CONSULTATION REPORT

LFC Block operational agreement

June 23, 2022

Content

1. Introduction

Elia launched a public consultation of the stakeholders on the LFC block operational agreement. In accordance with article 119(1) of Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation (SOGL), the LFC block operational agreement specifies the dimensioning rules for the "Frequency Restoration Reserves" or "FRR" (also referred to as aFRR and mFRR) and the methods for fulfilling the obligations regarding the balancing of the Belgian control area. The CREG has requested Elia to re-consider on short notice the way the aFRR volume determination is being conducted, in order to reduce the volume of contracted aFRR and to mitigate the risk of extreme aFRR procurement costs. This is to be seen in a context of negative clean spark spreads, that could become even more negative should gas prices further increase, while electricity prices are expected to be lower during the summer period.

Following this request, Elia has developed a proposal for amendment to the LFC block operational agreement in which an update of the calculation of the aFRR needs has been integrated. Subject to the approval by CREG, the adjustments will take effect in line with the implementation planning specified in the proposal. Elia remains convinced that a robust, dynamic dimensioning of aFRR remains necessary to secure the Belgian electricity system in the medium and long run. It remains committed to implement such a method, as indicated in the final report (**link**) as soon as the CREG agrees with the proposal[1]. Elia sees the current proposal therefore as a temporary response to exceptional market conditions, as mandated by the CREG.

This consultation aimed to receive any comments from market participants and stakeholders regarding the consulted document and the consultation period was set from Monday May 16, 2022 to Thursday June 16, 2022. In total, Elia received six non-confidential answers to the public consultation[2]:

- **FEBEG**
- **FEBELIEC**
- **FLEXCITY**
- **CENTRICA BUSINESS SOLUTIONS**
- **YUSO**
- **BSTOR**

All relevant information to this consultation can be found on Elia's webpage (**link**). The feedback received during the consultation did not result in modifications of Elia's proposal. The request for amendment is submitted for approval to CREG on Thursday June 23, 2022.

[1] The implementation time will have to be determined when the decision to implement is made, taking into account ongoing or planned other implementations.

[2] One answer contains some confidential elements to illustrate some arguments given. The confidential elements are therefore not included in this consultation report.

2. Answers to the feedback of FEBELIEC

- Febeliec would like to thank Elia for this consultation on the LFC Block Operational Agreement (LFCBOA). In the framework of this consultation, Febeliec wants to refer to its answers in other balancing consultations (e.g. on the mFRR and aFRR design) as well as the discussions during the numerous workshops on balancing products. On most of the methodological issues, Febeliec wishes to refer to its comments in previous years, but also wants to add that it remains very strongly of the opinion that exceptional data points should be filtered out in the analysis, in order to avoid that these negatively impact the volume determination during several years, directly negatively impacting costs for consumers. This should for example be the case for imbalances resulting from design flaws that have in the meantime been addressed or at least mitigated or data points related to assets that no longer remain in the system or where additional measures have been taken to address the impact of outages on the overall system.

Elia takes note of the remark. Although it recognizes the possibility to filter data (as for instance proposed as a possible solution if the day-ahead balancing obligation would be rolled back), this solutions should be approached with utmost caution. It is important to work with a sufficiently large dataset and one should therefore be careful to exclude large periods or frequent events. It is also important to check first if the event, if happening sufficiently frequently, can be recognized by the machine learning algorithms proposed in the dynamic method recommended by Elia in its aFRR dimensioning study.

- On the adaptation of the aFRR capacity volume to be procured, Febeliec supports the reduction of this volume from 151MW to 117MW as it believes that this volume should cover sufficiently the risks for the system in a trade-off with costs for consumers, which might become even larger (ceteris paribus) in the future as the European PICASSO product is more stringent and thus more expensive than the national Elia aFRR product (e.g. related to full activation time and other features). Febeliec also insists that all imbalance netting potential should be taken into account for FRR need dimension, thus firstly on aFRR and any extra available capacity on mFRR.

Elia takes note of the support of taking into account IGCC for aFRR, which is also proposed in the dynamic method recommended by Elia in its aFRR dimensioning study. For FRR, Elia refers to the dimensioning rules in the SOGL specifying a framework for taking into account reserve sharing, which is applied by Elia for the mFRR needs. Elia stresses that the possibilities of taking into account reserve sharing and imbalance netting are constrained by the remaining cross-border capacity after the intra-day time frame.

- Concerning outage rates and as already expressed before, Febeliec is concerned that these are considered constant over time, despite in some classes assets being added, renewed or refurbished. Febeliec suggests that historical data is critically analyzed and any irrelevant data points towards the future operation of the grid to be removed.

Elia takes note of this remark and explains that it already proposed to remove the periods with forced outages in its recommended method in the aFRR dimensioning study: "*although aFRR will contribute to restoring the FRCE during forced outage events of large generation units and relevant HVDC interconnectors, in this case Nemo Link, it is concluded that this is not an objective for aFRR dimensioning. Indeed, FCR is dimensioned to deal with regional dimensioning incident in Continental Europe, as well as the FRR dimensioning for which the mFRR will deal with the forced outage. It is observed that the German LFC block takes into account forced outages (statistically with a duration of 15')*

but in a small country like Belgium, this would result in very high aFRR needs. It is therefore proposed to remove periods with forced outages from the dataset (as in the current methodology)."

- On the FRR means point, Febeliec most strongly want to refer to its comments on the extension of the Belgian mFRR Flex product and its regret on the abolishing of this product. Febeliec continues to consider this evolution to be not in interest of consumers and the overall cost of the system in light of a.o. the ever smaller margin of total mFRR capacity offered versus capacity procured that can be observed at times. Febeliec considers it to be unwise and imprudent to completely abolish the mFRR Flex product, as this could already in the (near) future lead to insufficient liquidity in the balancing market, as market actors might leave the market altogether and could in the long run lead to insufficient balancing assets still available to help the system.

Elia notes the remark of Febeliec regarding the phase-out of the mFRR Flex product but considers it out of the scope of the present consultation. Elia refers therefor to the request for amendment of the LFC Means submitted to CREG on 17 November 2021.

3. Answers to the feedback of FEBEG

- FEBEG thanks ELIA for having the opportunity to react to ELIA's Public consultation on the public consultation on a proposal for amendment to ELIA's LFC block operational agreement. The comments and suggestions of FEBEG are not confidential.

  FEBEG members are deeply concerned and very worried about the decision of ELIA to bring aFRR contracted reserves down to 117 MW. We regret this proposed change, which we understand is mainly triggered by a willingness to reduce capacity procurement costs. While we acknowledge that aFRR procurement costs have increased due to the recent rise of natural gas price, we are not convinced that the proposed change will induce a decrease in capacity procurement costs. We also want to remind ELIA that there are several important elements next to those procurement costs. We list the main – non-exhaustive - ones below:

  - The negative signals given to the market participants: such drastic interventions are extremely detrimental to a sustainable liquidity of the market, as it is impacting severely investors' confidence, especially in a context of increasing need for flexibility means.

  - The unwillingness to take an in-depth look at the total costs, to only look at the procurement costs is not a fair approach, it is biased and may result in a suboptimal overall outcome. ELIA should perform a thorough cost-benefit-analysis taking into account all impacts of its decision on the balancing market, e.g. volatility and height of imbalance prices, liquidity of non-contracted free bids.

  - The impact on operational security and the lack of a neutral benchmark analysis with surrounding countries before taking/proposing such decisions.

  - The aFRR dimensioning methodology should be respected, it is not acceptable to use "reverse engineering" to obtain a result that was fixed beforehand, such an approach is very worrying for the

market parties and has a negative impact on the confidence in the processes and regulatory framework for all stakeholders. FEBEG fears that taking into account the full historically activated IGCC volumes, while not updating other parameters in the methodology, is too optimistic and not realistic in view of the non-guaranteed nature of these volumes.

Our concerns and remarks are further detailed below. We start with the latter point as it requires the most attention.

[aFRR Dimensioning Methodology] We would like to remind that in the current version of the LFCBOA, a 'static' probabilistic method to dimension the aFRR needs is used, based on a time series of two years of expected variations between quarter-hours of LFC block imbalances. The aFRR reserve capacity needs are determined by the capacity that can cover 79% of the historic 15' LFC block imbalances variations. This 79% target is fixed since 2016 as, based on an empirical assessment, it was found to result in a sufficient FRCE-quality. The fact that the IGCC netting is not taken into account ex-ante (we like to underline that its availability cannot be guaranteed) makes, among others, that procuring only 79% of the absolute variations still yields a sufficient FRCE quality. In other words, if IGCC netting would be taken into account, one cannot simply assume that 79% would still give a sufficiently robust outcome from grid security perspective.

Elia understands the remark of FEBEG and agrees that this is expected to reduce the FRCE (= Area Control Error, ACE) quality beneath the levels on which the 79% reliability criterion was determined several years ago. On the other hand, the FRCE quality still remains well above the minimum targets as calculated at present by ENTSO-E following the legal requirements specified by the system operation guidelines. The proposed reduction is therefore expected to remain compliant with legal requirements.

Nevertheless, Elia stresses that these FRCE target parameters cannot be used as dimensioning criteria, at least not considering the way these are currently calculated by ENTSO-E. For this reason, Elia did initially not propose to use these target parameters in the recommended methodology presented in its aFRR dimensioning study Instead, it recommended a methodology based on dimensioning to cover 99% of the expected required aFRR activations, based on historic system imbalances, imbalance netting and simulated mFRR activations. Elia stresses that it remains committed to implement such a method as soon as the CREG and Elia reach an agreement on the methodology. Elia would consider to take into account the FRCE target parameters in the methodology, as requested by CREG, e.g. to recalibrate the dynamic methodology, or to reduce (or increase) the results of the dynamic methodology, but wants to await the outcome of an ENTSO-E study in 2023 on the redefinition of these parameters in order to see how these can be included to improve the relation between the dimensioning and grid security.

- In addition, in the currently used methodology, the expected variations between quarter-hours of LFC block imbalances are determined based on two years of historic data that are extrapolated by taking into account the expected system evolutions between the period represented by the historical records and the period for which the FRR needs are determined. The recent increase of renewable production suggests that older data

sets might not be an accurate reference to be used in the dimensioning for future time periods. See infographics with Figure 1[3] (Historical ACE & SI) to represent this evolution. Furthermore, SOGL also invites TSO to make use of representative and recent datasets in the determination of contracted reserves. See Figure 2 (extract of SOGL Art. 157).

Elia believes that the 'static' approach is compliant with the system operation guidelines as the data is still representative for the current calculation period and includes, as prescribed by article 157 of the system operation guideline, at least one full year period ending not earlier than 6 months before the calculation date.

Elia explains that the recommended methodology it presented in its aFRR dimensioning study is based on a dynamic dimensioning in which machine learning algorithms are regularly trained to take into account new market evolutions (such as for instance the increasing capacity of renewable capacity). As stressed in the introduction, Elia remains committed to implement the methodology as soon as it reaches an agreement with CREG.

- We also like to remind that a study on aFRR dimensioning, published by ELIA in 2020, recommended a 'dynamic' methodology which dimensions the aFRR needs on a daily basis, for every block of 4 hours, based on expected aFRR activations of the next day. This new methodology was aimed to be more robust, and less based on historic empirical judgements. IGCC netting was foreseen to be taken into account in this dimensioning, and thanks to its dynamic nature, a better judgement could be made on system evolutions. FEBEG supported these evolutions, including the proposed timeline for implementation in 2022.

Elia takes note and thanks FEBEG for the support of the proposed method. As also indicated by the above-mentioned remarks, it resolves many elements raised above. Elia remains committed to implement such a method, as indicated in the final report as soon as it finds an agreement with CREG on recommended methodology.

- In fact, since 2019, the currently used methodology resulted in an increase of the aFRR need, with in the most recent exercise a need of 151MW of aFRR capacity. But, as ELIA intended to implement its new (dynamic) methodology, ELIA has been limiting the maximal positive and negative aFRR needs at the same value as calculated in 2019, i.e. 145 MW. See infographics Figure 3. In the LFCBOA which is proposed today, ELIA is proposing to maintain a static dimensioning, but with two important changes:

  • The historic time series are not any longer extrapolated to take into account the expected system evolutions (such as increase of renewable production)

  • Historic IGCC netting is taken into account

  Regardless of these changes, ELIA proposes to maintain the empirically determined 79% share of the absolute variations of LFC block imbalances. FEBEG considers that the proposed methodology is intellectually incorrect, as it can be expected that FRCE quality will decrease. This approach only considers the beneficial effects (the netting of the volumes through IGCC) while ignoring the evolutions the grid needs to cope with (increase of renewable capacity) that have already materialized in recent history and will continue for the years

[3] *Cf. Figures available in Annex (infographics) of the answer of FEBEG*

to come. Indeed, applying the same (low) percentage based on an outdated dataset boils down to using a reverse-engineering approach which is not acceptable for market parties, not from grid security perspective. At the very least FEBEG would expect that such a significant 'methodology' change would be backed by a robust additional research and tests demonstrating that this will not lead to lower level 1 and 2 FRCE quality.

Elia refers to the answers given to the previous remark. It stresses again that this modification is to be seen as temporary measure during extra-ordinary market conditions, and also refers to the request of the CREG to review its methodology on short notice.

- *[Operational security impacts and benchmark with surrounding countries]* In fact in ELIA's 2020 study, it was already demonstrated that Belgium has a more or less average (not bad, but also not "top of class") performance in terms of the legal minimum criteria (FRCE level 1 & 2), and that ELIA procures little aFRR in comparison with its neighbouring counties. See infographics Figure 4 (Benchmark of FRCE level) and Figure 5 (Benchmark of aFRR procured volumes). It concluded therefore to have little margin for aFRR means reductions as the available aFRR means procured are already relatively low compared to other countries and FRCE-management of individual LFC blocks is important to maintain stable frequency in the European synchronous zone. Furthermore, SOGL art 128 clearly states that FRCE level 1 and 2 should not be exploited to reduce contracted reserves. See infographics Figure 6. Based on ELIA's own study and benchmark check, FEBEG can only come to the conclusion that ELIA will be less capable maintaining the Belgian grid balanced and is entering unknown territory. This further strengthens our concerns with the proposed methodology changes and the lowering of aFRR means. We would like to remind ELIA that it is their primary responsibility to ensure grid security and hence to dimension reserves that allow them to do so.

Elia refers to its answer to previous questions related on the reliability. Elia stresses that although the FRCE quality is expected to deteriorate, it is expected to remain above the current legal minimum criteria.

However, Elia is still convinced, as mentioned above, that the FRCE target parameters cannot be used as dimensioning criteria, at least not considering the way these are currently calculated by ENTSO-E. These are currently calculated as absolute warning limits and dimensioning on these criteria would result in reserve needs which would be expected by ENTSO-E to contribute to the European grid stability. It is for this reason that ENTSO-E launched a study to investigate if the methodology to calculate these parameters has to be re-considered in light of the request to use them as dimensioning criteria. Again, Elia stresses the temporary nature of the measure.

- *[Total costs analysis]* It is true that aFRR capacity procurement costs have increased, however, we strongly believe that decreasing procurement cost is not the only things that should be looked at. To the contrary, we think ELIA should strive to decrease the sum of the total costs: procurement/direct costs plus balancing/indirect costs. Those indirect costs that BRPs are exposed to and that will be passed through to the final customers are equally important. Focusing only on the direct costs – that is to say the procurement cost – only shows a part of the picture and can result in an overall sub-optimal (higher total costs) outcome. We wish also to underline that contracting smaller aFRR volumes will probably have major impacts on the aFRR activation merit order, which will translate into more frequent and extreme imbalance tariffs as those units with smoother activation prices would no longer be selected:

    1. A decrease in the procured aFRR volume could have as a negative side effect that market participants bid higher in the voluntary aFRR activations market as they have to recover opportunity costs

from just one market. Consequently, there is a risk that higher imbalance prices for the BRPs will be transferred to some extent to the customers.

2. It is foreseeable that the number of mFRR activations will increase; which will most probably push the imbalance prices even more up. In this respect we like to remind that FEBEG has always been advocating for better alignment of aFRR and mFRR activation, this could also be a good way to mediate the impact.

3. As of right now, aggregators have the ability to set relatively high activation prices. With procured aFRR volume decreasing it can be expected that aggregators take an increasingly higher share in the market which can result in more frequent imbalance price peaks. Febeg wants to remind that imbalance prices should provide the right incentives to the BRPs by reflecting as much as possible the physical reality and the real time value of electricity and that too opportunistic behaviour is limited.

Elia understands from the first remark that FEBEG refers to opportunity costs related to possible trading on the intra-day market. It is not clear to Elia why a reduction of the volumes procured as aFRR capacity would increase opportunity costs for non-contracted bids. With the possibility offered to BSPs to declare non-contracted bids (partly) unavailable until 5 minutes before the start of the quarter-hour, such opportunity costs are expected to be low.

On the second point, Elia believes it is indeed likely that the number of mFRR activations will increase. Elia also takes note of the point made on activation strategies of aFRR and mFRR and is currently evaluating the impact of the aFRR contracted volume reduction on the mFRR activation triggers. A presentation of Elia's mFRR activation strategy in the context of PICASSO is foreseen in the WG Balancing meeting in September 2022.

On the third point, Elia agrees that the imbalance price should provide the right incentives to the BRPs and reflect the real time value of the energy. These two elements are the basis for Elia's proposed amendment to the Balancing Rules submitted to CREG in view of the connection to PICASSO. Nevertheless, it seems logical that BSPs with different underlying technologies offer balancing energy at different prices. This may result indeed in an increase in activation costs and imbalance prices. Whether or not some BSPs adopt a "too opportunistic behaviour" is something that should be assessed by the competent authorities.

- Furthermore, a limitation of the contracted capacity to 117 MW will probably lead to a decrease of the liquidity of non-contracted reserves, i.e. if only one CCGT is selected instead of 2. On top of that, looking at the growing intermittency and the increasingly volatile imbalance prices - as a result of, among others, alpha component and technology neutral integrated merit order - a large share of the non-contracted reserves will therefore no longer (or to a lesser extent) be offered to ELIA, therefore ELIA shouldn't overly rely on free bids to balance the system.

Elia takes note of this point but provides also a nuance that the impact could also be observed in the opposite direction: given the growing volume of non-CCGTs participating to the market, the volume reduction can lead to margins left on a unique CCGT that would be selected. In addition, experience shows that margins left on CCGTs are not always offered as free bids in the aFRR energy market.

Elia takes note of the remark on over relying on free bids. It refers to the analyses made in the dynamic procurement studies (link) in which it explicitly explains the limitations when predicting non-contracted balancing energy bids in the current context of the aFRR market. Elia agrees that it would not be appropriate to rely on free bids in aFRR under the

current market conditions. Note that Elia is also very cautious with interpreting the results of the analysis on the predictability of the non-contracted balancing energy bids in the current context of the mFRR market, in absence of explicit bidding.

- Finally, it is far from certain that a decrease of the contracted capacity from 145MW to 117MW will automatically lead to a lower total procurement cost. Already today up to ~100MW out of the 290MW aFRR band is being delivered by other technologies than CCGT's. The remaining ~190MW aFRR band can be delivered by 1 CCGT unit. By decreasing the to be contracted (symmetric) capacity with 28MW, 1CCGT will still be needed. The consequence, at moments where power price is low and gas price is high (CCGT out of the money), is that the same cost will need to be divided by fewer MW's. This will set the reference cost for all other market participants at a higher level. Bottomline is that Elia will pay a higher price per MW for the MW's needed from a CCGT and as a consequence will pay a higher price equally for all other volumes. The resulting total procurement cost is therefore likely to be higher rather than lower. At moments where power price is high and gas price is low (CCGT in the money), it is expected that the procurement cost would indeed be lower.

Elia acknowledges that the price in €/MW/h is, on average, likely to increase when the procured volume decreases in case of negative clean spark spreads. Nevertheless, an analysis based on the bids received since the go-live of the new aFRR capacity auctions design beginning of May shows that the proposed reduction of the procured volume would have reduced the total procurement costs, in particular when the balancing capacity costs were high.

Elia admits that it cannot be excluded however that some BSPs offering volumes in the per-CCTU product would use the opportunity of an increase of the reference price in the aFRR capacity auction to increase the price of their bids which could result in an increase of the total cost. Whether such behaviour would be acceptable is questionable.

[Signals to the market] Looking at all the above, it is very worrying that ELIA is giving the signal to developers that a stable framework cannot be expected. This is problematic as those developers need a reliable framework and a well-functioning aFRR market to develop their business cases. In view of the large share of new capacities that need to be found to maintain Belgian Adequacy in the context of the Belgian capacity market, and the high need of existing and new flexibility sources in the Belgian System – as pointed out in the MOG 2 study for offshore - this evolution is most unfortunate. When ELIA lowers the reserve needs, it is sending a message to existing assets that are currently actively and reliably participating to the balancing markets and the security of supply: as these assets are no longer needed, they might leave the market. The loss of investors' confidence can further degrade the liquidity in the market, resulting in the opposite of what ELIA (and FEBEG) are striving for, namely a competitive and well-functioning market with sufficient liquidity to ensure that the Belgian Grid is robust and reliable at an acceptable and correct cost for all. Therefore, FEBEG emphasizes again the importance of having a stable framework and enough reserve dimensioning for the following years instead of a yearly stand-alone exercise.

Elia takes note of this point and recognizes the importance of stability stable market framework. It is also for this reason that Elia conducts projections on a regular basis (cf. reserve projections provided in the framework of the MOG 2 study, and foreseen to be updated after Summer in light of the MOG 2 study update). These projections are made based on methodologies approved, or in case of aFRR, the recommended method put forward in the aFRR dimensioning study.

Concerning the reduction of the aFRR needs compared to these projections, Elia refers to the extra-ordinary market conditions and the request of the CREG as driver for this temporary modification. Elia is still committed to implement the recommended aFRR methodology after reaching an agreement with CREG.

- *[Conclusions].* Based on the above arguments, and as mentioned in the introduction, FEBEG members are deeply concerned and very worried about the decision of ELIA to bring aFRR contracted reserves down to 117 MW. FEBEG is of the opinion that the proposed approach does not rely on a robust and consistent methodology and moving ahead with the proposed revision would be extremely negative for investors' confidence, and thus the future of the aFRR market. ELIA risks to increase overall costs (once all costs are factored in) in the short and definitely in the longer run with such interventions. There has been a large amount of studies conducted by ELIA on FRR dimensioning on which FEBEG members gave open feedbacks, and which were widely supported by many other stakeholders. In this context, we regret that the efforts made to implement a performing methodology are discarded. We invite ELIA to rather build up on these studies and the identified implementation plan of aFRR dynamic procurement to safeguard a robust operational grid security in a long-term stable environment for investments.

  Finally, as a general recommendation, we urge Elia to make proper cost-benefit-analyses not only limited to ELIA's perimeter but also including costs incurred by the market participants of its proposals. It is not sustainable to consistently reduce ELIA's costs by simply shifting the burden to the market parties (alpha component, CCMD, …).

As indicated before, Elia's willingness has always been to implement a dynamic aFRR dimensioning as developed in 2020. Elia thanks Febeg and the other market participants for the feedback and support provided in this context. It is not Elia's intent to discard this methodology, but to implement in the meantime a short-term amendment to the current, static methodology to respond to extra-ordinary market circumstances and the request from CREG. The driver for this change (nor for the alpha or CCMD) is in no way to "reduce Elia's costs by shifting of the burden to the market parties".

4. Answers to the feedback of YUSO

- YUSO welcomes this consultation and would like to thank Elia for creating this opportunity for all stakeholders to provide feedback on the amendment to Elia's LFC block operational agreement. YUSO is a BRP and BSP and intends to bring multiple MWs in utility-scale battery storage to the market by 2023. This capacity is currently under construction and will be able to provide aFRR balancing capacity at a competitive price and with zero carbon intensity. We note that the updated methodology would result in a reduction of the procured aFRR capacity by Elia to 117MW.

  YUSO believes that the reduction in the aFRR balancing capacity for the Belgian zone will not be beneficial for the integration of renewable production on the Belgian grid. The methodology is based on historical observations, which are not reflective of the future Belgian energy mix and balancing needs. The expected increase in wind and solar will require more flexibility in the Belgian system and a higher capability for Elia to automatically balance the Belgian zone

Elia understands this remark and explains that the recommended methodology in its aFRR dimensioning study was based on a dynamic methodology in which machine learning algorithms are regularly trained to take into account new market evolutions (such as for instance the increasing capacity of renewable capacity). The updated 'static' approach is a temporary modification, following extra-ordinary market conditions and a request of CREG.

- Additionally, by retaining a smaller portion of the capacity providers for aFRR, the activation prices and activations on mFRR might increase causing higher imbalance costs for the system which ultimately drive up the electricity bill of the end-consumer. Finally, we like to point out that the decrease in volume needed for aFRR would also have a negative impact on the investment climate and business case for carbon-free resources such as large-scale batteries to provide a sustainable alternative for ancillary services.

Elia acknowledges Yuso's observations and refers to the answers given to FEBEG:

- *On the increasing activation, Elia takes note of the comment and recognizes the risk.*
- *On the market stability, Elia understands the points raised by Yuso and the other stakeholders and confirms it expects FRR reserve capacity needs going up. Nevertheless, it stresses the temporary nature of the measure, in view of extra-ordinary market conditions and the request of CREG.*

5. Answers to the feedback of CBS

- CBS understands the rationale behind the proposal of Elia to lower the volume of aFRR procured, but cannot comment the relevance of the proposal as it does not contain any quantitative elements nor cost benefit analysis. Considering the amount of imbalance netting while assessing the amount of aFRR that Elia needs to procure in order to maintain a sufficient quality of LFC block imbalance variations coverage seems like a sound proposal that CBS supports.

  However, CBS points out that the consultation document does not come with any data allowing the respondents to have an opinion on whether the proposal to reduce the volume to 117MW is sufficiently backed, and to what extent it is watertight against future evolutions of the market conditions. In particular, CBS underlines the key aspect of the remaining ATC that is needed to proceed to a netting of aFRR needs, and that there is no figure provided on the past and foreseen amount of such residual capacity. The % of the time where Elia will have some residual import capacity as well as the number of remaining MWs will be a pre-requisite to ensure the projected volumes of imbalance netting can still happen. In particular, considering the uncertain impact of the PICASSO go-live on these volumes added to the already 250MW that are "reserved" for mFRR sharing agreements, CBS considers that the proposal should be further backed and discussed quantitively, and in the meantime cannot be subject to a relevant comment.

Elia explains that the LFCBOA transparently specifies the calculation method, using historic system imbalance and activated imbalance netting volumes, while this data used can be found on Elia's website. The 'static' calculation does not take into account future evolutions and is therefore also not presented as an enduring solution but rather a temporary measure while awaiting the methodology in 2023.

In the dynamic method, recommended by Elia in its aFRR dimensioning study, the evolution of the remaining cross-border capacity for IGCC will be captured in the observed IGCC activations.

- CBS considers that this lower volume procured will have uncertain impact both on procurement and activation costs of aFRR. CBS points out that it is not certain that buying less aFRR volumes will lead to lower procurement and activation prices for aFRR in Belgium, given the complexity of the design in place and the means able to deliver aFRR in Belgium.

Firstly, on the procurement side the lower volumes could lead to less MWs being provided by DPsu like CCGTs, that will still have to recover however the same amount of fix start-up and must-run costs. If this is the case and the DPpg still sell the same volume on the other hand, this could even lead to a higher procurement cost overall.

Secondly, on the activation side, it is likely that the 28 MW that Elia will not buy anymore will be MWs at the lowest part of the merit order, especially if they are CCGT MWs. Therefore, it is likely that DPpg will get activated more often as they will be hit 28MW earlier, and that among these units the LERs will see their activation increase. Indeed, if the aFRR activation signal is more saturated, the LERs will need to rely more often on EMS to maintain their SoC, EMS that will likely increase the activations costs.

Regarding the impact on procurement and activation costs, Elia refers to the previous answers. On achieving limited procurement cost reductions. Elia believes it is unlikely that total procurement cost would increase after a volume reduction, unless BSPs offering in the per-CCTU product opportunistically increase the price of their bids.

Elia also takes note of the increasing balancing activation costs and acknowledges this risk. Elia agrees that in the context of high gas prices, it's indeed expected that the volume reduction will not lead to a reduction of DPpg energy bids, and that those will hence be activated more often. Elia also hopes that the implementation of PICASSO will mitigate this effect.

- Overall, CBS underlines the high level of uncertainty regarding the impact of the proposal on the total aFRR costs, and the medium term impact on the LER assets delivering aFRR currently.

  CBS considers that other alternatives could be considered to reduce the risk of high aFRR prices this summer and beyond. CBS considers that other solutions could be considered to include the benefits of more imbalance netting, without getting the risks identified above on the total costs of the aFRR procurement and activation. In particular, to avoid a higher saturation of the aFRR signal, CBS considers that Elia could foresee putting a cap on the amount of aFRR activated by the controller: instead of buying 28MW less to include the expected contribution of imbalance netting without jeopardizing the required quality of service, Elia could stop the controller at a fix amount of 117 MW. This would avoid activating some aFRR beyond what is needed to reach the quality-of-service requirements detailed by Elia in the proposal, thereby reducing the pressure and number of activations on LER: activation costs of aFRR could significantly go down, while the procurement costs would remain the same, without the uncertainty coming with the proposal of Elia linked to a lower of MWs procured.

Elia notes that this proposal would imply procuring capacity which will thereafter not contribute to the regulation of the ACE in order to maintain in the aFRR merit order energy bids from technologies offering cheaper energy bids. This does not seem compatible with the technology neutral approach adopted by Elia, nor with the expected evolution towards the participation in aFRR of more non-CCGT units that may eventually lead to not contracting any gas-fired power plants. With CBS's proposal, Elia would have to activate less and less aFRR as the volumes of non-CCGTs selected in the auction increases, without reducing the procurement costs. Finally, "capping" the activations is not in line with the implementation framework for the European aFRR platform.

6. Answers to the feedback of FLEXCITY

- Flexcity would like to thank Elia for giving us the opportunity to participate in the formal consultation. We would like to express our strong concerns on how the proposed amendment of the LFC Block Operational Agreement will negatively affect the well-functioning of the Belgian reserve market.

  Flexcity has always aimed to provide as much liquidity as possible to new services, be it mFRR Standard, the Capacity Remuneration Mechanism or the aFRR product. Up till now, this has always been a success, thanks to a good cooperation between the market participants, Elia and the CREG. Providing this liquidity has always come with a great effort, both for Flexcity, who did substantial R&D and commercial investments, and for the flex providers, who have and are doing significant investments in order to participate and prequalify for these new services. Flexcity would like to emphasise that an update of the aFRR contracted volumes is a precedent with a very negative effect on the well-functioning of the Belgian reserve market for the following six reasons:

  1. Updating the aFRR contracted volumes in such short notice, deviating from the procedures of a yearly revision, has a strong precedential value and will negatively impact investment appetite for flex providers and aggregators to participate in new grid services. Especially given the regulatory uncertainty hanging over the aFRR product in the past 2 years with:

  a. the 3 month delay of the opening of the market
  b. the immediate change of the capacity design several weeks after opening the market
  c. the unilateral introduction of the Cap Adjusted Variable
  d. the unforeseen capacity auction update in May 2022
  e. the uncertainty on the go live of PICASSO in September 2022.

Elia acknowledges the need for a stable market design and the many changes that took place in the last two years related to the aFRR capacity product. Unfortunately, despite extensive discussions with market participants and the CREG before the adoption of a new market design in 2020 aiming at opening the services to all technologies, some changes have been necessary to cope with (to a large extent) unforeseen situations and secure an acceptable functioning of the market. Most of these changes have been supported by a majority of market parties, or even introduced on their request. The present amendment, that does not regard the design of the product but the dimensioning of reserves, has been initiated by the CREG.

- 2. It will give an adverse sign to the market of a decreasing flexibility need, which might negatively impact the potential to onboard new flexibility in short and long term. This would give a sign to the market that decision makers do not believe the energy transition and role of demand response. By doing so, the door has been opened for accepting unstable market design and regulatory uncertainty.

Elia remains convinced that a robust, dynamic dimensioning of aFRR remains necessary to secure the Belgian electricity system in the medium and long run. It remains committed to implement such a method. Elia sees the current proposal therefore as a temporary response to exceptional market conditions and refers again to the request of CREG to revise the aFRR dimensioning on short notice

It should be noted that, on the short-term, considering the volumes currently prequalified, the proposed reduction of balancing capacity should not directly impede the participation to the aFRR capacity services of "new" technologies that are competitive compared to CCGTs.

- 3. It will negatively impact Belgian grid security as it would become even more dependent on the grid situation in neighbouring countries through taking into account IGCC import and export.

Elia agrees that an aFRR needs reduction from 145 MW to 117 MW will result in decreasing FRCE quality. However, as indicated earlier in this document, it is still expected to remain above the current legal minimum criteria.

However, Elia also proposed to take into account contributions of IGCC in its recommended method put forward in its aFRR dimensioning study. Indeed, in a dynamic probabilistic methodology with sufficiently high reliability level, the risk of taking IGCC into account might be acceptable as results will be adapted if IGCC becomes less available.

Note that in general, Elia is required to consider the contribution of cross-border flexibility if this can reduce the balancing capacity requirements, following Article 32 of the electricity balancing guideline. It also account reserve sharing in mFRR following the availability of the cross-border capacity after intra-day. In other words, the legal framework is not in line with the position put forward by Flexcity that reserves should be kept high in order to reduce dependency to other countries.

- 4. The current capacity market has been discussed very intensively and consulted with all market parties. It was decided as a well balanced compromise, strongly depending on the certain market conditions like sufficient supply and demand. Fundamentally altering one of the cornerstones may lead to questioning and revising the whole market design.

Elia refers to its previous answer on the first bullet point concerning the importance of stable market design. This being said, the new design of the aFRR capacity auctions which went live in May is compatible with a reduction of the reduced volume.

- 5. This decision completely undermines the technical assessments that have been made by Elia to calculate the volume of reserves required. The value of the so-called "Dossier Volume" with the corresponding assessment of secure operation of our grid has implicitly been reduced to an irrelevant exercise.

Elia understands the point of Flexcity and refers to previous answers given on the temporary nature of the measure, following extra-ordinary measures and CREG's request to adapt the method on short notice. Elia stresses that it recommended a robust method in its aFRR dimensioning study, after thorough analysis and discussions with market parties, and is still committed to implement this method when finding an agreement with CREG.

- 6. Decreased volume will lead to less deep activation merit orders and a higher activation frequency for end-of-merit order assets . Given the high operational impact of activations on these assets, as they are embedded in a whole industrial ecosystem where electricity production is often a by-product, increasing the activation frequency might reduce the volumes these assets might offer. Flexcity is currently experiencing problems of this sort for big industrial CHPs.

Elia acknowledges Flexcity's remark. It points out that the connection to the European aFRR platform is expected to decrease the activation frequency of end-of-merit order bids, and is thus expected to mitigate this negative impact.

7. Answers to the feedback of BSTOR

- BSTOR SA/NV believes that the proposed amendment of taking the netting potential from IGCC mechanism in the volume definition for aFRR (and/or FRR?, this is not clear in the proposed amendment) in theory makes senses and is defendable. BSTOR also believes that it doesn't create particular additional market access barriers because we trust that the new market rules provide for sufficiently strong guarantees, provided that it wouldn't be decided afterwards to play "ad hoc and ad libidum" with the RC factor defining the level of market access barriers for new entrants.

Elia takes note of the support for the principle that imbalance netting should be taken into account in the dimensioning exercise and confirms that the contribution of imbalance netting is only accounted in the aFRR needs and that the methodology to determine the FRR needs remains unchanged (cf. also answer below).

- However, BSTOR stresses that the only way to keep the aFRR (reservation and activation) costs and balancing costs including imbalance tariffs) in general under control is to foster investment into battery storage capacity. Present high reservation costs are not due to an excessive volume but to the fact that the service is still largely depending on spinning CCGTs, whose costs for delivering the service are steeply increasing, along with the increasing Clean Spark Spread. On top of that we see high activation costs due to activation of demand side management and curtailment of renewables, which are much more expensive option than ramping up or down a spinning CCGT. Battery storage is the only technology capable of providing the service with both moderate holding and activation costs and development of large additional battery capacity is therefore key to keep both the reservation and activation costs under control.

  Lead time for such investment in battery storage can range between 2 and 4 years. Regulatory stability is therefore of paramount importance for enabling such investments. However, such stability has been totally missing on the aFRR design the last two years. A new design updated towards technology neutrality had been agreed upon among the stakeholders after intensive consultation process, and translated into new T&Cs on 16/04/2020. The design entered into force with significant delay on 30/09/2020. Shortly after implementation, the design was modified with the introduction of a volume cap om the per-CCTU volume. Then the design was again changed to make this cap variable. Then the stakeholders again intensively met and discussed to agree on a new updated system. The latter entered into force on 4/5/2022 and is not even 1.5 month old that a new major amendment is proposed. The proposed amendment would be the 4" (1!) major change in the market rules in not even 2 years' time, while in about 1 year from now, another new design change should occur in the context of the uniformization of the balancing volume definition at ENTSO-E level, due in the course of 2023.

Elia acknowledges the need for a stable market design and the many changes that took place in the last two years related to the aFRR capacity product. On market stability and appropriate investment signals, Elia also wants to refer to previous answers:

- *Elia projections (presented in the framework of the MOG 2 study) indeed present increasing FRR reserve capacity needs following the integration of renewable and Elia agrees that the aFRR needs reduction. Elia explained it conducted its projections to best knowledge, based on the current dimensioning methods approved (or in case of aFRR, the method put forward for implementation in its aFRR dimensioning study). Elia*

stresses that these remain projections and that final values are determined by the latest methods approved in the LFC block operational agreement. Elia agrees that the reduction which is currently proposed is not line with this trend and Elia refers again to the temporary nature, the extra-ordinary market conditions and the request of CREG.

- *Elia observes that there is currently still sufficient room for additional balancing capacity volumes provided by new technologies such as battery storage in the aFRR capacity auctions, provided they are competitive against the conventional technologies.*

- BSTOR furthermore understands that such methodology uniformization at ENTSO-E level will most probably lead to a significantly higher aFRR volume than the 150 MW currently procured for Belgium. The Netherlands and Germany for instance procure close to 2.8 - 33 MW of aFRR per TWh of primary electricity consumption, while for Belgium, this ratio is currently close to 1.8-1.9 MW aFRR/TWh load. This mean that Belgium could have to source close to 230MW aFRR on the rather short run, by 2023 or 2024, if methodology is aligned on the principles applicable in Germany. And this is even before considering the additional needs anticipated in the context of additional offshore wind integration. So while the needs are due to increase on the long run, in the meantime, for few months, one would send a pretty odd signal to the market that needs on the aFRR are instead decreasing. Potential cost saving, if any (as this remain to be demonstrated at total cost level, ref above), on the short run, could therefore lead to much higher costs related to defaulting liquidity on the mid-term.

Elia clarifies that BSTOR's interpretation that the ENTSO-E study outcome might result in a harmonization of aFRR needs over neighboring regions is not correct. Currently, system operation guideline specifies that TSOs need to meet their FRCE target parameters, which are calculated by ENTSO-E. These FRCE target parameters are currently calculated by ENTSO-E as absolute warning limits, and explicitly referred to by ENTSO-E as not to be used as the basis for dimensioning. For this reason, although Elia is performing above this criteria, using these criteria for dimensioning purposes as suggested by CREG would result in an unacceptable reduction of the aFRR needs. Elia therefore does not accept the use of these criteria in their current form and is awaiting the results of a study by ENTSO-E on this matter, expected to be published in 2023.

After the recommendations of ENTSO-E are known, Elia can assess how to take into account these criteria in the methodology recommended in its aFRR dimensioning study. Once the new methodology is known, new projections on future aFRR evolutions can be made. In line with historic projections made for FRR, and aFRR based on the methodology recommended in the aFRR dimensioning study of 2020, we indeed expect an increasing trend following the increase of variable renewable generation.

- Considering the fact that a major regulatory change was just implemented beginning of May (!!), and the fact that a new regulatory change is expected soon in the context of the uniformization at ENTSO-E level (or even sooner? Article 2 85 of the document with the proposal of amendment indeed states "Elia will present in a next version of the LFC BOA a new methodology to assess the aFRR needs" without being clear if this relates to such modification as part of the uniformization process, or another, intermediate additional change "on the go"), BSTOR therefor requests that implementation of the proposed amendment would first be subject to:

1. A sound evaluation of the impact on the system costs from the recent changes in the procurement methodology implemented on 4/5. Was there a positive impact? Isn't the new design already having satisfactory cost reduction impact and robust enough to deal with the present circumstances of anticipated high Clean Spark Spread? From our calculations we see that the average procurement price in March and April was around 95EUR/MW/h in each direction. In May this was around 8OEUR/MW/h (-15%), in June, around 60 EUR/MW/h (-35%, despite conditions favourable to high clean spark spread with high renewable generation). Is it worth implementing a change perturbating the new market balance that the market is currently asymptotically finding?

Elia assumes that BSTOR refers to high negative clean spark spreads. The impact of the auction design changes implemented in May will be analyzed and presented to the WG Balancing in September 2022. These design changes aimed at ensuring an efficient auction mechanism, where the volumes procured through the all-CCTU product and the per-CCTU product are optimized taking into account the actually available bids and not through an ex ante split of the volumes between the two products. It ensures a fairer selection of bids and has been supported by all market participants. Nevertheless, it does not aim per se *to lower capacity procurement costs and does not address the need identified by the CREG in its request for amendment.*

- 2. A sound cost benefits analysis demonstrating that the proposed amendment create a true and significant cost saving, when looking at the total system cost.
  - The impact on the cost for aFRR capacity procurement itself could be limited, or even negligible or negative: cost saving from procuring less volume could be partly to fully compensated by the increase of the cost/MW procured as long as 2 CCGT are needed to deliver the needed capacity. The latter could furthermore drive the reference price up and lead to selection of per-CCTU bids that wouldn't have been selected without the volume reduction, causing further deviations from the total cost optimum.
  - If the volume reduction affects aFRR only and not the total FRR, we understand the 33 MW volume reduction on the aFRR would actually be transferred to the mFRR on which an additional 33MW would be procured, creating an increase of the costs here that could potentially fully compensate the cost reduction on the aFRR as long as two spinning CCGTs are required to deliver both services.
  - In case the proposed amendment enables to successfully reduce the cost for aFRR capacity without increasing total FRR costs (e.g. 1 spinning CCGT is avoided) this could result in a decrease of the ID liquidity, in particular for liquidity with energy bids at moderate activation prices and lead to more frequent activation, by Elia and by the BRPs, of bids with much higher activation prices such as curtailment of renewables or "real-time" load shedding. This could further drive up the costs and risks for BRPs on their short-term supply strategy, in a context of balancing prices that are already exploding.
  - Reduction of the total contracted FRR (if the proposed amendments affect the FRR volume), or volume transfer of the aFRR to the mFRR (which would lead to a decrease of the contracted reserve in the down direction since this is not contracted under the mFRR) will lead to less and slower balancing reserves, which could lead to an increase of the ACE and related costs for Elia.

Elia refers to the previous answers given on the impact of volume reduction on procurement costs and on activation costs. Elia takes note of the remark on the risk of achieving limited procurement cost reductions, or even a cost increase. Observations since the beginning of May (go-live new design aFRR capacity auctions) depicts that the total procurement cost would nevertheless have decreased, which is expected to be observed with a volume of 117MW

unless BSPs offering in the per-CCTU product opportunistically increase the price of their bids. Elia also takes note of the increasing balancing activation costs.

Elia confirms that the reduction of the aFRR needs with 28 MW (from 145 MW to 117 MW symmetrically) is compensated with additional upward mFRR balancing capacity procurements. As the mFRR is much cheaper than the aFRR it is not likely that this would increase the procurement costs compared to the current situation. As explained earlier in this document, Elia agrees that a reduction of the FRCE / ACE quality will likely decrease, but that it is expected to remain well above the legal minimum levels.

- As a resume, BSTOR believes that the potential impact of the proposed amendment could be very limited if not negligible, because it could consist in shifting costs not to reduce those. We believe that the least an investor may expect is that market changes are duly motivated. Furthermore, BSTOR requests the following:

    1. There must be clear, objective, undisputable and anticipable rules on modifications of the RC factor. This was already a request in our contribution to the consultation prior to implementation of present R&C. This request would only become more pregnant in case the intention to implement the proposed amendment is confirmed.

    2. In the document proposing the amendment of the LFCBOA, Article 2 § 5 states that "While awaiting the implementation of [a] new methodology, Elia will fix the symmetric aFRR needs at the value determined in paragraph 4." Article 2 § 4 stating that "based on paragraph 2 and 3, the aFRR needs are determined at 117 MW'. BSTOR believes that it is an unreasonable proposal. The purpose of the LFCBOA should be to define a methodology, not the volume itself. Should the amendment be adopted, BSTOR therefore requests that the volume of aFRR would be defined according to the approved updated methodology, id est with increasing volume if volatility of the system imbalance has increased and/or if IGCC netting potential is fading out in 2022 compared to 2021. BSTOR believe that the exercise should be made with a particular focus on the period after potential implementation of the proposed amendment to capture potential effect from such amendment on the aFRR needs.

Concerning the first request, Elia clarifies that the RC factor is an element of the aFRR capacity auction design. It is not impacted by the present proposal so this comment is considered out of scope.

Concerning the second request, Elia already dimensions the aFRR needs for several years based on a 'static' methodology based on a methodology approved in the LFC block operational agreement. As it still concerns a 'static' methodology, the methodology is implemented in the same document, currently resulting in a fixed symmetric volume of 145 MW. This methodology is compliant with the legal framework and was approved by CREG after public consultation. Today, Elia proposes a modification to this methodology by including imbalance netting in the calculation, reducing the aFRR needs to 117 MW. Elia believes this approach is as well compliant with system operation guidelines.

Nevertheless, Elia also agrees that such 'static' methods are not suitable to take into account system evolutions and recommended a 'dynamic' approach in its aFRR dimensioning study, able to take into account system evolutions by means of a regular training of a machine learning algorithm. Elia stresses again the temporary nature of the proposed

modification and remains committed to implement the methodology recommended in its aFRR dimensioning study as soon an agreement with CREG is reached.

3. The impact on the total FRR volumes should be clarified. Does the proposed amendment only entails a transfer of aFRR volumes to mFRR volumes or a reduction of the overall FRR volumes?

Elia confirms that it entails a transfer of aFRR needs to mFRR needs and that the methodology to determine the total FRR needs remains unchanged. According to the methodology specified in the LFC Block operational agreement, the FRR needs are determined on daily basis by means of a dynamic dimensioning approach, after which the aFRR needs are determined based on the proposed 'static' approach. The mFRR is thereafter calculated dynamically as the difference between the variable FRR needs and the fixed aFRR needs.