) may still be activated by ELIA. In those circumstances, the removed delivery points can obviously not be used by the BSP in answer to ELIA's activation request.

It is to be reminded that a BSP always has the possibility to update himself his energy bids (until 45 minutes before real time) to maximize its volume of flexibility that can be activated by ELIA.

7.2.5. Reserved and non-reserved balancing energy

For transparency, operational and settlement reasons (a.o: congestion management, organization of availability tests, application of transfer of energy rules...), ELIA must always know with which delivery point(s) the supplier intends to respect its reserve obligation.

In this way, the supplier will – via the energy bid submission tool – select its contractual obligation and flag as “**reserve**” each balancing energy bid nominated for that purpose. Two additional requirements apply here:

- 1) The supplier can only nominate as “reserve” a volume equivalent to its contractual obligation (taking into consideration possible deals on secondary market) and;
- 2) At the level of the energy bid, a supplier can nominate as “reserve” a volume up to the sum of the DPmFRR,max of the concerned delivery point(s).

Furthermore, the BSP has the possibility to offer “non-reserved non-CIPU” balancing energy with its pool of delivery points. To do so, he **will flag the bid as “non-reserved”** on the bidding platform.

Finally, there is a possibility for which – after having flagged as “reserve” energy bids up to a volume corresponding to its reserve obligation - additional flexibility can be offered by the BSP on the last flagged bid. **If the reserve obligation is related to the mFRR standard product**, the supplier is authorized to nominate and flag this additional volume of flexibility **on the same bid** as “non-reserved”. This exception is only **valid for one bid per quarter-hour and per BSP**.

In case the reserve obligation is related to the mFRR flex product, this rule does not apply as those specific bids are put at the end of the merit order list.

To illustrate and give more explanations on the nomination requirements listed above, examples are proposed below. The first example illustrates the energy nomination possibilities according to the rules described above while the second example clarifies why ELIA only authorizes the combination of “reserved” and non-reserved” balancing energy on one bid per BSP and per quarter-hour.

Example 1: Example of expected bidding behaviour

In this example, the BSP has:

- Prequalified a volume of 75 MW of mFRR standard on its portfolio;
- Indicated to ELIA the DPmFRR,max of each delivery point which corresponds to the maximal volume of flexibility that can be delivered on this delivery point. The total potential of BSP’s portfolio is 100 MW.

This concretely means that:

- The BSP can only offer up to 75 MW of mFRR standard to the capacity auction;
- The BSP can offer up to 100 MW of flexibility for one quarter-hour; with 25 MW of “non-reserved” balancing energy.

Taking the assumption that for the concerned delivery period, the BSP has a reserve obligation of 45 MW of mFRR standard, its nomination for one quarter hour of this delivery period will consist in:

- Bids flagged as “reserved” mFRR standard (bid 1 and bid 2);
- One bid with both “reserved” mFRR standard and “non-reserved” flexibility (bid 3);
- One remaining bid of “non-reserved” flexibility (bid 4).

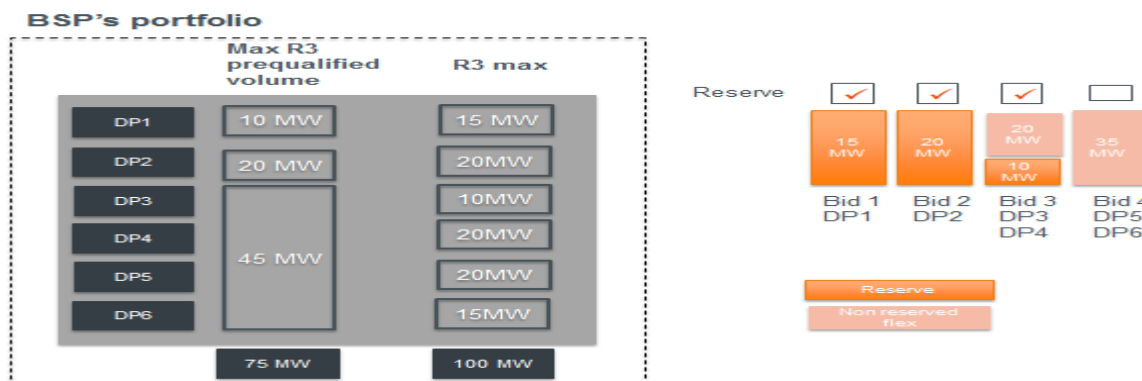


Figure 12 : Example of expected bidding behaviour

Example 2: Example of non-authorized bidding behaviour

In this example, the BSP has a reserve obligation of 17 MW of mFRR standard and decides to offer to ELIA – on top of these 17 MW – 73 MW as “non-reserved” balancing energy.

To do so, the supplier decides to nominate a limited volume of reserve on each submitted bid for a specific quarter hour. This is illustrated below:

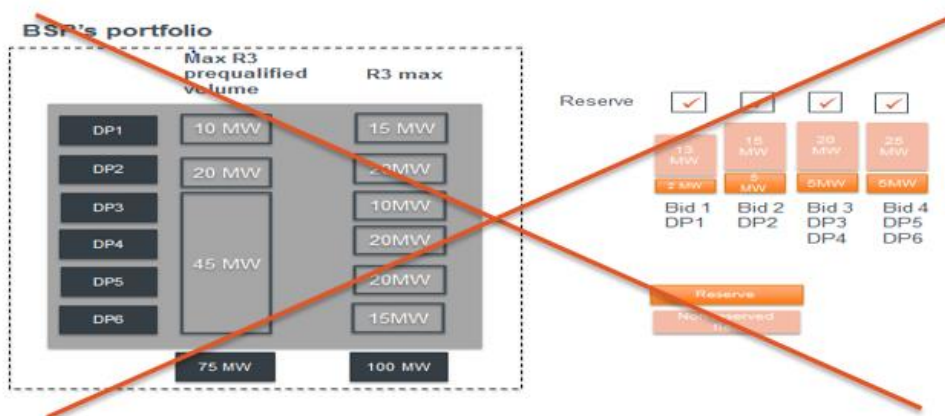


Figure 13 : Example of non-authorized bidding behaviour

This bidding strategy is not accepted by ELIA for the following three reasons:

- 1) Activating a fraction of a nominated volume of one bid (ELIA only tests the balancing energy related to an obligation of reserve) does not reflect the effective availability of the offered energy on the concerned delivery points;
- 2) Following the availability test principles described in the section 10; ELIA has the right to verify – from time to time – the effective availability of its upward reserve by activating specific energy bids on which a volume of reserve is nominated. In the example above, from the moment ELIA decides to test the 17 MW obligations, this signifies bids 1 to 4 are activated.

As a consequence, the volume of “non-reserved” flexibility nominated on those same bids will not be available for ELIA’s dispatching – should there be a need to activate it for balancing purposes – for the entire test duration (30 minutes). From an operational perspective, this is not acceptable.

- 3) The scenario illustrated in the Figure 13 above may significantly increase the number of bids to be activated for availability test purposes. This uselessly makes the operational process more complex for both the BSP’s and ELIA.

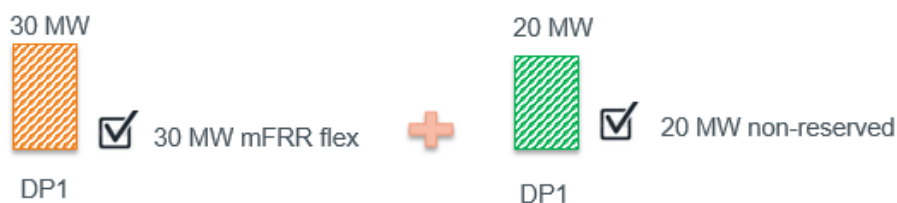
For all these reasons, ELIA only authorizes one bid per BSP and per quarter hour on which both volumes (reserved mFRR standard and non-reserved) can be nominated.

Example 3: Example of bidding behaviour with mFRR flex

A BSP wins a contract of 30 MW of reserve (mFRR flex) and have an additional potential of flexibility of 20 MW on the delivery point he intends to use to respect its contractual obligation (delivery point 1). As mentioned above, this BSP cannot nominate one single bid of 50 MW in which he indicates the volume of mFRR flex (30 MW) and non-reserved (20 MW) as illustrated below.



As the volume of mFRR flex must be nominated on separate bids because of their specific position at the end of the merit order list; the BSP has the obligation to nominate two separate bids to offer its 50 MW as illustrated below:



In conclusion, one delivery point can only be nominated on maximum 2 separate bids for the same quarter hour, with the possible following combinations:

- Reserved mFRR standard and Reserved mFRR flex or;
- Non-reserved mFRR and Reserved mFRR flex or;
- Reserved mFRR standard with non-reserved mFRR (on one bid) and reserved mFRR flex (on the second bid)

ELIA also reminds the principle detailed in the aFRR design document which excludes the combination of aFRR portfolio bid and mFRR portfolio bid for one delivery point for one quarter hour (this rule only enters into force from the moment of new aFRR design goes live (mid 2020).

7.2.6. Max number of QH to be activated for NR non-CIPU balancing energy

The current “bidladder” contract offers the possibility to BSP to select the number of quarter-hours the nominated flexibility can be activated (from 1 to 4). This parameter is only applicable to the non-reserved non-CIPU balancing energy bids.

As this parameter is barely used today, as it is only applicable to a very limited volume of flexibility and to simplify the implementation work, ELIA proposes to abandon it in order to have a fully harmonized balancing energy submission bid process. Furthermore, this parameter won’t have a reason to exist anymore from the moment the neutralization time is reduced (as currently foreseen in ELIA’s LT vision).

7.3. Indivisibility in energy bid submission process

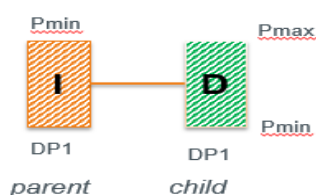
As introduced in its implementation plan on the evolution towards a daily procurement of mFRR¹², ELIA proposes – to facilitate and improve the current energy bid submission process – to introduce the notion of indivisibility on energy bids **in the nomination platform (BMAP)**.

This way, a supplier will be able to consider asset specific technical constraints (e.g: P min of a production unit) in its bidding behavior. Furthermore, this evolution is in line with the requirements for standard products described in article 25 of Electricity Balancing Guidelines.

This section details how the notion of indivisibility influences the requirements described above (section 7.2) for each characteristic.

7.3.1. Max bid size

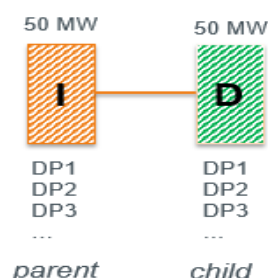
For individual bids, the maximal bid size of the indivisible bid is capped to its technical characteristics “Pmin”. In this way, to nominate the full flexibility of this delivery point, a BSP will have to nominate two separate bids and **indicate the link between both** (parent – child) as illustrated below:



The link “parent – child” signifies that ELIA can only activate the bid identified as “child” (in green in the example above) once the bid identified as “parent” is activated. The bid “child” is fully divisible while the bid “parent” is indivisible.

¹²¹² http://www.elia.be/en/about-elia/publications/Public-Consultation/Archives/20181109_mFRR-public-consultation

For portfolio bids, the max bid size of 100 MW calculated in section 7.2.1 applies on the pair of bids “parent-child”. The exact volume split between the indivisible bid and the divisible bid of such pair is determined by the BSP according to its own optimization. In the example below, the BSP nominates 50 MW on an indivisible portfolio bid and 50 MW on a divisible portfolio bid.



Important remarks

- 1) In case a pair “parent-child” concerns more than one individual delivery point, the list of delivery points of each bid of this pair must be exactly the same.
- 2) ELIA keeps the right to impose a specific cap to an indivisible portfolio bid if inappropriate bidding behavior is observed for a BSP.

7.3.2. Prices

As the CIPU contract currently organizes the information exchange related to the price of incremental and decremental bids between the BSP(s) and ELIA (CIPU free bids), this information will be used as input to remunerate the mFRR activated energy flagged as reserve and offered via BMAP.

Looking at the pair “parent-child”, this signifies the price of both bids must remain identical. This principle also concerns non-CIPU flexibility.

Important remark

The consideration of start-up costs as implemented in the current contract and processes remains identical in 2020.

In ELIA’s long term vision and as foreseen by the European Guideline on Electricity Balancing, the start-up cost of an asset should be included and nominated by the BSP in its indivisible bid (along with its other fixed costs). In such configuration, it becomes then logic to have a specific activation price related to the indivisible bid; different than the one nominated on the “child” (divisible bid).

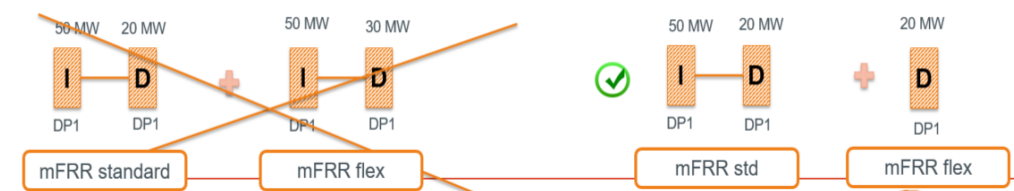
7.3.3. Reserved and non-reserved energy

In addition to the rules presented in section 7.2.5, two specific requirements related to the notion of indivisibility must be clarified.

- 1) **One delivery point can only be nominated once** (per quarter-hour) **in an indivisible bid**; no matter the combination proposed.

The example below illustrates why such requirement is imposed. Indeed, a BSP has no reasons to nominate one delivery point twice in an indivisible bid as – based on the nominated activation price – one of the two bids will be activated first (and therefore, the fixed costs justifying the introduction of an indivisible bid would be covered).

Furthermore, as soon as one delivery point is used on more than just an mFRR flex bid for one quarter hour, the pair “parent-child” in which the indivisible bid is nominated must always concern the other “type” of balancing energy (mFRR standard or non-reserved). This is explained because of the position of mFRR flex at the end of the merit order list.



- 2) **An indivisible bid (“parent”) can only contain one type of balancing energy (standard; flex or non-reserved)**. Indeed, ELIA implements the concept of availability test to verify BSP’s obligation to offer – at all time – a volume equivalent to its contractual obligation. These tests will consist in an activation of one or several bids (details of the availability test procedure are detailed in section 10 of this document) flagged as “reserve”. In case several “types” of balancing energy are flagged on an indivisible bid; ELIA will be forced to activate the entire bid to test the volume flagged as “reserved”, while a part of it would in fact be “non-reserved”. This suboptimal situation is illustrated in the example below:



7.4. Timing of balancing energy bid nomination resulting from mFRR contract

The balancing energy bid nomination process will occur via the bidding platform (BMAP). In this way, the following 2 deadlines are relevant for concerned BSPs:

- 1) Once the BSP is awarded an upward capacity obligation (in DA at 10:30 am), he has until 15:00 the same day to submit its balancing energy bid nomination for a volume corresponding to its capacity obligation (also called “reserve nomination”);
- 2) In case of changes in intraday, the BSP can update its energy bids until 45 minutes before the concerned QH.

The conditions for an update of energy bid – including in the case of a red zone – remain unchanged compared to the current contractual procedures.

An example is given in the illustration below for the 6 delivery period of one specific day, from the moment ELIA communicates on the volumes to be procured during capacity auction.

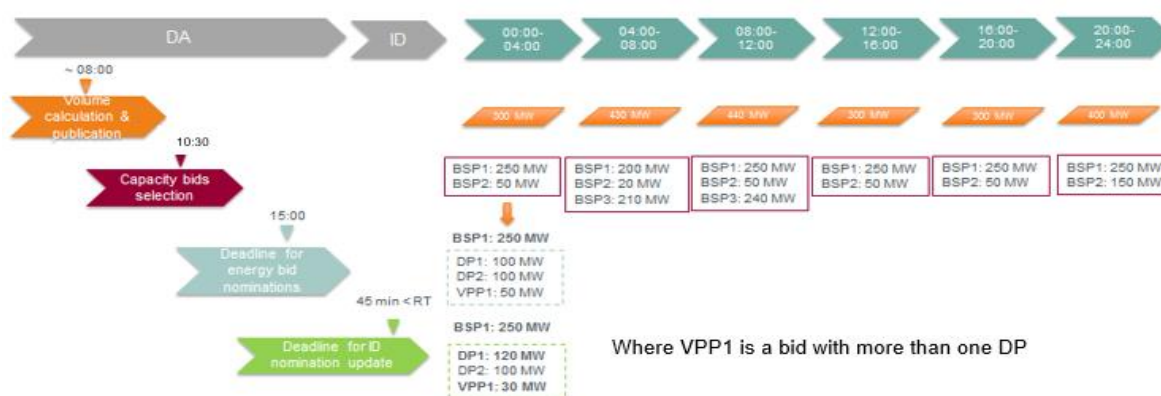


Figure 14 : Timing related to balancing energy bid nomination process from day ahead

7.5. Consideration of “Forced outage” in the nominations

Immediately after the occurrence of a forced outage that impacts the supplier’s reserve obligation, the supplier quantifies the impacted volume and communicates it to ELIA.

In parallel, the supplier adapts its intraday nomination for the first possible quarter-hour, considering the nomination process neutralization time. This nomination update is essential for ELIA as it will be used as input for an activation or to trigger of an availability test.

ELIA authorizes a reconstitution time of **4 hours** – starting from the notification to ELIA of the occurrence of FO– to give the supplier time to **find a back-up solution**, being either in its own portfolio or by a deal on the intraday secondary market.

Remarks:

- 1) ELIA will only confirm an exchange of reserve obligation through the secondary market intraday if both BSPs are technically able to fulfil the obligation, taking also into consideration their initial reserve obligation for the concerned delivery period(s). ELIA will use the mFRRmax of each BSP as reference for this control (as already done in the current contractual framework).
- 2) The principles ruling the secondary market are not modified by the 2020 design evolution and are therefore not reminded here. More information can be found in the mFRR general Framework agreement.

Once the solution is found and before the end of the 4 hours reconstitution time, the BSP update its nominations.

If, by the end of these 4 hours, no solution has been found and part of the obligation cannot be fulfilled by the supplier, ELIA will automatically apply the following penalty on the missing volume:

$$\text{Penalty} = (\text{Missing volume} / \text{reserve obligation}) * 1.3 * \text{remuneration of the concerned delivery period(s)}$$

This penalty also applies to any missing MW in the nomination of energy bids.

Remark: Occurrence of FO is rare. The use of this 4 hours reconstitution time must therefore remain exceptional. If ELIA observes the occurrence of several FOs on same delivery points over a limited period of time or if the BSP fails to explain their reason, ELIA will exclude these delivery points from the supplier's prequalified pool until the supplier proves that a durable solution has been found and implemented to avoid such event in future delivery periods (by re-prequalifying the delivery point).

8. Energy bid activation

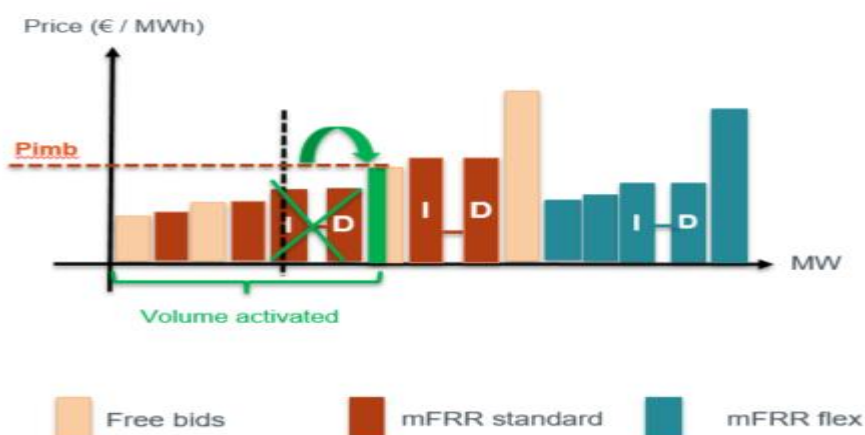
The evolutions related to the merit order activation for mFRR presented in the R3 2018 design note¹³ still remain valid for this product design evolution foreseen to enter into force as of 1st February 2020.

This section only describes how the indivisibility on energy bids is considered by ELIA in the merit order list and clarifies how the neutralization time of the mFRR flex product is considered now that this product energy requirement evolves to 4 hours.

8.1.1. Consideration of indivisibility in merit order list

In case the volume to be activated by ELIA falls into an indivisible bid; **ELIA will select and activate the next acceptable bid (the next bid that covers the volume required by ELIA).**

This principle is illustrated with the example below. The black line represents the volume that ELIA needs to activate. As it falls on an indivisible bid, ELIA will skip the pair “parent-child” concerned and activate the remaining volume on the next acceptable bid (in green in the illustration below).



8.1.2. Consideration of mFRR flex neutralization time

One specific characteristic of the mFRR flex product is that it allows a neutralization time of 8 hours between two activations. The 8 hour period starts from the beginning of the first activated quarter-hour and only applies to an existing bid.

To minimize the implementation impacts and taking into consideration that the mFRR flex volumes are going to shift towards one single mFRR standard product, ELIA proposes to consider the entire volume of the bid as “neutralized” for a 8 hour period even in case the concerned bid is partially activated. For the pair “parent-child”; both bids will be neutralized for the 8 hour period.

¹³www.elia.be/~media/files/Elia/users-group/Working-Group-Balancing/Projects%20and%20publications/20180905_R3-2018-Public-Design-Note.pdf

9. Settlement of activated energy

9.1. Transfer of Energy

The transfer of energy rules applicable as from 1st December 2018 remain valid for this product design evolution foreseen on 1st February 2020.

ELIA reminds that these rules also apply for the prequalification tests (organized during the prequalification procedure following the modalities described above in this document) and for the availability tests.

9.1.1. Alternative solution “pass through contracts”

In answer to the public consultation on aFRR implementation plan¹⁴, ELIA confirmed that its proposal regarding the alternative solution for pass through contract (also presented during WG balancing on 28/11/2018) should be product neutral. In consequence, ELIA will analyze this solution in concertation with CREG on both the aFRR **and mFRR market**; regardless of the injection or offtake character of the delivery point in question.

If the outcome of this analysis is positive, the exact modalities will be included in 2019 in an updated version of the Transfer of Energy rules and subject to public consultation in accordance with the usual approval process. Such amendment of the “ToE rules” would be expected therefore to enter into force with the evolution of mFRR design on 01.02.2020.

9.2. Evolution to pay-as-cleared for the settlement of balancing energy

In 2017, ELIA performed a study regarding the pricing methodology¹⁵ used for the settlement of balancing energy. In this study, an assessment was made of the advantages and disadvantages regarding an evolution towards a pay-as-cleared methodology.

Regarding mFRR, ELIA recommended to evolve towards such settlement methodology from 2019 at the earliest, once the 2018 mFRR design evolution were implemented.

Consecutive to this study, ELIA uses the 2020 mFRR design evolution to confirm its intention to implement – as of the go live of the new design mFRR (01.02.2020) - **the pay-as-clear methodology for the settlement of balancing energy**.

In this way and as the mFRR flex is still at the end of merit order, the following two principles are proposed:

¹⁴http://www.elia.be/~media/files/Elia/publications-2/Public-Consultation/2018/20181221_feedback-of-stakeholders-on-aFRR-implementation-planversion-final-non-confidential.pdf

¹⁵ www.elia.be/en/users-group/Working-Group_Balancing/Projects-and-Publications/Study-Evolution-to-paid-as-cleared-for-the-settlement-of-activated-balancing-energy

- 1) For mFRR standard and free bids, the settlement price is equal to the most extreme between the activation price with the “free bids and mFRR standard merit order” on the one hand and the “mFRR flex” merit order on the other hand;
- 2) For mFRR flex, the settlement price is equal to the most extreme price of the mFRR flex merit order.

9.2.1. Pay-as-cleared settlement logic with scheduled activation and direct activation

The current settlement principles¹⁶ (the requested energy is remunerated by ELIA and used as input for BRP perimeter correction) remain valid in the context of pay-as-cleared settlement logic. The only changes will come from the price used for each settled quarter-hour.

The example below illustrates a scheduled activation of 50 MW for 2 quarter-hours, for which ELIA will remunerate the requested energy as illustrated by the purple line.



Figure 15 – settlement of energy in scheduled activation logic

In case an activation with immediate start is requested by ELIA (i.e. an activation inside of a quarter hour), the energy corresponding to the mFRR requested in the quarter hours of activation is calculated based on a pro rata rule, applied as follows:

$$mFRR \text{ Requested} * \frac{\Delta t}{15} * \frac{1}{4} [MWh]$$

Where Δt is the duration in minutes of the activation until the start of the next quarter-hour.

¹⁶ Please consult the last version of General framework agreement for more information

10. Availability control

Balancing capacity (contracted reserves) is one of ELIA's regulation means to cover imbalances caused by unforeseen events such as forecast errors on renewable generation or outage of production units. . Elia has the legal obligation to have sufficient means to cover system needs (art. 157 of SO GL). It is therefore essential for ELIA to have the guarantee that the contracted volumes can be delivered at any time, upon ELIA's activation request.

Since 1st December 2018, the remuneration of activated energy and the merit order principle (free bids and mFRR standard) is implemented. This signifies that ELIA's activation criteria for both "non-reserved" and "reserved" flexibility will be the energy activation price (inc. the start-up costs). As a consequence, it becomes very likely that some volume of reserves (if at the end of the merit order) will not frequently be activated for balancing purposes. Furthermore, the observed number of mFRR activation over the last years remains limited.

ELIA will implement – following a logic similar to the one presented to market parties in 2016 in the framework of the FCR design review – the principle of **availability tests**. These tests will be applicable to both mFRR standard and mFRR flex reserve and aim at **verifying the effective availability and delivery of the nominated volumes flagged as "reserve"**.

This section describes the availability tests principles as well as how ELIA intends to implement them into its operational and settlement processes.

10.1. Availability tests principles

10.1.1. Test profile and characteristics

When triggering an availability test, ELIA has 2 objectives:

- 1) To make sure the offered energy is effectively available and;
- 2) To verify it can be delivered within the 15 minutes; as per product definition.

To achieve those 2 objectives, ELIA determines the following parameters:

1. The test **lasts 2 successive QH**. The first one being used by the BSP to ramp up to the required volume and the second one to maintain the delivered energy to the required level;
2. Each activation test can be **neutralized by ELIA with a compensation bid**. The activated bids (both for test and compensation) will not be considered in the determination of imbalance prices.

The test will follow the same protocols than those applicable for activation:

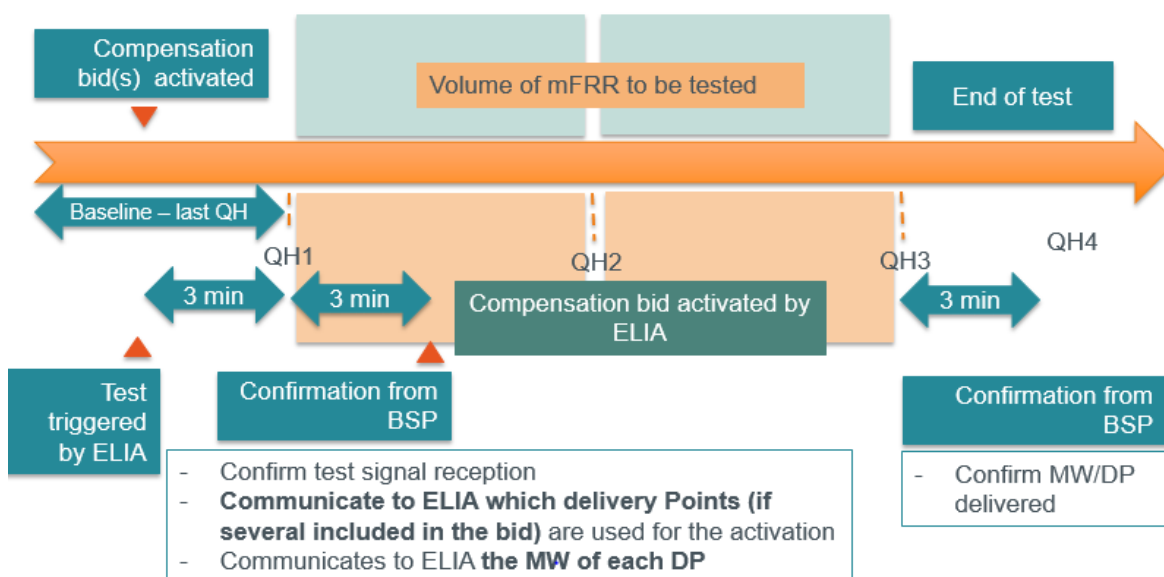
3. It can be triggered up to 3 minutes before the beginning of a quarter hour;
4. The supplier will acknowledge the good reception of the test request at last 3 minutes after the start of the activation;

5. For both individual and portfolio bids, the response message that the Supplier sends to ELIA must contain at least the information of which delivery points concerned will be activated by the supplier and for how many MWs, per QH;
6. Within 3 minutes after the end of the activation, the supplier sends to ELIA at least the information on volume (MW) effectively delivered by each concerned delivery point, per QH.

As for the prequalification test performed during the prequalification process, the **baseline** used by ELIA to verify the supplier's reaction to the activation test **is determined at delivery point level and is indicated by the BSP to ELIA (High X out of Y or last QH)**.

7. The “Transfer of Energy” rules are applicable.

The schema below summarizes the presented test profile and key characteristics:



10.1.2. Test volume

ELIA will only test its reserves. As only one energy bid can contain for a specific quarter-hour a volume of reserve and of “non-reserved” flexibility (see section 7.2.5), this signifies that ELIA can partially trigger an energy bid by specifying the volume (in MW) concerned by the test (in this case, only the “reserved part”).

Furthermore, ELIA will determine the maximal volume to be tested based on the operational conditions (system imbalance, volume of non-reserved flexibility that can be activated as compensation bid ...). This means that ELIA can – for an availability test – activate more than one energy bid flagged as “reserved” at a time.

10.1.3. Trigger criteria and test frequency

To limit the operational and financial impact of an availability test on the supplier, ELIA will adapt its test frequency based on analysis of all available and relevant information (previous tests results, previous activations, measurements, consistency with individual schedules (if any)...).

This “**smart testing logic**” is a transversal principle that will be applied by ELIA on all the reserved products concerned by availability tests (e.g: FCR). Obviously, this logic takes time to be implemented as it considers as input – among other parameters – the results of previous tests. As long as this smart testing logic is not developed, ELIA will aim for an **average test frequency of one test per BSP and per month**.

Remarks: This is an **average** test frequency for each BSP. In case of negative test results, ELIA has the right to perform **an additional test** on the same BSP on top of the one already done and without being considered in the average test frequency calculation.

Contractually, as the product delivery period is a 4 hour block, ELIA will have the right to perform one test per delivery period.

10.1.4. Test remuneration

The availability tests are part of the mFRR upward contract and no additional compensation is foreseen by ELIA for these tests. Suppliers should consider this when offering mFRR upward capacity to ELIA at the reserve auction.

10.2. Availability test settlement

For each triggered availability test, ELIA will verify the total reaction of the delivery point(s) to compare it with the requested one. The difference between both corresponds to the “Missing MW”. In case of positive “Missing MW”, ELIA applies a penalty on both the prequalified volume and the BSP’s monthly remuneration.

10.2.1. Volume related penalty

In case two availability tests lead to a positive “missing MW” (i.o.w in case the requested volume is not delivered) for the same delivery point(s), ELIA **will reduce the BSP’s mFRRmax by the volume corresponding to the minimal “missing MW” of these two tests**.

The BSP will then have to follow the prequalification process to re-assess its max mFRR prequalified volume.

10.2.2. Financial penalty

On top of the reduction of the mFRRmax, ELIA will financially penalize the BSP for the undelivered volume. To do so, ELIA will consider the following parameters:

- The **missing MW** calculated as described above;

- The **average monthly remuneration** for the reserve concerned by the test (mFRR standard or mFRR flex);
- A **multiplication factor** equal to 1.3;
- The **number of hours** for which the tested reserve (mFRR flex or mFRR standard) is contracted in concerned month.

The penalty is capped to the supplier's monthly remuneration for the concerned service (mFRR standard or mFRR flex) and determined based on the following formula:

$$\text{Penalty} = \text{Missing MW} * \text{average monthly remuneration} * 1.3 * \text{number of hours for which the tested reserve is contracted in concerned month.}$$

An example is provided below:

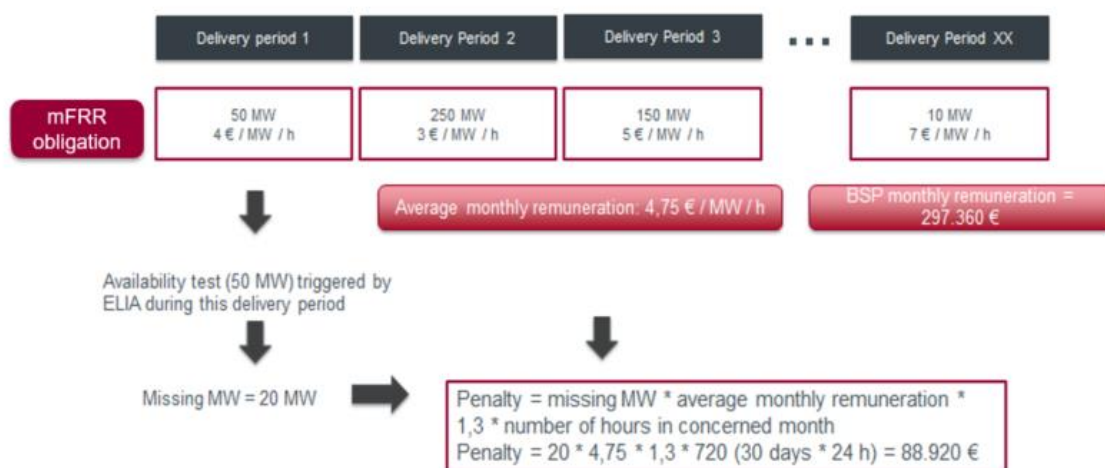


Figure 16 : Example of how the financial penalty is calculated in case of failed availability test

11. Activation control

With the implementation of the Transfer of Energy for tertiary control offered by non-CIPU units, the corresponding BRP_{BSP}'s will be exposed to the imbalance in case of incorrect delivery. As a result and since 1st December 2018 **both reserved (mFRR standard and mFRR flex) and non-reserved balancing energy activations are exposed to the imbalance**. Therefore, the need to develop additional financial penalties disappear. For 2020, ELIA will only maintain a monitoring of each activation and apply a volume related penalty as described below.

Disclaimer: The financial penalty resulting from the exposure to the imbalance is an incentive strong enough as long as only the Belgian area is concerned. From the moment the European cooperation projects for the exchange of balancing energy (e.g : MARI project) go live, ELIA will need to review the proposed mechanism to determine whether it requires adaptations

11.1.1. Penalty related to volumes

ELIA's current mechanism implemented for upward energy makes the difference between the activation of the "reserved" balancing energy (currently via the GFA CIPU and non CIPU) from the activation of the "non-reserved" energy (currently via the GFA non reserved non CIPU).

As ELIA wants to harmonize both principles and considering the fact that the "non-reserved" energy does not prequalify a maximal volume; **the volume related penalty for incorrect balancing energy activation will be a suspension of the delivery point(s) concerned from the bidding procedures for 30 days as of 3 incorrect deliveries for these delivery points over the last 6 months.**