



Proposal for an implementation plan for new aFRR design and separated procurement of FCR and aFRR

Market Development

20/12/2018

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INTRODUCTION

In the design note on the new aFRR design, several modifications have been proposed compared to the current product design: the implementation of a merit order activation, rules enabling portfolio bidding and other new features that facilitate the opening of the aFRR market to all technologies, independent on the voltage level and the type of aFRR provider (BRP/BSP).

Elia presented the new aFRR design to the stakeholders via a public consultation that was organized between the 3rd of September 2018 and the 30th of September 2018. Based on the feedback of the public consultation, Elia has updated the aFRR design note and has drafted a consultation report. All information can be found on the website of [Elia](#).

Elia has also presented the study concerning the “separated procurement of FCR and aFRR products” to the stakeholders and organized a public consultation between the 20th of April and the 22nd of May. The feedback on this study is summarized in the consultation report. All information can be found on the website of [Elia](#).

Given the fact that the implementation plan of the new aFRR design and the separated procurement of FCR and aFRR products are highly interlinked, Elia has decided to perform a combined consultation for the implementation plan. This document presents a proposal for an implementation plan concerning:

- Part I: the new aFRR design (including a recommendation on ToE)
- Part II: the separated procurement of FCR and aFRR products

In addition, other topics are described in this document:

- A description on how data will be collected for the aFRR settlement for non-CIPU assets (assets without an individual power obligation) on both the TSO and (C)DSO grid.
- A proposal for the capacity tender with a combined procurement of 24-hour blocks and 4-hour blocks. Also the timings of the capacity tenders for FCR, aFRR and mFRR are described.
- ELIA proposes an integrated implementation plan for aFRR and mFRR considering the constraints set by the other balancing projects identified for 2019.

Part I: Proposition of the implementation plan of the new aFRR design

In this part, the proposal for the implementation plan for the new aFRR design, including a recommendation for ToE, is described. Additionally, two other topics are presented:

- A description on the methodology for the capacity tender is given in Section 1.1.
- A description on how data will be collected for the aFRR settlement for non-CIPU technical assets on both the TSO and (C)DSO grid is given in Section 1.3.
- A description of the set-up of an integrated implementation plan for aFRR and mFRR considering the constraints set by the other balancing projects identified for 2019 is described in Section 1.5.

1 Generic aFRR design

1.1 Capacity tender

It is anticipated that at the go-live of the new aFRR design the FCR procurement will be regional (i.e. merged with the FCR cooperation) and there will be no longer a local FCR tender¹.

For aFRR, as outlined in the design note, a daily procurement is proposed. Following the consultation on the proposed aFRR design it appeared that the original proposal, a procurement of aFRR balancing capacity via 6 blocks of 4 hours was not optimal for assets with large start-up costs. When those assets would need to be started up for the delivery of aFRR, there is a risk that for each separate 4-hour block, a start-up cost needs to be included in the capacity bids. As a result the capacity cost could artificially increase which goes against the principles of cost-efficient capacity procurement. Moreover, it appears that for some technologies – which are currently delivering aFRR reserves - offering for a 4-hour block is not so obvious due to technical constraints. Therefore, Elia will also allow 24-hour blocks.

1.1.1 Methodology

The key principles for the capacity tender can be found below:

- Combinations of 4-hour blocks and 24-hour blocks
- 24-hour blocks are obliged to bid also 4-hour blocks
- A total cost optimization for together aFRR up and aFRR down on a daily basis.
- Bidding obligations for the two directions being aFRR up and aFRR down.

A total cost optimization will be applied on a daily basis together for the 24-hour blocks and the 4-hour blocks for the both directions, i.e. aFRR up and aFRR down together.

The following bidding principles shall be applicable:

1. Obligation to bid in the 2 directions separately in case a symmetrical bid is offered.
2. Obligation to bid 4-hour products in case a 24-hour product is offered (symmetrical or not)

¹ See in this respect the latest official proposal of FCR Cooperation towards the concerned NRAs, from the 1st of July 2019 on and pending regulatory approval, FCR Cooperation will have a daily procurement with daily products with a Gate Closure Time at 15h00 and a publication time at 16h00 and from the 1st of July 2020 on, a daily procurement with blocks of 4 hours.

3. Total cost rule² will be applicable for all bids.
4. A dependency between the total cost rule for 24-hour bids and the associated 4-hour bids will be implemented. For example, the total cost allocated to the (sum of the) 4-hour blocks will be limited based on the cost of the associated 24-hour block.
5. A dependency between the total cost rule for symmetric and asymmetric bids will be introduced. The total cost allocated to a symmetrical bid should be aligned with the total cost for an associated asymmetrical bid.

In case of a submission of a symmetrical bid of 30MW, an example of the application of the bidding obligations is shown in the graph below.

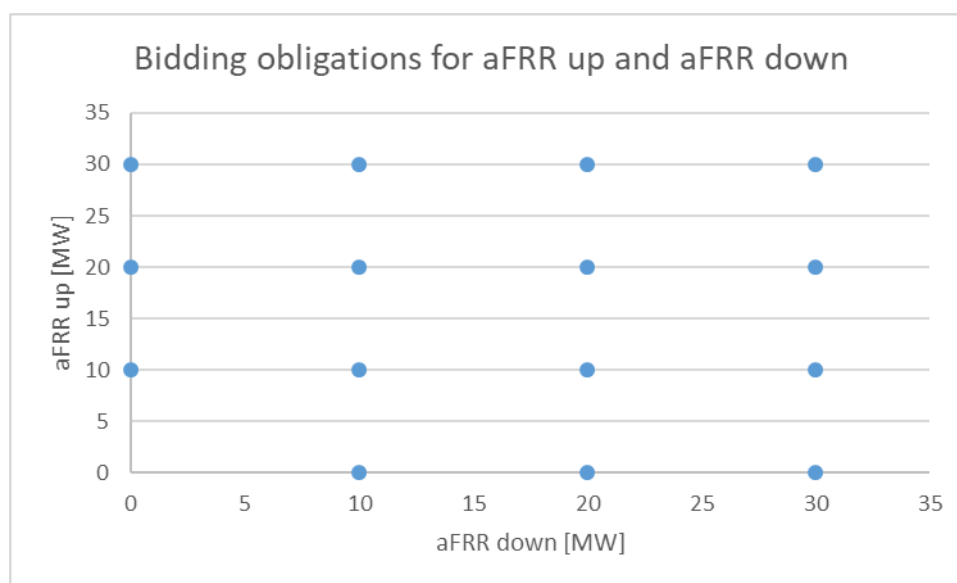


Figure 1 : Example of the application of the bidding obligations for a symmetrical bid.

1.2 Daily procurement cycle

1.2.1 Auction's timing

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;

² The total cost (unit price * volume) of the smallest volume that can be retained resulting from a Capacity Bid, should never exceed the total cost of the smallest volume that can be retained from a Capacity Bid with a larger offered volume.

- 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**, following transparent and simple procurement rules.
- 5) ELIA's vision must be aligned with the EU long term vision.

ELIA's vision on organization of daily procurement in day-ahead

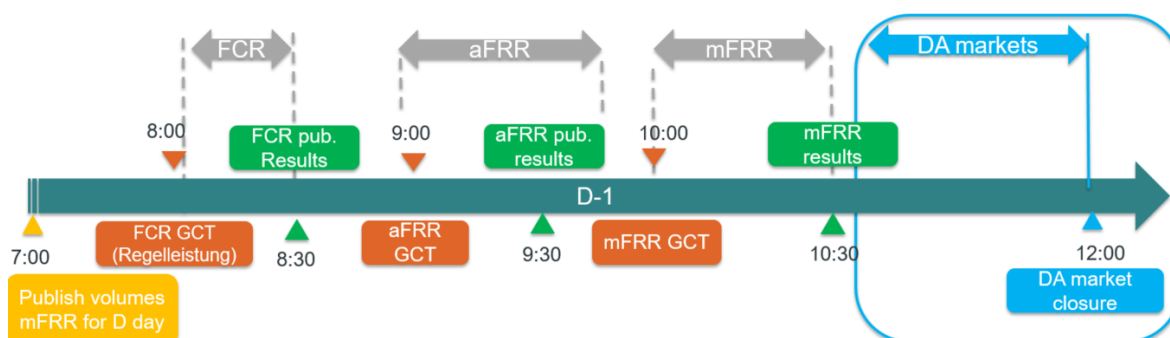


Figure 3 – ELIA's vision of organization of daily procurement of FCR, aFRR and mFRR.

1.2.2 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 for all three reserves. Exact timing will be fixed by ELIA once the timing of the first round has been discussed and confirmed with market parties.

1.3 Real-time communication platform for aFRR settlement

1.3.1 Context

Today, the aFRR-service is exclusively delivered by large assets with a power scheduling obligation ("CIPU assets"). These CIPU assets have a RTU installed by Elia that is connected to Elia's SCADA system in real-time. In its new aFRR design³, Elia described the opening of the aFRR-market to all technologies (small biogas units, cogeneration...) connected to both the (closed) distribution and transmission grid and described the different options for the collection of data on level of the delivery point.

Elia worked closely together with the DSO's over the past few months to propose an architecture for the collection of data for the aFRR settlement. During this exercise, Elia was supported by Deloitte to provide technical assistance and analysis of the different options presented in the aFRR design note from a technical and economic point of view.

³ The aFRR design note was consulted from the 3rd of September 2018 until the 30th of September 2018 and can be consulted on Elia's website via the following link: http://www.elia.be/en/about-elia/publications/Public-Consultation/20180903_new-aFRR-design

- **Disclaimer:** Please note that the proposed architecture is considered to be applicable for all DSO connected delivery points. This position has been coordinated with the concerned DSOs, but is still subject to final approval by these concerned DSOs, as well as conditioned to approval of the concerned regional authorities.
- For delivery points connected to the CDS grid, the FSP, CDSO and Elia need to agree on all technical and contractual requirements to allow for participation in the aFRR market. Depending on the regional regulatory framework, a concertation procedure with the concerned regional entities can be required.

This section describes the collection of measurement data and parameters for the settlement of the aFRR settlement, referred to in the following as “the real-time communication platform”. This solution is then evaluated based on several design principles (scalability, authenticity,...), as were identified in the proposal of the new aFRR design.

Remark: the scope of this real-time communication platform only concerns the collection of data for the aFRR-settlement from non-CIPU units (on delivery point-level) and NOT:

- the parameters that need to be exchanged in real-time between a BSP and Elia (between SCADA Elia and SCADA BSP) (as described in section 4.4.2 of [the aFRR-design note](#)); or
- the data or parameters that need to be exchanged between Elia and a BSP for the delivery of aFRR with CIPU units.

1.3.2 Description of the real-time communication set-up

The real-time communication platform

The real-time communication platform, as shown in figure 1, is a cloud-based platform to which all **non-CIPU** delivery points participating in the aFRR service must be connected in order to transmit the following 4-second data in an efficient and reliable way:

- **Pmeasured:** The instantaneous net (gross if the net value cannot be measured) power measurement (in MW) per delivery point. The Pmeasured needs to be communicated directly from delivery point level to the communication platform (via the gateway as explained later).
- **Pbaseline:** The power (in MW) that the delivery point would have injected/consumed without the activation of aFRR service. The baseline is sent 60 seconds in advance and needs to be communicated directly from delivery point level to the real-time communication platform (via the gateway as explained later).
- **Avail_sec:** this is a logical (0 or 1) signal that indicates whether the delivery point is delivering the service for the concerned timeframe. The avail_sec needs to be communicated directly from delivery point level to the communication platform (via the gateway as explained later).
- **Psec:** The number of MW of $\Delta P_{sec_tot}^4$ that is attributed by the BSP to the delivery point in question. The Psec needs to be communicated directly from delivery point level to the communication platform (via the gateway as explained later).

The real-time communication platform receives all these parameters directly from the delivery point, to ensure a stream-lined data-exchange and avoid a complex synchronization

⁴ This is the control request (MW) that Elia will ask to each of its BSPs individually.

of data afterwards. These data are used for the aFRR settlement (activation controls, baseline-checks, etc...). The communication platform is accessible for all delivery points which have been authenticated on the real-time communication platform. In addition, the architecture (technology & processes) used for the real-time communication platform ensures the integrity and confidentiality of all data.

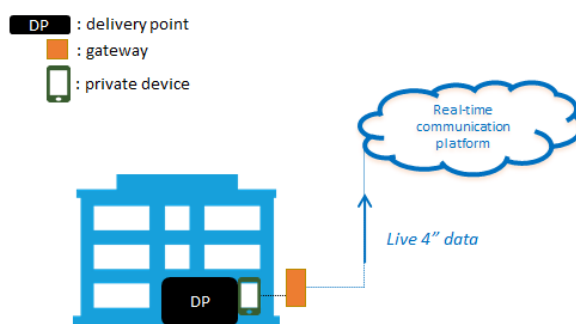


Figure 1

The private device and the gateway

Elia and the DSOs will allow market actors to use a **private device** to minimize entry barriers for participation to the aFRR service. Minimal technical and/or regulatory requirements⁵ for this private device and the measurement chain as a whole will be determined and will serve as a prerequisite for a successful prequalification of the BSP (and its delivery points).

Next, a **local gateway** needs to be put in place to connect the physical asset in a digital way with the real-time communication platform. As for the private device, it will be allowed for market actors to use a private gateway to minimize entry barriers for participation to the aFRR service. To ensure a secure communication and a well-functioning of the architecture, minimal technical and/or regulatory requirements (to run the communication protocols,...) will also be defined for this gateway.

A minimum storage of individual data will be required and is to be foreseen locally by the BSP. Elia, in cooperation with the DSOs for DSO connected points, will reserve the right at any time to perform an **on-site audit** and/or to perform ad-hoc quality checks on the data and communication infrastructure that has been put in place for the delivery of the aFRR-service.

Disclaimer: for non-CIPU delivery points connected to the DSO-grid, a sealing of the physical link between the private device and the gateway is under investigation by the DSO's.

⁵ E.g. specifications of the device (accuracy, precision,...), modalities to guarantee availability of the real-time communication,...

Connecting to the real-time communication platform

The **connection to the real-time communication platform** occurs during the prequalification phase⁶, which consists of the following steps:

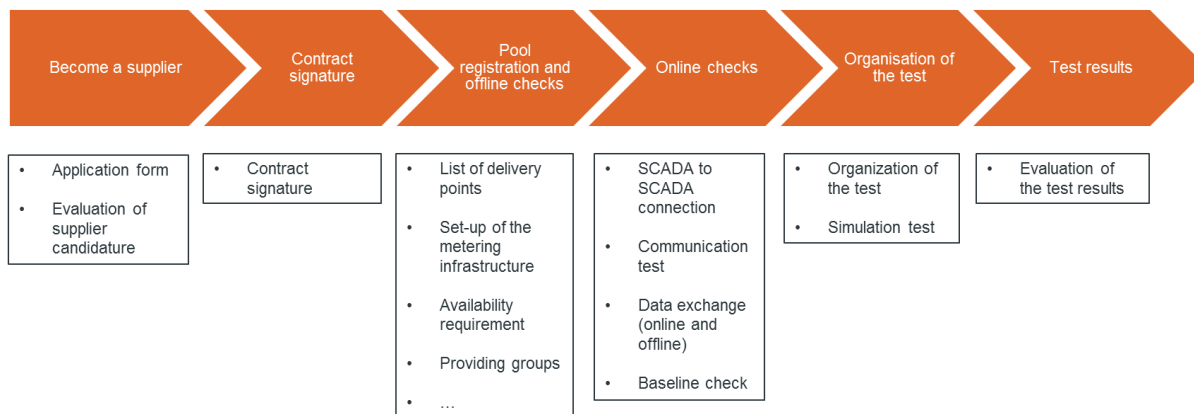


Figure 2

This **connection is tested** during the communication test (part of the online checks) as shown in the figure 2 above. All non-CIPU delivery points need to be connected directly to the real-time communication platform via a gateway, connected to the private device. The BSP develops a client based connection on the API⁷ provided by the real-time communication platform operator and requests a client ID to the real-time communication platform operator for the delivery point in question. The real-time communication platform provides digital access by granting a digital certificate (Client ID) to the end user, if all necessary technical and/or regulatory requirements are met.

All of the abovementioned elements need to be put in place to successfully pass the communication test during the prequalification procedure.

1.3.3 Assessment of the real-time communication set-up

The following design principles have been identified, as also described in the new aFRR design note for the collection of data:

- **Market entry barrier:** minimize the market entry barriers by focusing on a solution that has limited technical and business complexity;
- **Scalability:** the number of participating assets to the aFRR market may potentially increase significantly. Therefore Elia and the DSOs believe that the set-up of the ex-post data exchange should be scalable and henceforth future proof;
- **Data-integrity:** guarantee the accuracy and completeness of the parameters per delivery point necessary for the settlement of the aFRR service, incl. ToE when applicable;
- **Data-authenticity:** ensure that the data is authentic and reduce at its maximum the risk of manipulation of the data by any market;

⁶ More information regarding the prequalification phase can be found in the aFRR design note on Elia's website: http://www.elia.be/en/about-elia/publications/Public-Consultation/20180903_new-aFRR-design

⁷ Application Programming Interface

- **Cost/complexity:** trade-off between benefits and costs, considering the relatively small asset size.

Market entry barrier

All non-CIPU delivery points are allowed to make use of a **private device and a private gateway** for the measurement, acquisition and access to the real time communication platform for the concerned data. For this matter, Elia and DSOs wish to offer **maximal flexibility** to providers to choose their own provider of the private device and the private gateway.

Scalability

The technology has been proven to work in other industries and sectors⁸. Current cloud providers are able to receive live data from millions of devices in a secure and reliable matter.

Data-integrity

Data **integrity** relies on the minimal technical requirements that are set by **Elia and the DSOs**. By putting in place accuracy-requirements on the total measurement chain and retrieving this data live in real-time, Elia and the DSOs enable that data are recorded as intended and can later on verify if the data are the same as when these was originally recorded in real-time. Next to this, Elia and the DSOs will demand a **local storage** of measurement data to **ensure completeness** of data for example in case of a communication loss or a security breach.

Data-authenticity

Data authenticity relies on the real-time character of the communication set-up that is put in place. Elia and DSOs mitigate the risk of physical tampering of data by means of requesting data in real-time; this, combined with the fact that the aFRR signal is continuously recalculated, results in a minimalized risk w.r.t. the physical tampering of data.

Furthermore, there is the possibility to execute on-site audits at all time, to verify the correctness of data and the compliancy of the measurement-infrastructure, incl. private device, private gateway and the connection to the real time communication platform. Finally, the BSP needs to store all measurement data and be able to send this at request of Elia.

Cost/complexity

Elia and the DSOs trust that the proposed solution **minimizes costs and complexity**, since it is based on existing technologies which are proven in other industries and sectors to be straightforward to implement and cost-efficient. Both the private device and gateway can be bought with external manufacturers, taken into account minimal technical requirements. This provides maximal flexibility and minimizes entry barriers to all market players and enables manufacturers to integrate these requirements in future assets, facilitating a simplified process.

⁸ The increasing reliance on cloud based technologies for exchange of sensitive information is not a development only explored & used by the energy sector. In the banking sector for instance, companies like Swift and their "Alliance Lite2" product launched in 2012 are already offering such approach to their clients.

1.3.4 Conclusion

Elia and the DSOs described how data will be collected for the aFRR settlement for non-CIPU assets connected to either the TSO or DSO grid as from the go-live of the new aFRR design. The solution of the real-time communication platform is minimizing market barriers and guaranteeing both integrity and authenticity of data. Compared to other identified options (asset-level signing, datalogger)⁹ the solution of the real-time communication platform is believed to be future proof and easily scalable to facilitate the entrance of several thousands of delivery points participating to the aFRR-service.

1.4 Implementation plan for the new aFRR design

1.4.1 Finalization of the new aFRR design

This document only gives a high-level overview of the methodology for the capacity tender. Elia foresees an additional period of 3 months at the beginning of 2019 to finalize the design for the capacity tender together with the fine tuning of other design elements of the new aFRR design in collaboration with the stakeholders.

1.4.2 Evolution of contractual and regulatory aFRR framework

1.4.2.1 Terms and Conditions BSP aFRR

Historically, the delivery of ancillary services was conditioned to the signature of a CIPU¹⁰ contract by the BRP's of the concerned units and a GFA for aFRR by CIPU Technical Units.

The current (2018) contractual structure applicable to the procurement of balancing capacity and delivery of the aFRR services is presented in Figure 2.



Figure 2 : Current contractual structure for aFRR

Six months after its entry into force, the European Electricity Balancing Guideline (hereafter "EBGL") required ELIA to submit the "Terms & Conditions for BSP" (T&C BSPs) to the national regulator. When approved by the national regulator, this new structure will replace current GFAs and Balancing Rules for the subjects concerning the balancing products. The evolution towards T&C BSP aFRR is presented in Figure 3. Elia has introduced T&C BSPs to CREG on June 18th.

⁹ As mentioned in the aFRR design note.

¹⁰ Coordination for the Injection of Production Units

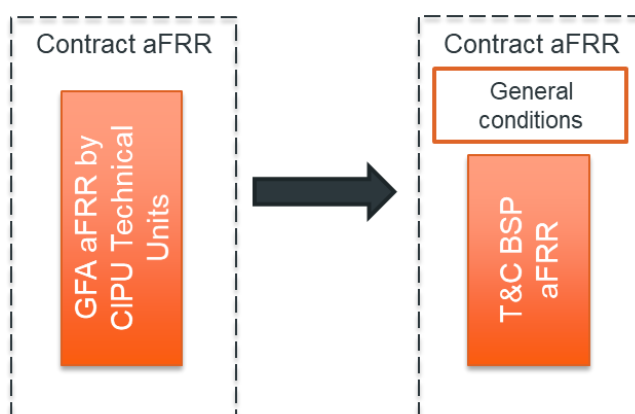


Figure 3 : Contractual structure for aFRR as of entry into force of Terms & Conditions BSP. The T&C BSP aFRR need to be updated in the framework of the new aFRR design. The update of the T&C BSP aFRR will need to follow predefined steps as stated below with (indicative) timings:

- Finalization of the new aFRR design: 3 months
- Development of the T&C BSP aFRR: 2 months
- Organization of a public consultation: 2 months
- Approval process (which includes both the redaction of the consultation report and the approval by the regulator): 5 months
- In case of request for amendment formulated by the regulator: 2 months for new proposal by Elia and 2 months for NRA approval as indicated in article 6 of the Guideline on Electricity balancing
- Signing of the contracts: at least one month

The signing of the T&C BSP aFRR is required before the testing during the prequalification process can start.

1.4.2.2 Balancing rules

The implementation of the new aFRR design including the opening of the aFRR market to all technologies requires an update of the balancing rules.

The update of the balancing rules will need to follow predefined steps as stated below with (indicative) timings:

- Development of the balancing rules: maximum 2 months
- Organization of a public consultation: one month
- Approval process (which includes both the redaction of the consultation report and the approval by the regulator): 5 months

It is assumed that this trajectory can be done in parallel with the update of the T&C BSP.

1.4.2.3 Other contracts

On top of that, a FSP/DSO contract, for delivery points connected to DSO grid and a CDSO collaboration agreement for delivery points connected to a CDSO grid needs to be updated.

The signing of the relevant contract(s) is required before the testing during the prequalification process can start.

1.4.3 IT implementation for aFRR

The new aFRR design involves significant changes compared to the current aFRR product leading to a large impact on the current IT infrastructure at Elia for the aFRR product. New tools or significant updates are needed for the following processes:

- New capacity tendering platform
- New bidding interface for energy bids and allowing pool based bidding
- Merit order activation of the energy bids – requiring a new module in Elia's EMS
- Set-up of a new real-time communication platform, as described under section 1.3.
- New common T/DSO platform for data acquisition and data storage in the context of aFRR
- New settlement mechanism

Besides, today, only a limited number of CIPU assets deliver the aFRR service. By opening the aFRR market to all technologies, the number of assets that can deliver the aFRR service can increase significantly, having a significant impact on the complexity of the IT implementations.

1.4.4 Implementations on market side for aFRR

A successful completion of the prequalification process is required before the aFRR service can be delivered. Elia will foresee a time period of 1-2 months for the prequalification process before the go-live of the new aFRR design so that aFRR providers have sufficient time to perform the prequalification process. From a technical/implementation point of view, the prequalification process will be the most time consuming process for the current and new aFRR providers since in this process all the IT implementations for the delivery of the aFRR services will be tested. Also the following of a set point within a predefined band and the baseline quality will be tested. Lessons learned from the R2 non-CIPU pilot project were that the set-up of the SCADA to SCADA connection is a time consuming process as well as defining all parameters for the real-time data exchange.

1.4.5 Timelines for aFRR

Taking into account the timings as indicated in Section 1.4.2 for the contractual and regulatory framework and Section 1.4.3 for the IT implementation, the timing below is elaborated for the go-live of the new aFRR design:

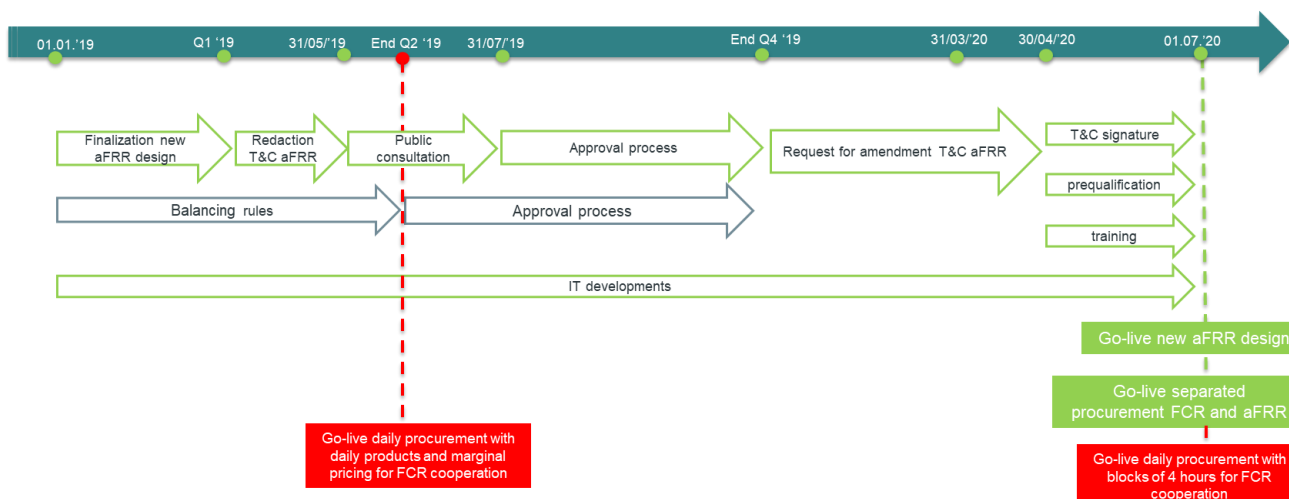


Figure 4: Timeline for the new aFRR design with go-live in July 2020

Based on all elements known today and taking into account the complexity of the project, Elia anticipates a go-live on the 1st of July 2020 and a start of the prequalification as from May 2020. The go-live of the separated procurement of FCR and aFRR as explained in Chapter 3 and the go-live of the new aFRR design are inherently linked and the go-live of both implementations have to occur at the same moment. The go-live of the separated procurement of FCR and aFRR products will be aligned with the go-live of the daily procurement with blocks of 4 hours for the FCR cooperation.

Elia realize that this go-live date could be later than initially expected by the stakeholders but Elia has taking into account for the timeline the contingency for the IT developments and regulatory approval (as time is foreseen for a request for amendment for the T&C BSP) and the operational impacts. Furthermore this planning allows for a sufficient time window between the go-live of the mFRR daily procurement (i.e. February 2020) and the new aFRR design to allow both the stakeholders and Elia to manage the operational impacts (see Section 1.5).

Elia fully recognizes the importance for market parties to have adequate foresight on a firm go-live date (both for commercial as well as for technical reasons). Whilst Elia will deploy all reasonable efforts to stick to the foreseen go-live date, a delay may however not be excluded.

Elia has submitted for approval to the CREG the first set of T&C BSP aFRR on 18 June 2018 as required by the Guideline on Electricity Balancing taking into account the current aFRR product. At this moment, the CREG has not yet taken any decision on this matter.

For the new aFRR design, an update of the T&C BSP for aFRR already submitted for approval is required as presented in Figure 4. It is the assumption that by the time Elia will ask for approval for the changes to the T&C BSP aFRR, a final decision will have been made by CREG on Elia's initial proposal. In the above planning, the assumption has been taken that this will have taken place by the end of April 2019. Please note that EBGL foresees no binding approval timings and also provides the possibility for regulators to ask for a Request for amendment, which would potentially impact above timings.

Even without a final decision Elia is able to organize a consultation on the T&C BSP aFRR updated for the new aFRR design. But nevertheless, above timing for this consultation is planned for May 2019, so after the assumed decision date of CREG.

1.5 Integrated implementation plan for aFRR & mFRR

To understand how ELIA determined a realistic go live date for the implementation of the new design for mFRR and aFRR including separate procurement for FCR & aFRR, it is crucial to explain the links between the key balancing projects that will also consume time and budget in 2019. These resources are indeed limited for all involved market parties (regulator, ELIA and BSPs) and priorities must therefore be listed and aligned beforehand.

This section is organized in four parts. At first (section 6.1), ELIA explains the constraints considered for the integrated implementation plan setup. Then (section 6.2 and 6.3), impacts specifically related to the implementation of the changes in mFRR design are explained. This includes detailed information on the following projects as they influence the go live of mFRR daily procurement:

- The implementation of **dynamic dimensioning methodology**;
- The **offshore integration project**;
- The revision of **Balancing rules**;

Finally (section 6.4), ELIA details the implementation constraints of new aFRR design, including the separated procurement of FCR and aFRR products. An alternative option for the new aFRR design investigated by ELIA during the analysis is also presented in the same section along with the reasons for which it is considered by ELIA as a challenging scenario with considerable risk of delay.

1.5.1 Constraints considered by ELIA in the integrated implementation plan setup

The following constraints are identified by ELIA when looking at its integrated implementation plan:

1. The joint ambition to evolve to daily procurement for both aFRR and mFRR products. These are fundamental changes in the operational processes that must be prepared carefully with market parties. The go live of both **can therefore not be organized simultaneously**. Furthermore, the daily procurement cannot start during public holidays (e.g: 1.01.2020).
2. To minimize operational risks while gathering valuable experience from the operation of daily procurement auctions, ELIA must **start with the least complex product**. In this way, it clearly appears that the bidding rules proposed for mFRR are easier to implement and operate than those of aFRR.
 - ➔ ELIA must **start with the go live of mFRR daily procurement**.
3. The mFRR daily procurement is a pre-requisite to the implementation of a dynamic dimensioning methodology.
 - ➔ **Go live of mFRR daily procurement must be earlier or in parallel to the go live of dynamic dimensioning of FRR needs.**
4. New mFRR product mix – with updated mFRR flex product characteristics – must be implemented at latest in Q1 2020 to guarantee the consistency with the expected evolution of ELIA's operational needs.

5. Dynamic dimensioning methodology should be implemented by the time the offshore installed capacity has increased to 2.3 GW (Q1 2020) as highlighted in the study published by ELIA on this topic in 2017¹¹.
6. Results of dynamic dimensioning methodology should be published by ELIA at least one month before its go live to give a better understanding of the expected volatility to market parties. **A prerequisite to the publication of these results is the methodology's approval by the regulator.**
7. Existing contractual frameworks have to be replaced by regulated "Terms and Conditions". These documents must respect the validation process (and timing) detailed in the Guideline on Electricity Balancing. Hence sufficient time should be foreseen for the approval process.

1.5.2 mFRR new design

1.5.3 Finalization of mFRR 2020 design

In terms of design, this document only summarizes main changes considered by ELIA in the organization of capacity tender **in daily procurement cycle** with an updated mFRR product mix which consist in one mFRR standard and one mFRR flex product.

As other design aspects (e.g submission of energy bids) are also impacted by the proposed mFRR 2020 product mix made in this document and were not discussed yet with regulator and market parties, ELIA foresees an additional period of time (3 months) early 2019 to finalize the entire mFRR product design in collaboration with its stakeholders.

1.5.3.1 Contractual framework

There are at least two important evolutions foreseen in 2019 related to the contractual framework:

- 1) The integration of the current "bidladder contract" into the "Terms and Conditions mFRR" as detailed and justified in the R3 down design document¹² and;
- 2) The evolution of mFRR flex product as detailed in the implementation plan towards the daily procurement of mFRR¹³.

Taking into consideration that the Terms and conditions must be approved by the regulator, the following timings are estimated:

- 2 month period to write the Terms and conditions;

¹¹www.elia.be/en/users-group/Working-Group_Balancing/Projects-and-Publications/Dynamic-dimensioning-of-FRR-needs

¹²www.elia.be/~media/files/Elia/users-group/Working-Group-Balancing/Projects%20and%20publications/20180905_Design-note-R3-down.pdf

¹³ The design for the evolution towards a daily procurement of mFRR as well as the related implementation plan proposal can be found on ELIA's website www.elia.be/en/about-elia/publications/Public-Consultation

- 2 month period for the public consultation;
- 5 month period for the approval process (which includes both the redaction of the consultation report and the approval by the regulator);
- 1 month for the prequalification ;

Adding these constraints to the 3 months needed to finalize the entire R3 2020 product design (see section 6.4.1), the earliest ELIA could go live with the daily procurement of mFRR (and the new mFRR product design) is on 01.02.2020

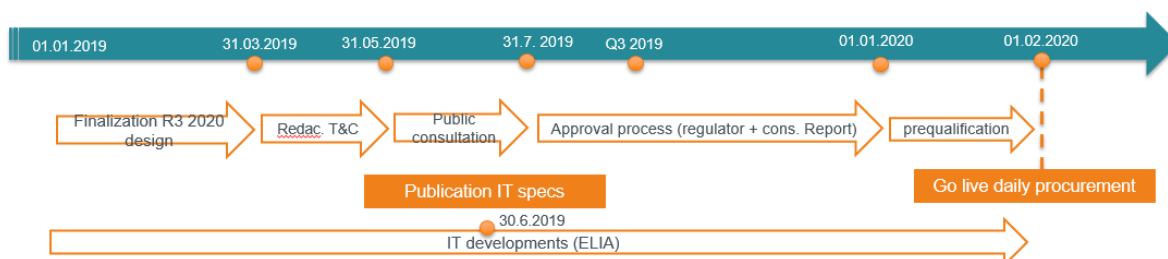


Although the above timing respects ELIA's constraints detailed above in section 1.5.1. ELIA already identifies **a regulatory risk** as this proposed timing does not take into consideration the legal possibility for CREG (according to article 6 (1) of the Electricity Balancing Guideline) to issue a request for amendment with regards to the T&C mFRR, which would add up an additional **4 month period of time**. It is clear that **if ELIA integrates these additional 4 months to the initial planning, constraints n°3 – 4 – 5 detailed above are not respected anymore.**

1.5.3.2 Operational impact

ELIA is aware of the significant changes a daily procurement process and an evolution of bidding rules in mFRR products bring on both the operators and the applications currently used to support their tasks. These impacts concern both ELIA and market parties and require time to be properly integrated.

In this way, ELIA foresees at least 6 months for the market parties to implement the identified changes. To ELIA; this means that the IT specifications must be published and communicated to the BSPs before summer 2019 if the go live date of 01.02.2020 is to be respected.



1.5.4 Other projects

1.5.4.1 Dynamic dimensioning methodology

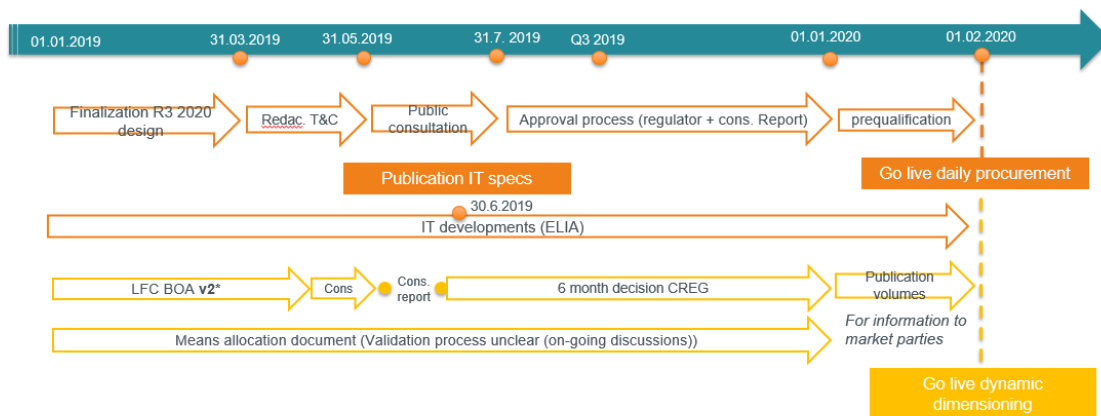
ELIA already presented at several occasions its intentions to evolve from a static dimensioning methodology of its reserve needs to a dynamic dimensioning methodology that

would – in day ahead around 7:00 – calculate 6 different needs (each one corresponding to a 4 hour block) for a concerned day.

A pre-requisite to the implementation of such dynamic method is the **evolution to daily procurement**. The earliest it could be implemented is therefore the 1st February 2020 (in parallel with the implementation of daily procurement).

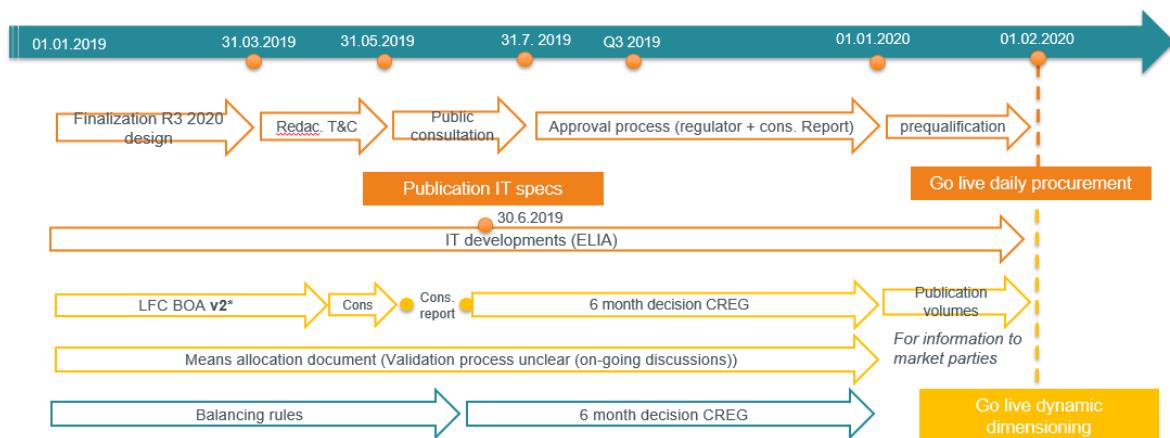
Changes in the dimensioning methodology (from static to dynamic) must be described and approved via the LFC Bloc Operational Agreement (in accordance with article 6(3)g and article 141(2) of the Systems Operations Guideline (EU) 2017/1485). As consequence, an updated version of the LFC BOA must be prepared, consulted and submitted to the regulator in 2019 for decision as illustrated below.

Finally, the allocation rules according to which ELIA will determine – among other parameters – the mFRR volume to be reserved for both mFRR standard and mFRR flex products must be described in a separated document. Its exact validation process is still unclear (on-going discussions) and can therefore not be clarified in this document.



1.5.4.2 Balancing rules

The introduction of an updated version of the balancing rules is already **foreseen in 2019 as it is a requirement of aFRR new design**. If some changes specifically related to the daily procurement and the evolution of mFRR product mix are required, ELIA will include them in the same version according to the timing presented below:

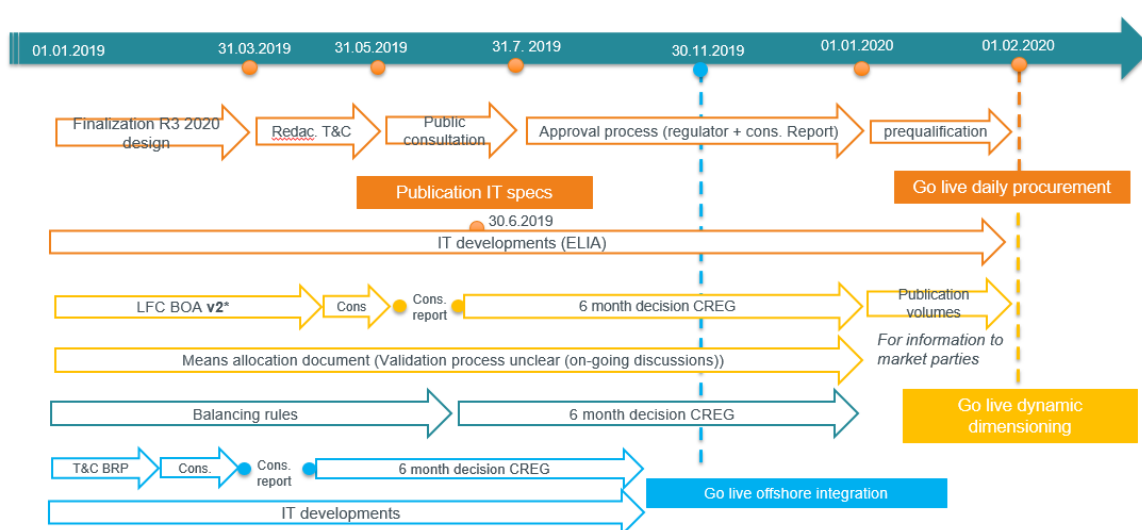


1.5.4.3 Offshore integration project

As explained above in this document, the offshore installed capacity is expected to increase to 2300 MW in Q1 2020. Specific operational procedures are currently being elaborated by ELIA and the concerned market parties to make sure the impact of storm events in the North Sea on the system imbalance is properly managed.

IT resources and budget are needed to make sure ELIA's (and market parties) current tools are adapted to support these specific procedures. In parallel, the Terms and Conditions BRP will also require an adaptation.

ELIA observed a correlation in the historical data available between the winter period (between November to March) and the occurrence of storm. This observation determined the go live of the specific operational procedures: November 2019. Finally, it is to be reminded that the increase of offshore installed capacity was one of the reasons ELIA decided to implement a dynamic dimensioning methodology.



1.5.5 aFRR contractual framework¹⁴

The T&C BSP FCR and T&C BSP aFRR need to be updated in the framework of the new aFRR design, including the separated procurement of FCR and aFRR while an update of the T&C BSP FCR is needed for the shift to the regional procurement.

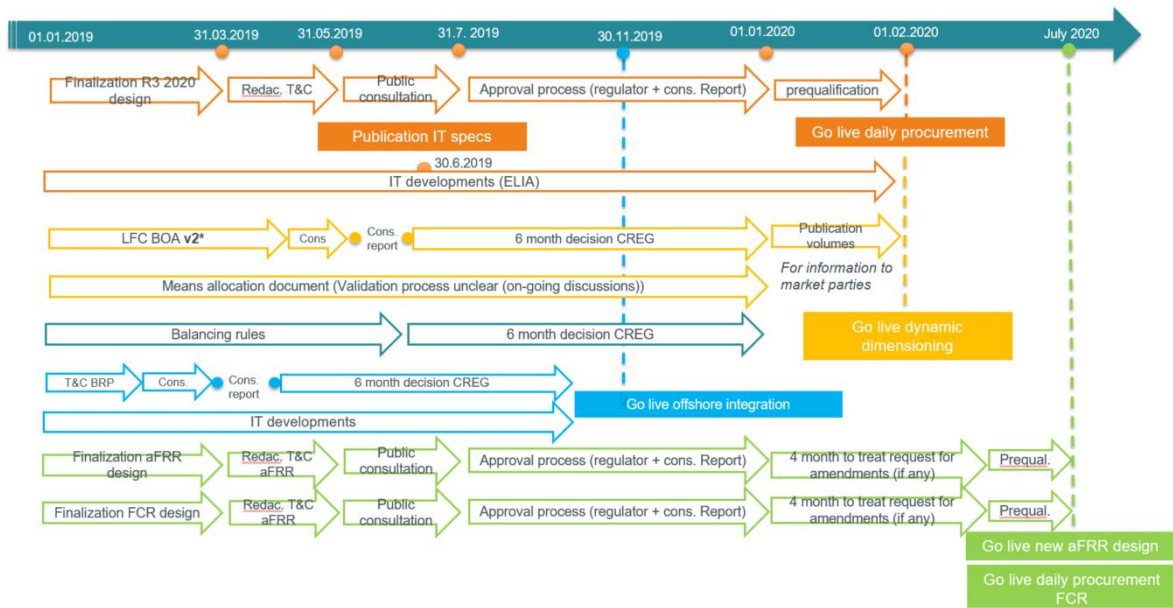
The update of both T&C BSP FCR and T&C BSP aFRR will need to follow predefined steps as stated below with (indicative) timings:

- Finalization of the new aFRR design: 3 months
- Development of the T&C BSP aFRR and T&C BSP FCR: 2 months
- Organization of a public consultation: 2 months
- Approval process (including both the redaction of the consultation report and the decision by the regulator): 5 months

¹⁴ The aFRR design as well as the related implementation plan proposal can be found on ELIA's website www.elia.be/en/about-elia/publications/Public-Consultation

- In case of request for amendment formulated by the regulator: 4 months
- Signing of the contracts: at least one month

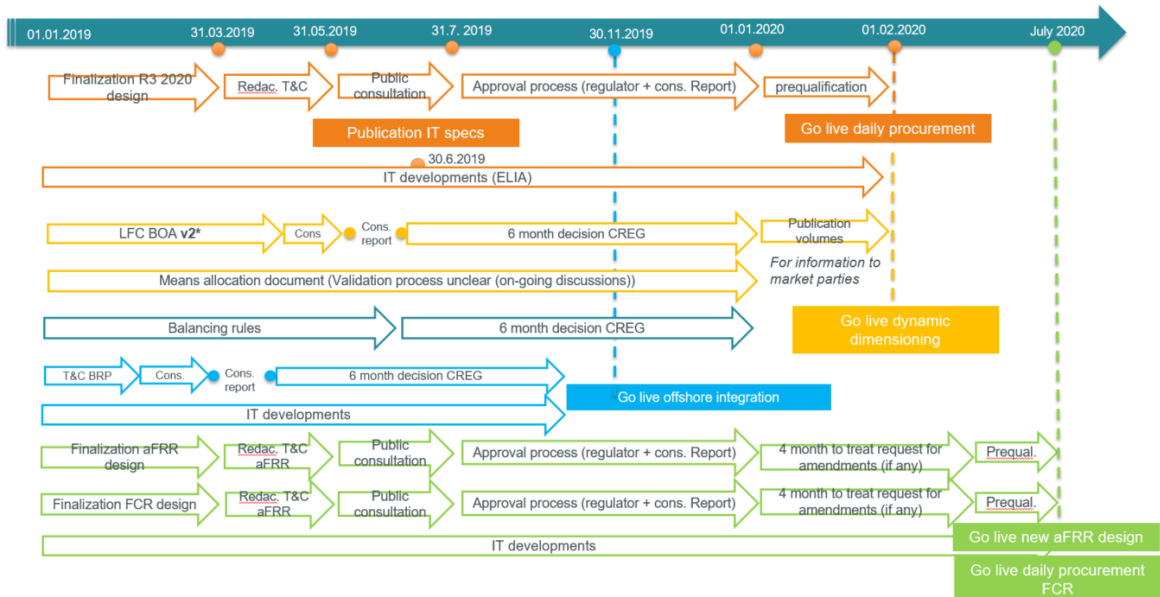
Considering the timing detailed above, the go live date of new aFRR design and the separated procurement of FCR and aFRR products can be fixed to July 2020; in parallel to the go live of daily procurement FCR. This timing respects all constraints presented in section 6.1 of this document.



1.5.6 aFRR operational impact

ELIA is aware of the significant changes a daily procurement process and the proposed aFRR design bring on both the operators and the applications currently used to support their tasks. These impacts concern both ELIA and market parties and require time to be properly integrated.

ELIA estimates that the identified changes could be implemented in its tools by July 2020. The go live of July 2020 set by the contractual impact (see section 6.6) is therefore not modified.



2 aFRR design with Transfer of Energy

This part of the proposal of the implementation plan describes Elia's observations for Transfer of Energy (hereafter referred to as "ToE") for the aFRR market. These observations result in a position of Elia regarding the implementation of ToE in the aFRR market. Elia's position is based on insights acquired from the R2 non-CIPU pilot project, the public consultation of the aFRR design note as well as technical feasibility aspects (IT-technical considerations) for implementing a ToE for the aFRR market. These observations result in a recommendation to postpone the choice to implement a ToE in the aFRR market, as described in section 2.2 of this implementation plan.

Please note that Elia's proposal to postpone the choice to implement a ToE in the market for aFRR is subject to approval of CREG.

2.1 Observations for ToE in the aFRR market

This section describes the various observations that Elia took into account to assess both the economic opportunity and technical feasibility of an extension of ToE to the aFRR market, as described in section 5 of the ToE-rules¹⁵. Elia summarizes its insights as follows:

1. **R2 non-CIPU pilot project:** Elia observed that the technologies that participated during the R2 non-CIPU pilot project¹⁶ were almost exclusively¹⁷ cogeneration units (biogas and natural gas), which showed to be reliable technologies to offer the aFRR service. All three project partners have demonstrated during the pilot project that non-CIPU units are technically capable in delivering aFRR.

Besides that, it appeared that an important part of those flexible cogeneration units were covered by a "pass through contract"¹⁸ signed between their grid user and his supplier.

- Elia concludes that net-injecting technologies accounted for **the major part** of the volumes, which BSP's offered during the R2 non-CIPU pilot project. They showed to be technically capable in participating in the aFRR balancing market.

2. **aFRR questionnaire:** In order to assess the economic feasibility of an extension of ToE towards the aFRR market, Elia added a questionnaire for market parties in the

¹⁵ The ToE-rules can be consulted on Elia's website via the following link: <http://www.elia.be/en/products-and-services/balance/transfer-of-energy>

¹⁶ http://www.elia.be/en/users-group/Working-Group_Balancing/Projects-and-Publications/R2-aFRR

¹⁷ Next to cogeneration units Activity participated with water pumps for the delivery of the R2 non-CIPU service.

¹⁸ Also referred to as a contract with valorization of the deviation, being a contract between the grid user and the supplier by which the supplier valorizes the deviation between the nomination and the final position of the grid user, whereby the grid user gives his fixed purchase before real time (usually in day ahead) and his supplier invoices him the deviation between the nomination and the actual offtake/injection or returns him at an agreed rate.

aFRR design note¹⁹. However, Elia did not receive any feedback from the market parties concerning the type of assets and delivery points that will be providing aFRR and their eligibility for the ToE.

- The aFRR questionnaire did not provide a view on the expected extra volumes/new technologies that would find their way to the aFRR market thanks to a ToE-mechanism in place for aFRR.

3. **Feedback from market actors on aFRR design note:** some market players support the implementation of ToE for aFRR, but deplore the lack of a solution for net-injection delivery points. The exclusion of net-injection in the current ToE-framework implies that generation assets can only participate via an opt-out agreement²⁰, which is perceived as a major concern in the context of aFRR.

- Elia observes that a principal concern lies in the fact that net-injection units cannot participate independently from their BRP and supplier. Based on the received feedback during the public consultation of the aFRR design note, Elia cannot pinpoint a specific need for ToE, considering the applicability of ToE for only delivery points with an average net-offtake character on a yearly basis.

4. **Pass-through contracts:** during the public consultation of the aFRR design note, Elia received feedback from two market actors proposing an alternative set-up for delivery points where grid user has signed a pass-through contract with its supplier.

- Elia finds that such a solution has the benefit to facilitate the access for net-injection assets (with a pass-through contract) to the aFRR market.²¹
- Considering that a lot of **small flexible generation assets** operate under a **pass-through construction**, this solution could allow small generation assets easy market access via an independent BSP (without needing prior consent from BRPsource or Supplier) and therefore partially resolving the observed obstacle w.r.t. the exclusion of net-injection in the current ToE-framework. Elia describes this alternative solution for pass-through contract holders in Annexe 2.

5. **Technical feasibility for implementing ToE:** the implementation of ToE for the aFRR market is feasible from a technical point of view but requires substantial

¹⁹ This design note can be consulted on Elia's website: http://www.elia.be/~media/files/Elia/publications-2/Public-Consultation/2018/20180903_aFRR-product-design_EN.pdf

²⁰ As described in section 8.2 of the ToE-rules, which can be consulted on Elia's website: <http://www.elia.be/en/products-and-services/balance/transfer-of-energy>

²¹ Elia is of the opinion that that such a solution is technology and product neutral and therefore can also be adopted on mFRR as aFRR, regardless of the net-injection or net-offtake character of the delivery point in question.

implementations as described in Annexe 1. Correspondingly, such an implementation goes hand in hand with considerable cost.

- Elia is technically able to implement a ToE, but is of the opinion that the cost for implementation needs to be justified with the prospect that this implementation will unlock extra volumes that will develop in the aFRR market.

6. **Public consultation on the proposal of the implementation plan for aFRR:**

During the public consultation of the proposal of the implementation plan Elia received a confidential response of a market player, providing Elia a first estimation on the market potential for aFRR. On the one hand the estimation shows the potential volume that could find its way to the aFRR market thanks to the proposed alternative solution for pass-through contract holders. On the other hand this estimation gives Elia additional insight on the volumes (assets with a net-offtake character) that would require a ToE-framework in place for participation.

- The estimation demonstrates that **the majority of the assets** with an average **net-offtake character** could participate via the alternative solution for pass-through contract holders, under the condition that the alternative solution is also applicable for assets with a net-offtake character.
- Elia is of the opinion that the alternative solution for pass-through contract holders is **technology neutral** and can indeed be adopted on both net-injection as net-offtake assets, allowing the **majority of the assets** with an average net-offtake character to participate in a first phase via the alternative solution for pass-through contract holders.

2.2 Proposal for ToE in the aFRR market

This section elaborates on the proposal for implementation of ToE, based on the acquired insights (technical, economical) summarized in the previous section. This proposal of the implementation plan foresees **a postponement of the choice to implement a ToE for aFRR**, as the effective use of it by market parties that would justify a substantial implementation cost cannot be demonstrated at this point in time. Elia cannot conclude that sufficient volumes would effectively enter the aFRR market via a ToE-mechanism, considering the current limitations (exclusion of net-injection) in the legal ToE-framework.

Elia substantiates her position with the fact that stakeholders insist on **a solution for the participation of net-injection assets in the aFRR market**, since especially for this aFRR-market these net-injection non-CIPU units can play an important role (see results R2 non-CIPU pilot project). For that matter Elia is of the opinion that the proposed alternative solution for pass-through contracts has the potential to (partially) solve the identified needs from several stakeholders to enable BSPs to offer – independently from the BRP source - flexibility from non-CIPU delivery points with a net-injection character:

- Based on the received feedback from the public consultation on the aFRR design note, Elia describes an alternative design for pass-through contract holders in

Annex 2 of this document. Such an alternative design has the benefit of facilitating the entry for **pass-through contract holders** via an independent BSP **without needing prior consent of BRPsource and Supplier while ensuring confidentiality**. Besides that this alternative design answers to several needs:

- ✓ It brings a new solution for delivery points with a net-injection character by allowing their participation without a specific consent of the BRPsource and the supplier (as it is the case for opt-out).
- ✓ It also provides an alternative solution for delivery points with a net-offtake character as far as no ToE is implemented.

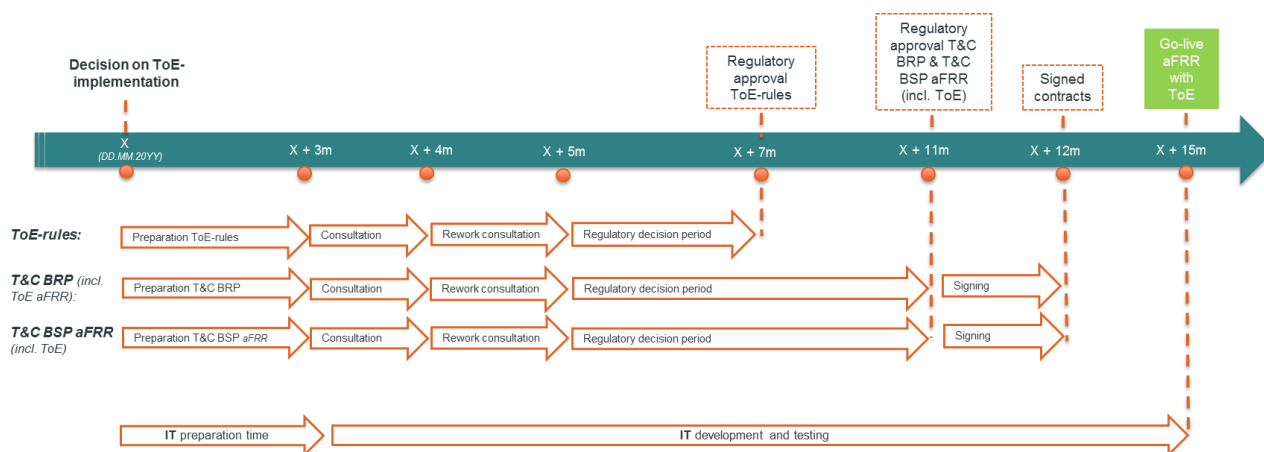
Elia aims to move forward with the alternative solution for pass-through contract holders in collaboration with the concerned stakeholders.

- **Disclaimer:** This alternative solution has not been validated by CREG, in particular with respect to the principles established by the electricity law and the roles and responsibilities of the different affected market parties.

Elia proposes to, start as from July 2019 with the opening of aFRR to non-CIPU units with the following options: delivery points can participate either through Implicit Opt-out (= BSP and BRP_{source} are the same entity), either through Explicit Op-out (BRP_{source(s)}, supplier(s), BSP and BRP_{BSP} have a specific agreement) or through the alternative pass-through design as described in annex 2. By this range of options Elia estimates that most of the delivery points willing to provide aFRR-non CIPU in the short and mid-term will be able to participate.

On top of this, and as requested by some stakeholders, Elia anticipates to reassess the economic opportunity of an extension of ToE in the market for aFRR in the course of 2019.

If such a reassessment in 2019 shows a clear added value to implement ToE for the aFRR-market, **Elia can realize** such an extension of ToE in the aFRR market within a timeframe of **15 months**²², considering both the IT-technical implementation and contractual limitations:



²² Counting from the moment a decision is taken (as from 2020) that a ToE needs to be implemented in the aFRR-market.

1. IT Implementation

- a. 3 months preparation time
- b. 12 months actual development and testing

2. Contractual implementation:

- a. Adaptation of the ToE-rules:
 - i. Develop the documents: 3 months
 - ii. Public consultation of the ToE-rules: one month
 - iii. Rework feedback of the public consultation: one month
 - iv. Submission and regulatory approval: 2 months²³
- b. Adaptation of the T&C BRP:
 - i. Develop the documents: 3 months
 - ii. Public consultation: one month
 - iii. Rework feedback of the public consultation: one month
 - iv. Regulatory approval : at least 6 month
 - v. Signing of the contracts: at least 1 month
- c. Adaptation of the T&C BSP aFRR:
 - i. Develop documents: 3 months
 - ii. Organization of a public consultation: one month
 - iii. Rework feedback of the public consultation: one month
 - iv. Regulatory approval: at least 6 months
 - v. Signing of the contracts: at least 1 month

2.3 Conclusion

Elia showed that it is **technical capable** of implementing a ToE, but that currently Elia doesn't receive a clear signal from stakeholders on the added value of such an implementation, given that net injection delivery points fall outside the ToE scope. Indeed in the current legal framework only delivery points with an average net offtake character on a yearly basis could access the aFRR market via ToE, whereas according to several stakeholders the biggest potential for aFRR flexibility lies with delivery points with an average net-injection on a yearly basis.

²³ The proposed planning is based on the hypothesis of a regulatory approval within 2 months.

Elia envisions implementing the alternative **solution for pass-through contract holders**, which has the potential to facilitate the access of a non-negligible part of the net-injection units to the aFRR market and which serves as an alternative option for the majority²⁴ of net-offtake points if there is no ToE implemented.

Please note that precise implementation of the alternative solution for pass-through contract holders needs coordination with the stakeholders and the regulator and is subject to final validation by CREG.

However, if CREG doesn't agree with Elia's proposal to postpone the ToE, Elia could implement an extension of ToE to the aFRR market for Q4 2020²⁵, resulting in a phased approach between the proposed go-live date of the new aFRR design (as described in Sections 1.4.5 and 3.5) and with ToE (Q4 2020). This timing holds provided that on the implementation of ToE, a decision would be taken no later than January 2019.

²⁴ Based on the confidential estimation Elia received during the public consultation on the proposal of the implementation plan.

²⁵ Taking into account IT implementations and the necessary contractual aspects such as an adaptation to the ToE-rules, T&C BRP and T&C BSP for aFRR.

Annex 1: Implementation of ToE from an IT-technical perspective

Implementation from an IT-technical perspective

The additional IT implementations for Elia in case ToE is implemented for the aFRR-market are the following:

- **Validation of 4 second parameters:** a new IT-development will need to be put in place to validate power measurements (4 second basis) and the baseline, since they lay both at the basis for the calculation of the delivered energy which is used for the perimeter correction of BRPsource and the financial compensation between Supplier and FSP.
- **Calculation of the delivered energy:** The calculation of the delivered energy has to be done on 4 second power measurements in contrast to mFRR where the delivered energy is based on 15 minute metering data. Therefore important additional computational processes need to be put in place.
- **Perimeter correction:** The BRPsource is corrected on a monthly basis with the delivered energy by the BSP, aggregated on the level of the balancing perimeter and aggregated on a quarter-hourly basis. These existing tools need to be adapted accordingly to take into account an additional balancing product and require important changes from an IT-technical point of view.
- **BRP notification:** The notification of Elia towards the BRPsource takes place at the latest 3 minutes after the quarter-hour during which an activation took place, based on the distribution of the activated volume (energy) over the different delivery points, as communicated by the BSP to Elia during his notification at the end of each quarter-hour during which an activation took place. This requires a new IT-tool that needs to be put in place.

Annex 2: Pass-through contracts

This annex illustrates the main principles regarding an alternative solution for pass-through contract holders to enter the aFRR market and is structured as followed:

1. Introduction: description of a pass-through contract
2. Proposed alternative solution for pass-through contract holders

Introduction: description of a pass-through contracts²⁶

A **pass-through contract** is a contract in which the electricity supplier (via his BRP) valorises the difference between the nomination and the real position of the end-user. The end-user gives his expected offtake and/or injection before real-time (we can assume that this is done in day-ahead) and his supplier invoices (or pays) him the deviation between the nomination and the real-offtake and/or injection at an agreed tariff (we can assume that this is done at a price close to the imbalance tariff - a margin).

Such a pass-through contract **enables the end-user** to become responsible for the deviation of its delivery point compared to its forecast and with other terms for his impact on the imbalance of this BRP, without the need for being a BRP himself.

Alternative solution for pass-through contract holders

The alternative solution is a variant of a market situation without ToE (called Opt-Out) since the BSP and BRPbsp don't need to sign an agreement with the BRPsource and the supplier (as is foreseen in the current Opt-Out mechanism) but only with the end-user who holds a pass through contract.

In market situations with Opt-Out solutions the following principles are applied for the correction of the balancing perimeter BRPsource and BRPbsp:

- The balancing perimeter of BRPsource is not corrected;
- The balancing perimeter of BRPbsp is corrected with the requested volume in the opposite direction (- E_{req})

The following paragraph illustrates the main principles applied for such an Opt-Out variant for pass-through contracts via a use case for upward aFRR by an increase of net injection via a pass-through contract holder.

²⁶ Also referred to as contract with valorization of the deviation being a contract between the grid user and the supplier by which the supplier valorizes the deviation between the nomination and the final position.

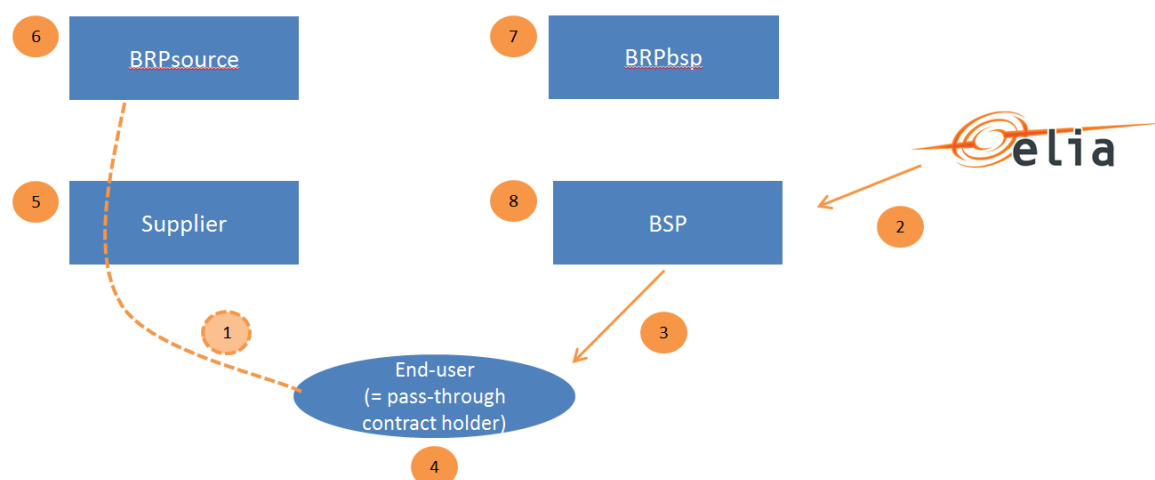


Figure 5

1. The **end-user** (who is a pass-through contract holder) nominates his expected offtake and/or injection on a quarter-hourly basis in day-ahead²⁷.
2. Elia activates **upwards aFRR** by sending a continuous (on a 4" interval) aFRR setpoint (ΔP_{sec_tot}) to the BSP, who delivers the service to Elia.
3. The BSP operates his pool and steers different delivery points in his pool for the effective delivery of the requested upward aFRR by Elia. This example shows how one delivery point (end user who holds a pass-through contract) **increases his injection** in real-time.
4. By increasing its injection, the **end-user** who holds a pass-through contract is **exposed** (via the pass-through construction) to the **imbalance price** for his deviation between its nomination and his real injection.
5. The **Supplier passes the imbalance** (coming from BRPsource) through to the holder of the pass-through contract.
6. The balancing perimeter of the **BRPsource is not corrected** with the delivered volume of aFRR, , as foreseen in the Opt-out modalities. Since BRPsource passes the deviation between the end user his nomination and the real injection via the Supplier to the pass-through contract holder this operation is neutral for the BRPsource and the supplier and does not differ from any other "normal deviation" of the end-user.
7. As foreseen by Opt-out modalities, the **BRPbsp**²⁸ takes up the balancing responsibility and is corrected by Elia with the **requested** volume of flexibility.
8. The **end-user and BSP** agree on a financial fee for the delivery of the service, taking into account the fact that BRPbsp was exposed (and needs to be compensated via the BSP) to the imbalance tariff for the requested volume of flexibility by Elia (see

²⁷ Hypothesis taken for the example

²⁸ The same modalities apply as in an opt-out situation, as described in section 8.2 of the ToE-rules which can be consulted on Elia's website via the following link: <http://www.elia.be/en/products-and-services/balance/transfer-of-energy>

step 7). Note that in the current Opt-out mechanism a similar agreement must exist between the BRP-source, Supplier, the BSP and the BRPbsp.

As a result both BRPsource and Supplier don't find any impact due to activation by a third party BSP. As a result:

1. In the current Opt-out mechanism the impacts of the activation on the supplier, the BRPsource and the BRPbsp are managed through an agreement between the BRPsource, the Supplier, the BRPbsp and the BSP. In this future variant of the Opt-out mechanism the impacts are resolved as follows:
 - the impact of the activation on the BRPsource and the Supplier is “transferred” to the end-user via the pass-through contract;
 - The remaining impact on BRPbsp is managed through an agreement between the end-user, the BSP and the BRPbsp.
2. The pass-through contract holder is free to join a BSP pool without prior consent of the supplier and BRPsource. The pass-through contract holder, as owner of his own flexibility, always carries the responsibility of imbalances himself via the pass-through contract.
3. The supplier and BRPsource do not have to be informed about the activation of flexibility in such a market construction, since they are not impacted by an action of a third party BSP and since the holder of the pass-through contract is always by this contract allowed to divert from his nomination.

Part II: Proposition for the implementation plan for the separated procurement of FCR and aFRR

3 Implementation plan for the separated procurement of FCR and aFRR

3.1 Introduction

In this chapter, the proposition for the implementation plan for the separated procurement of FCR and aFRR is described based on the analysis performed in the studies “Separate procurement of FCR and aFRR products”²⁹ and “new aFRR design”.

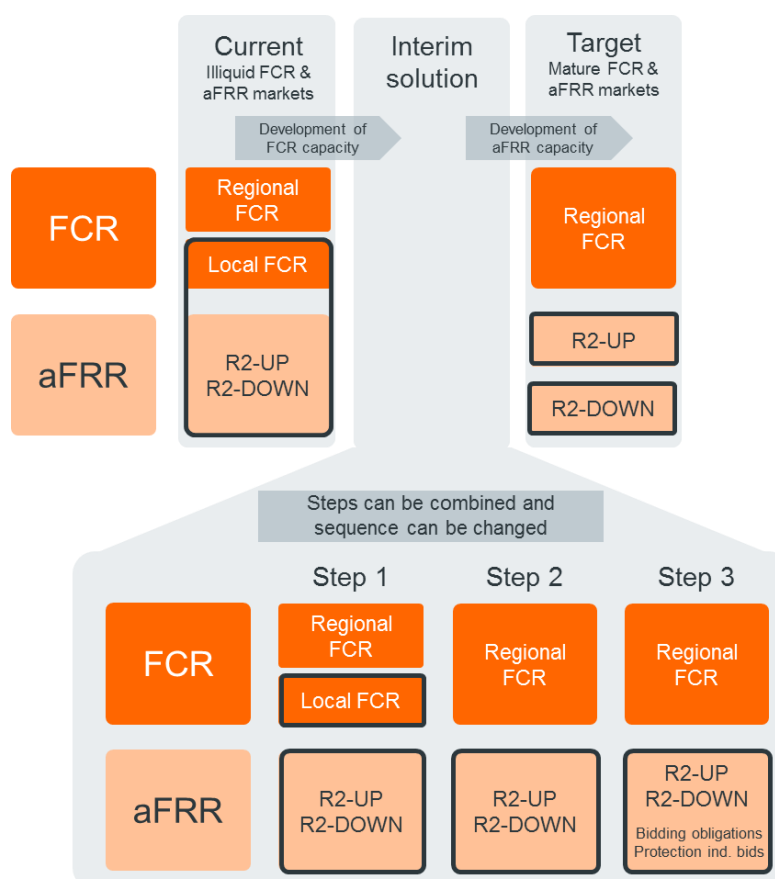


Figure 6 Potential steps to arrive to the target solution for the separated FCR and aFRR procurement as described in the study²⁹.

Steps 1 and 2 of Figure 6 are skipped and a full merge with FCR Cooperation is foreseen for the following reasons (more information can be found in chapter 4.2 of the “study on the separated procurement of FCR and aFRR”²⁹):

- It is requested by the stakeholders during the public consultation to reduce the number of adaptations in the market. This creates a more stable environment for BSP investments.
- The (partial) regional procurement of FCR (August 2019) and the design changes which were implemented in May 2017 has made the sourcing of cost of FCR less dependent on units with must run costs. Moreover, Elia believes that, at the moment

²⁹ The study on separate procurement of FCR and aFRR products has been consulted and the final report can be found here: <http://www.elia.be/en/about-elia/publications/Public-Consultation/Archives/Formal-public-consultation-regarding-a-study-on-Separate-procurement-of-FCR-and-aFRR-products>

of the go-live of the separated procurement of FCR and aFRR, even a larger share of bids sourced from new technologies will be offered to the FCR market.

- Decoupling the two markets faster will facilitate new entrants by removing the interdependence of the markets.
- Having the aFRR market separated of FCR will allow the implementation of bidding obligations in aFRR up and down procurement in a simpler way by avoiding a third dimension as explained in chapter 4.4.4 of the “study on the separated procurement of FCR and aFRR products”¹⁹.

In this chapter, a more detailed implementation plan is provided for step 3 and further details on the proposal for the aFRR capacity tender can be found in Section 1.4. Based on the conclusions of the study on the separate procurement of FCR and aFRR products with regards to the exclusive asymmetrical procurement aFRR up and aFRR down, the implementation plan that is presented in this chapter, does not contain a concrete timing as there are too many uncertainties on when the conditions to split will be met.

In addition, Elia has organized a public consultation for a proposal towards CREG for the exemption from the obligation to procure upward and downward balancing capacity for aFRR separately, including a timing that will force to revisit this decision. The exemption will be valid until the end of 2021.

3.2 Evolution of contractual and regulatory framework for FCR and aFRR

3.2.1 Terms and Conditions BSP aFRR and Terms and Conditions BSP FCR

The T&C BSP FCR and T&C BSP aFRR need to be updated in the framework of separated procurement of FCR and aFRR. An update of the T&C BSP FCR is needed for the shift to the regional procurement. The T&C BSP aFRR need an update for the capacity tender as described in Section 1.1

The update of both T&C BSP FCR and T&C BSP aFRR will need to follow predefined steps as stated below with (indicative) timings:

- Finalization of the new aFRR design: 3 months
- Development of the T&C BSP aFRR and T&C BSP FCR: 2 months
- Organization of a public consultation: 2 months
- Approval process (including both the redaction of the consultation report and the decision by the regulator): 5 months
- In case of request for amendment formulated by the regulator: 2 months for new proposal by Elia and 2 months for NRA approval as indicated in article 6 of the Guideline on Electricity balancing
- Signing of the contracts: at least one month

The required update for the separated procurement of FCR and aFRR will be included in the updates of the T&C BSP for the new aFRR design as described in section 1.4.2.

The signing of the relevant contracts is required before the testing during the prequalification process can start.

3.2.2 Balancing rules for FCR and aFRR

The implementation of the separated procurement of FCR and aFRR could require an update of the balancing rules.

The update of the balancing rules will need to follow predefined steps as stated below with (indicative) timings:

- Development of the balancing rules: maximum 2 months
- Organization of a public consultation: one month
- Approval process (including both the redaction of the consultation report and the decision by the regulator): 5 months.

The required update for the separated procurement of FCR and aFRR will be included in the updates of the balancing rules for the new aFRR design as described in section 1.4.2.

3.3 IT implementation for FCR and aFRR

A complete new tool will need to be developed for the aFRR capacity procurement. FCR and regional cooperation will be merged from the go-live of the new aFRR design.

3.4 Implementations on market side for FCR and aFRR

For aFRR, a daily procurement will be put in place with new bidding obligations. For the current aFRR providers, the transition from a weekly procurement for aFRR to a daily procurement has an operational impact.

3.5 Timelines for FCR and aFRR

Taking into account the timings as indicated in Section 3.2 for the contractual and regulatory framework and 3.3 for the IT implementation, the timing below is elaborated:

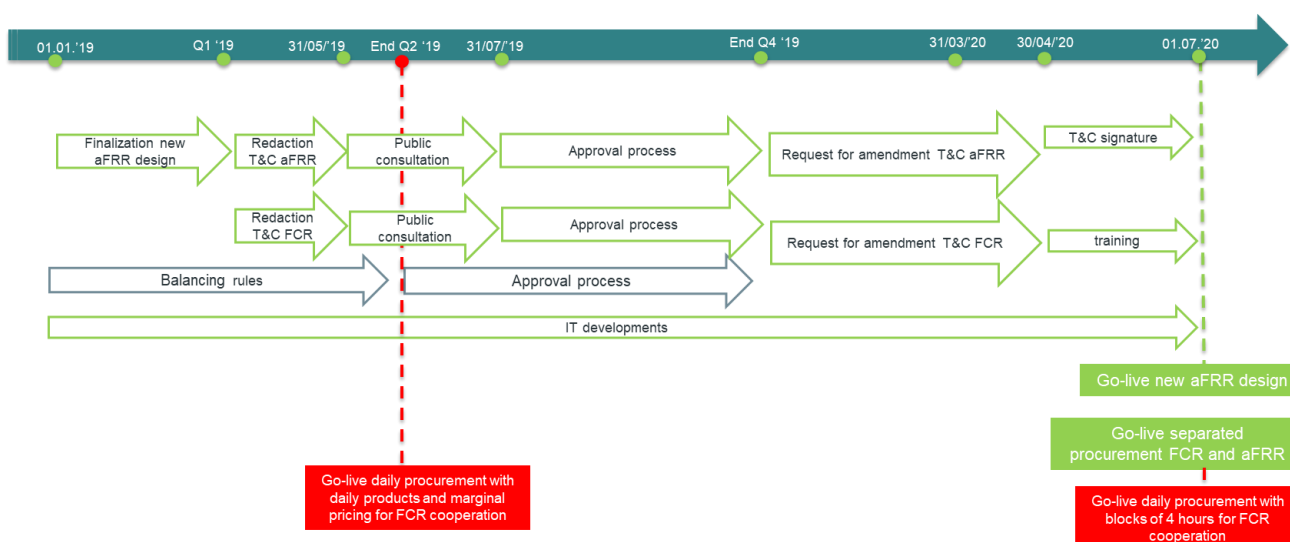


Figure 7: Timeline for the separated procurement of FCR and aFRR with a go-live in July 2020.

Based on all elements known today and taking into account the complexity of the new aFRR design project, Elia anticipates a go-live on the 1st of July 2020 and a start of the

prequalification as from May 2020. The go-live of the separated procurement of FCR and aFRR and the go-live of the new aFRR design as explained in Chapter 1 are inherently linked and the go-live of both implementations have to occur at the same moment. Besides, the go-live of the separated procurement of FCR and aFRR products will be aligned with the go-live of the daily procurement with blocks of 4 hours for the FCR cooperation.

Elia fully recognizes the importance for market parties to have adequate foresight on a firm go-live date (both for commercial as well as for technical reasons). Whilst Elia will deploy all reasonable efforts to stick to the foreseen go-live date, a delay may however not be excluded.

Elia has submitted for approval to the CREG the first set of T&C BSP FCR and T&C BSP aFRR on 18 June 2018 as required by the Guideline on Electricity Balancing. At this moment, the CREG has not yet taken any decision on this matter. As long as the T&C BSP FCR and T&C BSP aFRR have not been approved, the GFA FCR CIPU, GFA FCR non-CIPU and GFA aFRR CIPU for technical units will continue to be applied.

For the separated procurement of FCR and aFRR, an update of the T&C BSP for FCR and aFRR already submitted for approval is required as presented in Figure 7. It is the assumption of Elia that by the time Elia will ask for approval for the changes to the T&C BSP aFRR, a final decision will have been made by CREG on Elia's initial proposal. In the above planning, the assumption has been taken that this will have taken place by the end of April 2019. Please note that EBGL foresees no binding approval timings and also provides the possibility for regulators to ask for a Request for amendment, which would potentially impact above timings.

Even without a final decision Elia is able to organize a consultation on the T&C BSP FCR and T&C BSP aFRR updated for the separated procurement of FCR and aFRR. But nevertheless, above timing for this consultation is planned for May 2019, so after the assumed decision date of CREG. In this implementation plan, it is also considered that the capacity tender as it is proposed in section 1.1 is implemented.

3.6 Integrated Implementation plan for aFRR & mFRR

All the details of the integrated implementation plan is explained in Section 1.5.