European Network of
Transmission System Operators
for Electricity

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# ENTSO-E's response to the public consultation on All TSOs' proposal for the implementation framework for a European platform for the exchange of balancing energy from frequency restoration reserves with automatic activation in accordance with Article 21 of Commission Regulation (EU) 2017/2195 establishing a guideline on electricity balancing

18 December 2018

**DISCLAIMER**

This document is submitted by all transmission system operators (TSOs) to all NRAs for information purposes only accompanying the all TSOs' proposal for the implementation framework for a European platform for common activation of automatic Frequency Restoration Reserves in accordance with Article 21 of Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing.

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## 1. Introduction

The Commission Regulation (EU) 2017/2195 of 23 November 2017, establishing a guideline on electricity balancing (hereafter "EBGL"), mandates in its Article 21(1) all TSOs to develop a proposal for the implementation framework for a European platform for the exchange of balancing energy from frequency restoration reserves with automatic activation (hereafter "the aFRRIF") by one year after entry into force of the EBGL, i.e.: by 18 December 2018.

In addition, the Article 10 of the EBGL mandates the TSOs responsible for submitting the aFRRIF (i.e.: all TSOs) to perform extensive consultation of the aFRRIF proposal, and so a formal web-based consultation was held between 26 April and 29 June 2018. During this public consultation, ENTSO-E received 172 comments from 43 respondents.

This document lists ENTSO-E's assessment of the comments provided to the public consultation of the aFRRIF. Rather than providing responses per individual comment received, an assessment of all input received is done on a clustered basis per topic, in order to give a coherent view on ENTSO-E's approach towards the aFRRIF proposal. In order to provide a clear oversight of comments and responses, the issues mentioned in this document have been summarised with respect to the original comments provided. For a full overview of all comments provided in the web-based consultation, in their original formulation, please refer to the site of the consultation[1].

This document is not legally binding. It only aims at clarifying the assessment of the comments received from stakeholders during the formal public consultation of the aFRRIF proposal. This document is not supplementing the aFRRIF document, nor can it be used as a substitute to it.

ENTSO-E acknowledges and thanks stakeholders for the effort that they have invested in providing feedback for the consultation on the aFRRIF proposal; this feedback is a major contributor to bringing improvements and transparency to the process.

[1] https://consultations.entsoe.eu/markets/afrr_implementation_framework/



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| Article | Comment/Proposal | Decision |
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| 1. Subject Matter and Scope | Participation of Norway in the IN Platform "Norway is not participating in the European platform for imbalance netting. A single TSO could therefore block Norwegian BSPs from participating in the European imbalance netting for a potentially long time period if the implementation of the aFRR-platform delays" | The intention is for all Nordic countries to participate in the IN through the aFRR-Platform, however if the transition period is prolonged, its participation in IGCC might be reassessed. This is further discussed in the framework of the request for amendment of the IN IF sent by NRAs in November 2018. |
| 2. Definitions and Interpretations | "aFRR demand" should be defined in terms of volume of needs rather than "inelastic demand" | The definition of aFRR demand has been updated in the aFRRIF, making it clear aFRR demand can only be inelastic. |
| 2. Definitions and Interpretations | "Border" is not clearly defined here. Preferred: "LFC border" in order to avoid confusion with "bidding zone border". | The definition of the borders, the different values used and how they are updated has been significantly improved in the aFRRIF. |
| 2. Definitions and Interpretations | Add LFC areas in the definitions | 'LFC area' is already defined in SO GL Art. 3(12). A reference to the definition was added in the aFRR IF Explanatory Document (ED). |
| 2. Definitions and Interpretations | Inaccurate definition of "social welfare": It is defined taking into account exclusively the aFRR process Not align with EBGL (recitals 11 and 14 + Article 3 (3) a-d): not defined for a single platform but in a broader sense | All TSOs agreed to use the term aFRR economic surplus instead of the term social welfare. The calculation of the economic surplus over a number of platforms is an interesting theoretical concept, however optimisation over a number of platforms is highly complex and often it is not possible to link all balancing processes to gain the maximum economic surplus since the processes run in different timeframes. |
| 2. Definitions and Interpretations | The maximization of social welfare should not be an objective of the AOF | All TSOs agreed to use the term aFRR economic surplus instead of the term social welfare in order to avoid confusion between the objective of the algorithm function and the general use of the term social welfare |
| 3. High Level Design | We assume that the criterion to select bids from CMOL is exclusively their price. However part 5.5 of the explanatory framework assumes that other criteria may also be applicable. We thus request that the implementation framework is clarified in this regard, and that the selection criterion of the cheapest bid is unambiguously confirmed, possibly using the wording of the mFRR IF. | Only the most economic efficient standard aFRR balancing energy product bids available in the common merit order list are activated for each uncongested area. FAP module does not interfere with the bid selection criteria of the algorithm. The description of the optimisation algorithm has been further clarified in the aFRRIF. |
| 3. High Level Design | A proposed method on how cross zonal capacity calculation would meet the target of optimal use on cross border transmission capacity is not included | A method on how cross zonal capacity will be calculated is out of scope of the aFRRIF. Instead it is developed by a task force of ENTSO-E which refers to Article 37 EBGL. |



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| 3. High Level Design | We do not see any strong reasons for TSOs to seek to minimize counter-activations that increase economic efficiency. | Even though it is assumed that minimising counter activations would reduce the economic surplus in comparison to allowing them, in case of aFRR, the exact consequences of this are not directly apparent. Due to dynamic effects imbalances could be created by allowing counter activations. Furthermore, implementation of the allowance of counter activations in the aFRR algorithm is not straightforward due to interaction with the IN-Platform. These reasons contributed to TSOs deciding to confirm that counter activations in the aFRR platform will not be allowed. |
| 3. High Level Design | no harmonisation of FAT to 5 minutes | From previous ENTSO-E discussions, the number of feasible candidates for FAT was limited to two: 5 and 7.5 minutes. TSOs performed an impact assessment of the two FAT options (5 minutes and 7.5 minutes). When the results of the technical and economic assessments are brought together, it can be concluded that both FAT options have unacceptable impacts for some TSOs. Facing this scenario, TSOs looked for mitigation measures for both FAT options. This is the reason for non-harmonisation of FAT until 2025. See chapter 4.1.1. in the ED, which has been further improved to motivate the choice made. |
| 3. High Level Design | fear of lower dimensioning because of the possibility to activate more than submitted to CMOL | In "5.2 Full access to CMOL" of the ED it is described that the dimensioning is done on local necessities. The rules for the dimensioning are set in the guideline on electricity transmission system operation. Furthermore a monitoring for accessing more capacity than submitted will be implemented to prevent any misbehaviour such as under dimensioning. |
| 3. High Level Design | the process for the introduction of future modifications of the aFRR Implementation Framework should be described in article 12 (Governance) | All TSOs consider that the aFRRIF and EBGL in their current form properly describe the process of improving the platform in the future. The IF has been updated to clarify that stakeholders will be consulted in case of amendment. |
| 3. High Level Design | The order of the implicit netting function with respect to bid activations should be clarified. Our understanding is that, being TSOs' needs inelastic (i.e. with no price limit, | The netting and the activation of bids to satisfy upward and downward aFRR demand will be done within one optimisation step, so that it enables the distribution of the |



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| | as per statement in the ED), imbalance netting is performed first and then, for the remaining unsatisfied needs, BSPs' bids are activated according to merit order. | netting in the most economically efficient way, ensuring an adequate use of CZC and by this a higher economic surplus. The order between aFRR-Platform and IN-Platform is clarified in the aFRRIF |
| 3. High Level Design | Additional limitations for operational security purposes in accordance to SOGL article 150 have to be made fully transparent (methodology, values, revisions), including towards market parties | All TSOs consider this request of transparency on additional operational limits is already covered since All TSOs propose to publish (limits and justification) according to article 4.3 and 4.4 of the aFRRIF. |
| 3. High Level Design | At least at the beginning of operation of the a-FRR platform there should by some limitation to access a higher amount of aFRR than submitted | This is not seen as needed since each TSO will have priority access to local volumes. This is explained in more detail in the updated ED, see chapter 5.4. |
| 3. High Level Design | To optimise bidding, it must be made sure that auctions for higher value products are performed before lower value ones (so, FCR > aFRR > mFRR) | Procurement of balancing capacity remains local responsibility, which is out of scope of the aFRRIF, which deals solely with balancing energy. |
| 3. High Level Design | Stakeholder assumes that the objectives mentioned in paragraph 3 are listed in descending order, but this is not mentioned explicitly. | The article on the description of the optimisation algorithm of the aFRRIF defines the objective functions in a sequential order of priorities. The aFRRIF has been improved in this respect. |
| 3. High Level Design | It has to be clarified how market participants will be informed about which bids were activated and which ones were not activated. This information should be made transparent to all market participants. | It is foreseen that aggregated information on activated bids shall be published on the transparency platform. Information on the CMOL shall be based on individual bids and shall be provided for publication to the transparency platform by each TSO in accordance with Article 13(3), except where an exemption in accordance with Article 13(4) of the aFRRIF applies. Participating TSOs do not currently foresee centralised publication of more information in regards to activated bids, however, intends to discuss this in the next stage of the project implementation. Additional communication of the availability status towards BSPs will be in accordance with national terms and conditions (see chapter 4.2.1 of the ED) |
| 3. High Level Design | How does the frequency restoration controller of the connecting TSO deal with calculation of the set point for aFRR activation deal with the fact that possibly bids are activated with characteristics that are not tuned to other controller settings as long as there is no full harmonisation? | For explanation, please see the updatedaFRRIF ED, chapter 5.1 |



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| 3. High Level Design | One principle that could be added is that the design of the aFRR-Platform should remove all barriers to participation of variable renewable energy assets and more generally to any generation technology | This was one of the arguments considered by the TSOs to have a 5 min FAT as the long-term target. |
| 3. High Level Design | We however miss the description of integration with the mFRR (MARI) platform<br><br>we also strongly encourage TSOs to harmonize the rules for aFRR and mFRR as much as possible | For the initial phase of the go-live of the European platforms for balancing processes no linkage of platforms is envisaged. However, TSOs consider a potential development for allowing linkages of platforms at a later stage. |
| 4. Roadmap | Involvement of stakeholders (BSPs) should be early and give them enough time for the implementation | TSOs agree and some improvement have been brought to aFRRIF to have earlier involvement of BSPs. It should be noted though that involvement of BSPs is primarily the responsibility of each TSO |
| 4. Roadmap | BSPs should be involved in the process | TSOs agree and some improvement have been brought to aFRRIF to have earlier involvement of BSPs. It should be noted though that involvement of BSPs is primarily the responsibility of each TSO |
| 4. Roadmap | "National implementation should explicitly foresee compliance of transparency requirements according to article 12(5) of EBGL." | TSOs agree. It is in the interest of all TSOs to be compliant with EBGL but it was not seen as needed to repeat EBGL obligations in aFRRIF. |
| 4. Roadmap | "...agrees with the overall roadmap and timeline for the implementation of the aFRR-Platform. However, we recommend that the IF sets out steps or criteria to designate the entity or entities that will operate the aFRR platform. The envisaged designation process is currently unknown to market participants and will lead to concerns that an unstructured process may increase the risks of delay in the platform implementation" | All TSOs will make a proposal for the designation of entities to relevant regulatory authorities in accordance to Art. 21(4) of EBGL. The decision will be done in a co-ordinated manner, taking into account all balancing Platforms. |
| 4. Roadmap | Further harmonisation of all relevant terms and conditions | As described in Article 16 of the aFRRIF, harmonisation of terms and conditions pursuant to Article 18 in EBGL remain a national responsibility. However, as stated in Article 16, all TSOs shall continuously evaluate the national terms and conditions for BSPs in order to identify harmonisation needs. A stakeholder survey shall be organised every year, with the first survey occurring during the first operational year of the common aFRR-Platform. This survey shall support the identification of a short list of prioritized harmonisation needs with |



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| | | close involvement of all relevant regulatory authorities." |
| 4. Roadmap | "Although the local implementations are not in the scope of the IF we suggest that all TSOs publish a joint report with a detailed plan of national activities, with regional milestones, to ensure consistency among them, for the sake of transparency This publication would be regularly updated (at least on a quarterly basis)." | Communication to stakeholders regarding national activities is generally a local TSO responsibility. TSOs would also like to refer to the report on integration of balancing markets that shall be published in line with Article 59 in EBGL. Some improvement in this respect have been brought to Article 5 of the aFRRIF. |
| 4. Roadmap | Clarification that EBGL implementation prevails over national legislation | It is a given condition that EBGL prevails over national legislation |
| 4. Roadmap | Deadlines are missing for Article 4.3(b) and 4.3(c) | Given the relatively early status of planning of the detailed implementation of the aFRR platform, TSOs consider it as too early to include such deadlines in the IF |
| 4. Roadmap | Timeline for implementation shall be prolonged | The timeline for implementation is set by EBGL |
| 4. Roadmap | Clarification that if implementation of the aFRR platform is delayed, regional cooperations can remain in operation until the aFRR-Platform is in operation | The aFRRIF does not hinder regional cooperations before go-live of the aFRR-Platform, including in case of any possible delays. The aFRRIF clarifies that regional cooperation will be superseded by the aFRR-Platform. A clarification has been added in the explanatory document |
| 5. Functions | Centralized function for AOF is outdated. Decentralized solutions should be sought. | The main design of the European platforms is defined in EBGL, and PICASSO is developed accordingly. |
| 5. Functions | AOF description should be improved. We should clarify when we mean control cycle and when we mean validity period cycle. We should say what the CC will be, and whether all TSOs must align with this. When is CZC updated | The description of the algorithm and of the management of the cross-border capacities has been largely improve in the aFRRIF. Please also refer to the AOF section of the explanatory document.<br>TSOs need a control cycle that is faster than a maximum time, but there is no strict harmonisation necessary. |
| 5. Functions | Short term overload on transmission lines should be allowed at high prices. | The determination of cross-zonal capacity is out of scope of the aFRR IF. The balancing platforms will be based on cross-zonal capacities as defined by art. 37 in EBGL. Initially the capacity will be based on the remaining capacity after the intra-day trade, A new Art. 4 of the aFRRIF has been introduced to detail determination of cross-zonal capacity. As it is based on previous time frames, overload is considered in the same manner. Cross-zonal capacity calculation method according to Art.37(3) of EBGL will be developed 5 years after entry into force, which could include additional |



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| | | inputs, but more advanced procedures could be developed later |
| 5. Functions | Unclear how inputs can be updated. CZC should be updated continuously and take mFRR activation into account | A new Art. 4 of the aFRRIF has been introduced to detail determination of cross-zonal capacity. The available CZC for PICASSO will indeed be updated after mFRR activation. |
| 5. Functions | 5.2 should be moved to art. 3 | The paragraph 5.2 was deleted as redundant with the description in the Recitals of how the aFRRIF meets the objectives of the EB GL and with the outputs of the aFRR-Platform functions. In addition, it does not provide any legal value. |
| 5. Functions | Add new point under 5.2.d) "ensuring the highest level of competition in removing all barriers to participation to variable renewable energy assets and more generally to any generation technology" | The recitals of the aFRRIF clarify that there are no barriers to variable renewable energies: The aFRRIF is non-discriminatory as it applies the same rules for all TSOs and BSPs. In particular, the standard aFRR balancing energy product does not differ between technologies. |
| 5. Functions | 2b) (lower cost) and 2c) (better security) can be contradicting | We agree that there is a balance between system security and balancing costs. We will strive to find this balance and provide better system security at a lower cost. A larger market area means access to a larger volume of reserves. This gives both lower prices through more competition and better system security through better access to reserves. |
| 5. Functions | Request to publish the exchanged volumes to show dynamics | PICASSO will publish activation and exchange data according to Art. 12 in EBGL. |
| 5. Functions | This article has unclear purpose because settlement between TSOs should be unproblematic. | This article describes the necessary function of the AOF to support among other things the TSO-TSO settlement. More details on the TSO-TSO settlement will be described in the proposal for common settlement rules applicable to all intended exchanges of energy acc. to art. 50 of EBGL. However there will be no public consultation on this proposal |
| 6. Standard Product | Request for clarification on how the CMOL will be built with bids offered with different FATs before 2025 | Please see the updated explanatory document, chapter 4.1.1 |
| 6. Standard Product | Relation between bid validity period and ISP: Art 53 of EB GL foresees that countries could delay harmonisation of the ISP towards 15 min until 2025. How would this be compatible with a 15 min validity period in | This would remain as a local decision. The balancing validity period of 15 min could technically coexist with a longer ISP. |



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| | PICASSO starting in 2021? | |
| 6. Standard Product | TSOs could consider changing the validity period start at 00:07.5 (7 minutes and 30 seconds after midnight) to avoid even worsening the negative effect of change of market schedule, although we recognize that this may have indirect impacts on other market aspects, such as imbalance pricing. | The suggestion would create an overlap between the change of market time unit and the change of the balancing validity period, which would complicate the dispatching performance done by the producers. Additionally it would create a desynchronization between the imbalance settlement period and the validity period, which is not acceptable for some TSOs. The impact of the parallel change of market schedules and balancing bid validity periods has been considered by TSOs when assessing the impact of 15 minute validity periods (see section 4.1.3 of the explanatory document) |
| 6. Standard Product | We would like to recommend to set the validity period to 60 minutes. The efficient dispatch of e.g. volume restricted storage facilities requires a minimum degree of planning reliability. A validity period of 15' causes a 15' pulsed change of the CMOL and thereby the change of the demand probability for the BSP. The dispatch becomes less efficient due to greater security reserves needed. Furthermore as mentioned in 4.1.3 of the explanatory document a 60' VP does not significantly reduce the FRCE and frequency quality. | A shorter validity period generally gives the market participants more flexibility to adapt their bids to results of other markets and thus utilize their portfolios more efficiently. TSOs acknowledge that the optimal usage of this flexibility also requires an enhanced bidding strategy on BSP side, especially when using units with limited energy reservoirs. However, the overall efficiency of the aFRR process should increase. |
| 6. Standard Product | How will "Dummy energy" be compensated for the cost of the used energy source (e.g. water, gas, coal etc.) to the BSP? | Out of scope of the aFRRIF and discussed in the All TSO proposal under Art. 30. |
| 6. Standard Product | Stakeholder requets mention of the transitory phase in IF § (1) and not only in ED, with clear explanation. | Clarified in the article on the definition of standard aFRR balancing energy product. The FAT will remain local choice unil 18th December 2025. |
| 6. Standard Product | Analysis supporting FAT choice incomplete: * Analysis does not take into account new market players * The analysis is too narrow with only some countries investigated * Liquidity in Eastern Europe is not taken into account * Does not take into account the technical ability of the producers | Please see the updated explanatory document, chapter 4.1.1 |
| 6. Standard Product | Analysis supporting FAT choice should be published | Please see the updated explanatory document, chapter 4.1.1 |



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| 6. Standard Product | FAT 5 min - Explanatory Document states that introducing a merit order activation scheme with an additional FAT of 7.5 minutes might jeopardise system security: how would this be acceptable for an intermediate period of 4 years? | Please see the updated explanatory document, chapter 4.1.1 |
| 6. Standard Product | Supports 1 FAT | We appreciate the feedback. For more background on the FAT topic please see chapter 4.1.1 in the updated explanatory document. |
| 6. Standard Product | A single FAT should be found from the start, or the transition period should be shorter | We agree with the ambition to have a single FAT, but the proposed is a compromise that could be accepted by all TSOs. For more background on the FAT topic please see chapter 4.1.1 in the updated explanatory document. |
| 6. Standard Product | FAT should be 5 min or shorter | For more background on the FAT topic please see chapter 4.1.1 in the updated explanatory document. |
| 6. Standard Product | FAT should be 7,5 min or longer | For more background on the FAT topic please see chapter 4.1.1 in the updated explanatory document. |
| 6. Standard Product | Transition from 7,5 to 5 min FAT should be based on experience | For more background on the FAT topic please see chapter 4.1.1 in the updated explanatory document. |
| 6. Standard Product | FAT should be set at 5 min at the launch of the platform, not in 2025. Next 5 lines details the sub-arguments put forward by the stakeholders to support this statement | Smooth transition needed in countries with longer FAT to prequalify the current capacities and to develop a faster, broader local aFRR market. A more detailed explanation will be added to the ED |
| 6. Standard Product | FAT 5 min - 5 min FAT would improve global FRCE quality and incentivise low-carbon non-thermal units | This was one of the arguments considered by the TSOs to have a 5 min FAT as the long-term target. |
| 6. Standard Product | FAT 5 min- TSOs with slower reserves facing liquidity issues must either rely on standard bids from other countries, either ask for a derogation to develop specific products, as suggested by EB GL | Relying on bids located in other LFC areas is not possible without reserving transmission capacity. TSOs prefer avoiding the use of local specific products, as it has a negative impact on liquidity of the platform. Having the target FAT in 2025 gives some time to TSOs to increase their aFRR capacity. A more detailed explanation has been added to the ED. |
| 6. Standard | FAT 5 min - parallel with MARI, where a | The impact of harmonisation towards FAT of |



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| Product | harmonized FAT of 12,5 minutes was chosen from the start. | 12.5 min in mFRR-Platform is not seen as critical in terms of liquidity, hence harmonisation from the start of the Platform is considered feasible. This not the case for the aFRR-Platfom. For further details please see the updated chapter 4.1.1 of the Explanatory Document |
| 6. Standard Product | FAT 5 min - BSPs want to avoid an intermediate step in order to avoid implementation effort / additional costs | There will not necessarily be an intermediate step on the local level, but TSOs facing liquidity issues may keep their local FAT until moving to a harmonized FAT. This will be however a local decision. Possible intermediate steps may also be decided on by the local TSO. |
| 6. Standard Product | Some stakeholders would have preferred a FAT even shorter than 5 min. An option would be to give the BSPs a strong incentive to react as fast as possible. Faster ramping and a shorter deactivation period should be allowed – also between TSOs. It is not increasing the social welfare when making fast resources slower. | A shorter standard FAT would have a critical impact on liquidity for some TSOs. However each TSO individually will incentivize the BSPs to react faster. |
| 6. Standard Product | FAT should not be moved to a short value such as 5 min, but kept instead to 7,5 min. Next lines details the sub arguments put forward by the stakeholders to support this statement | For some TSOs a FAT of 7.5 minutes does not allow them to comply with their FRCE quality targets. A more detailed explanation will be added to the ED. |
| 6. Standard Product | Longer FAT - A longer FAT would be better for liquidity, competition and low aFRR prices | For some TSOs a FAT of 7.5 minutes does not allow them to comply with their FRCE quality targets. A more detailed explanation will be added to the ED. |
| 6. Standard Product | Longer FAT - reference to E-Bridge study: "large potential aFRR capacities (nuclear, coal and most gas technologies) will be excluded if a 5 minutes FAT is implemented" | These technologies would not be fully excluded. They already provide capacity in current markets with FAT requirements of 5 minutes. In some cases, the volume these technologies would be able to offer would be reduced, but new entrants are expected to enter the market. |
| 6. Standard Product | Longer FAT - Choosing a longer FAT helps avoiding the introduction of specific products to solve the liquidity issue that arise in some countries | TSOs would prefer avoiding the use of specific products, as it has a negative impact on liquidity of the platform. Having the target FAT in 2025 gives some time to TSOs to increase their aFRR capacity. |
| 6. Standard Product | FAT should be harmonised from the start (no preference) | With the chosen target FAT value of 5 minutes, full harmonisation from the start is not feasible as some TSOs require adjustments to their local markets before changing the FAT to ensure sufficient liquidity to fulfil dimensioning requirements. |



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| | | The ED has been updated to further explain the choices made in regards to the choice to have a harmonisation at 5 minutes at a later stage. |
| 6. Standard Product | FAT should be harmonised from the start at 5 minutes. | With the chosen target FAT value of 5 minutes, full harmonisation from the start is not feasible as some TSOs require adjustments to their local markets before changing the FAT to ensure sufficient liquidity to fulfil dimensioning requirements. The ED has been updated to further explain the choices made in regards to the choice to have a harmonisation at 5 minutes at a later stage. |
| 6. Standard Product | FAT should be 7.5 min (harmonisation not mentioned). A FAT of 5 minutes will significantly reduce liquidity and the ability for sources to participate. | With a FAT of 7.5 minutes some TSOs may not be able to fulfil their FRCE requirements using the standard product, as attested by simulations performed within PICASSO project. The ED has been updated to further explain the choices made in regards to the choice to have a harmonisation at 5 minutes at a later stage. |
| 6. Standard Product | Request for clarification on what is exactly meant by "non harmonisation until 2025" and minimum requirement of 7,5 min for TSO-TSO exchange | Please see the updated ED, chapter 4.1.1 |
| 6. Standard Product | Request of clarification of the meaning of granularity and difference with divisibility (see also § (3) (a) ) | The bid granularity defines the possible increment of offers above the minimum bid size. The divisibility refers to the minimum bid volume which can be activated by the controllers. Due to the nature of the aFRR process, energy bids have to be divisible in order to be activated continuously. The activation request can be lower than the minimum quantity and minimum granularity used in the bidding process. |
| 6. Standard Product | Granularity of 1 MW could constrain the market unnecessarily. An inferior granularity is preferred, for example 0.1 MW, to allow fair access to the markets for all parties and increase the efficiency of the market. A small granularity would allow access to different types of portfolios while still reaching the minimum bid size. | A smaller granularity cannot be handled by some load frequency controllers and it would increase the complexity of data handling at the algorithm level. |
| 6. Standard Product | We do suggest that the activation request should be not lower than 0,5MW | Due to mathematical constraints, this type of constraints cannot be handled by the platform. The minimum activation size could still be tackled at local level. |
| 6. Standard Product | It is not mentioned whether portfolio bids are allowed | Please see the updated ED, chapter 4.1.5 |



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| 6. Standard Product | The standard aFRR product bid characteristics should be specified (i.e. rules for handling bids for each TSO, price resolution, location, rules on currency exchange rates...) | The characteristics of maximum quantity and price resolution have been added to the aFRRIF. Other characteristics of the standard aFRR balancing energy product bids are categorised as either static or variable. For local rules, refer to each TSO or the National terms and conditions in line with Article 18 of EBGL. |
| 6. Standard Product | TSOs should specify in §2 the direction of the bid | Characteristics of direction and volume have been added to the aFRRIF. |
| 6. Standard Product | Request for more harmonisation at the launch of PICASSO: prequalification, penalties, sometimes activation method, and even grid tariffs for 1 stakeholder | TSOs acknowledge the critical importance of the harmonisation. However this process should lead to a stepwise harmonisation of aFRR markets so that is both feasible and effective. See Article 16 of the aFRRIF. |
| 6. Standard Product | Not defining ramping, preparation and deactivation period as separate parameters of the standard product and thus leaving to individual national implementation fails the objective of creating a level playing field | These parameters vary across Europe as it depends on the mode of activation and the local generation structure. TSOs consider that specifying a harmonised full activation time will provide enough quality guarantee of the aFRR product, while the detailed requirements for the preparation period can remain at the national level. |
| 6. Standard Product | Faster activation should be rewarded in the settlement mechanism | All TSOs agree that faster activation should be incentivised. The realisation of this is however dependent on the detailed BSP volume determination which is a part of the national terms & conditions set by each TSO. For more background on the FAT topic please see chapter 4.1.1. in the updated ED. |
| 6. Standard Product | There should be no penalties for BSPs reacting faster | All TSOs agree that faster activation should not be penalized, and in fact that it should be incentivised. The realisation of this is however dependent on the detailed BSP volume determination which is a part of the national terms & conditions set by each TSO. For more background on the FAT topic please see chapter 4.1.1 in the updated ED. |
| 6. Standard Product | Request for clarification on the possibility to link bids in order to submit non activated scheduled mFRR bids to aFRR market | ED chapter 4.1.5 already describes how possibility of link between mFRR and aFRR bids will be handled, for the TSO who foresee to allow it. The exact process should be then a local TSO-BSP interface consideration. |
| 6. Standard Product | A 5 MW minimum bid size, justified by possible AOF limits or data management, would increase entry barriers and decrease aFFR liquidity. It should be avoided even if the AOF proves to have difficulties to handle the large number of bids | Issue has been addressed in the revised section 4.1.2 of the aFRRIF ED, please consult the aforementioned section of the document. |



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| 6. Standard Product | Since aFRR is a time-sensitive process and a high number of small bids could slow down the AOF, we prefer a minimum bid size of 5 MW. A possible solution to allow for smaller big sizes could be to give each BSP the possibility to submit one bid within a range of 1-5MW. | The chosen minimum bid size facilitates lower entry barriers and a manageable complexity at the algorithm level. However, as explained in the ED, the manageable complexity at the algorithm level has to be confirmed during or after the IT implementation. |
| 6. Standard Product | when a TSO change the availability of the bids, before or after the TSO GCT (4.2.1), he should communicate to individual BSPs in real time any change in status of their bids | The availability status will be published according to EBGL Art 12 (3)(b)(v). Additional communication of the availability status towards BSPs will be in accordance with national terms and conditions. |
| 6. Standard Product | Request for publication of all the details of the studies performed by TSOs that led to the decision of adopting a FAT of 5 minutes by 18 December 2025 and the findings that would prevent an earlier adoption + assess the opportunity to extend the analysis to all EU countries | Please see the updated ED, chapter 4.1.1. |
| 6. Standard Product | aFRR product should be split in fast & slow bids | This solution was considered by TSOs, but rejected mainly because of the large complexity increase it would cause both at local level (load frequency controller) as at AOF level. A more detailed explanation has been added to the ED. |
| 6. Standard Product | "a compromise solution applicable from the beginning of the operations of the platform could consist in designing the algorithm so that it can process bids from units with a 7.5 min ramping period as: i) a firm bid with 2/3 of the capacity which can be activated with a 5 min FAT + ii) a conditional bid with 1/3 of the capacity that can be triggered 2.5 minutes after the activation of the firm bid. This solution would allow to comply with a 5 minutes FAT requirement while maximising the liquidity on the platform, as it could allow to make available the full potential of assets with 7.5 minutes ramping capabilities." | This option was considered by TSOs and discarded because of its incompatibility with the concept for the cross-border exchange of aFRR and major concerns with the feasibility of the optimisation. This option is addressed in the ED section 4.1.1 under heading of Option 6. |
| 6. Standard Product | TSOs should specify in §1 that aFRR energy bids have to be asymmetric | A clarification has been added in the IF, stating that "Each standard aFRR balancing energy product bid is submitted either for positive or for negative balancing energy." |
| 6. Standard Product | If aFRR bids are asymmetric, how to handle up/down bids submitted by the same production units (linking bids)? | Due to the continuous character of the aFRR product and mathematical constraints for the optimisation, linking the bids is not feasible. Technical constraints of the dynamic behaviour of the activation must thus be considered by the BSP in their |



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| | | bidding strategy and (if applicable) portfolio activation strategy. A clarification was added to ED chapter 5.4. to address this comment. |
| 6. Standard Product | Impact of non-harmonisation of activation method on BSP remuneration: clarity is requested how fast responding BSPs are remunerated in the different countries. For example, if a battery with a near infinite ramping time in country A gets fully rewarded for the delivered energy (a 'rectangle' shape instead of a 'trapezoid') while a battery in country B is restricted by a pre-determined trajectory, does this make the latter one less competitive? | TSOs acknowledge the importance of the harmonisation of the activation method on BSP remuneration for the establishment of a level playing field. However, due to large differences in the current market structures and technical implementations, TSOs propose to progressively harmonize the markets. Even though full harmonisation will not be achieved before the start of the platform, all local markets will incentivize fast reaction. |
| 6. Standard Product | Furthermore, Article 6 (3) (b) states that all bids can be activated at any moment within the validity period. The result of this is a significant reduction in aFRR capacity might occur due to overlapping of ramping of deactivation of an upward bid and a ramping of activation of downward bid for bids from the same asset. If a single asset has a maximum allowable gradient of 5 MW/Min both in up- and downward direction an upward bid of +25 MW and a downward bid of 25 MW can be put to the PICASSO platform for a 5 min FAT. In the beginning of the validity period the upward bid is activated 100% (all 25 MW). Later within the validity period the LFC controller asks for downregulation, hence the already activated upward bid is deactivated and the downward bid is activated.at the same time. This results in a down regulation from 25 MW to -25 MW with the 5-minute FAT resulting in a gradient of 10 MW/min because both bids are deactivated/activated at the same time. The same situation might occur within 2 consecutive validity periods as well. As a result, Article 6 (3) (b) may limit the upward and downward volume offered from the same asset by 50 per cent in order for the BSP to be able to cope with this situation. Such a result will negatively affect the overall volumes and prices offered on the platform. Alternatively, activation of such bids could be delayed by technical linking (as for mFRR). | Due to the continuous and real time character of the aFRR product, adding a minimum duration of the activation or the possibility of linking the bids, is not feasible. A clarification was added to ED chapter 5.4 to address this comment. |



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| 6. Standard Product | For the sake of clarity, article 6(1)(c) should include a time reference (CET, ...) | A time reference (right after 00:00 CET) has been added to the aFRRIF. |
| 7. BEGCT | BEGOT should be included in IF | Clarified in the aFRRIF that "the balancing energy gate opening time for the submission of a standard aFRR balancing energy product bid to the connecting TSO by BSPs shall be no later than 12:00 CET for all validity periods of the next day". |
| 7. BEGCT | Alignment of BEGOT and BEGCT with other balancing processes (mFRR, FCR) | Clarified in the aFRRIF that "the balancing energy gate opening time for the submission of a standard aFRR balancing energy product bid to the connecting TSO by BSPs shall be no later than 12:00 CET for all validity periods of the next day". The decisions on GCTs relative to the aFRR-Platform have been made in a coordinated manner with those relative to the other European balancing platforms; in particular the GCT for the aFRR- and mFRR-Platforms will both be equal to 25 min before the beginning of the validity period of the respective bid. Further information in ED. |
| 7. BEGCT | Justification why TSO lead time in mFRR and RR for consistency checks is not sufficient for aFRR is missing | Having TSO GCT of 10 minutes provides the best balance between the TSO and Platform processes for aFRR platform. However different requirements resulted in a different best balance for the mFRR process. |
| 7. BEGCT | BEGCT should be moved closer to real-time BEGCT should be at least to 15' before start of validity period | It is considered that more than 5 minutes will be needed for TSO processes between BEGCT and TSO GCT therefore 15 min BEGCT is not feasible at this time. |
| 7. BEGCT | BEGCT should be set to 1 hour before start of validity period | In the preparation of the proposal for the BEGCT of the aFRR process different sequences with other balancing process and the ID market have been analysed. The main conclusion from these analysis was that any sequence of BEGCTs may lead to either trade-offs between different processes depending on their ordering or insufficient time for BSPs to restructure their bids and move to another market. During the analysis All TSOs identified the proposed BEGCT of 25' before the start of the validity period as a reasonable compromise. |
| 7. BEGCT | BEGCT of 25' before start of validity period seems reasonable | Thank you for your feedback. |
| 7. BEGCT | In case Art. EBGL 29 (10) not applied BEGCT should be moved to 15' before start of validity period | According to EBGL Art. 29 (10) limiting the amount of bids that is forwarded to the European platform requires a national proposal by the TSO and approval by the |



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| | | respectively responsible NRA. The application of Art. 29 (10) is therefore not within the scope of the IF, and the BEGCT cannot change depending on this local decision. It is considered that more than 5 minutes will be needed for TSO processes between BEGCT and TSO GCT therefore 15 min BEGCT is not feasible at this time. |
| 7. BEGCT | For BEGCT a range [25'-15'] should be proposed | The interpretation of TSOs regarding the BEGCT in accordance with EBGL Art. 24 requires the proposal of a single value |
| 7. BEGCT | Same BEGCT for all balancing platforms | TSOs currently foresee a sequence of BEGCTs allowing as much as possible an optimisation of the BSPs` portfolio of balancing bids but still respecting necessary lead-times for TSOs` and platform`s processes. |
| 7. BEGCT | TSO GCT should be moved closer to real-time, e.g. to 10' before start of validity period | TSOs propose a TSO GCT at 10' before the start of the validity period. |
| 7. BEGCT | In case EBGL Art. 29 (10) is not applied TSO GCT should be moved to 10' before start of validity period | TSOs propose a TSO GCT at 10' before the start of the validity period. |
| 7. BEGCT | BEGCT should be closer to real-time and TSOs should not be allowed to withhold aFRR bids between BEGCT and TSO bid submission | It has been elected to maintain the BEGCT of 25 minutes before real-time. This was based on both the previous considerations on required timing, and input from stakeholders asking for both longer and shorter BEGCTs. In regards to the withholding of bids between the BEGCT and the TSO GCT: in this TSOs shall behave in line with Article 29, which allows withholding of standard product bids only in case of application of 29(10), or in case a bid is manifestly erroneous. |
| 7. BEGCT | BEGOT should not be later than day-ahead | TSOs propose a BEGOT at D-1 12:00 at the latest. |
| 7. BEGCT | Good functioning intraday markets play a significant role in reducing balancing energy volumes. They are important for BRPs to balance their own portfolio. There should be more emphasis placed by PICASSO on the impact on intraday markets. The establishment of GCTs closer to real time of ID markets should not be hindered by balancing markets, and parallel running balancing energy markets and intraday markets should be avoided as much as possible. | We consider this comment to be supportive of the approach chosen in the aFRRIF. Good functioning intraday markets, both local and cross-border, are an important consideration in the design of the aFRRIF, and have been taken into account, also in selection of the relevant gate closure times. |



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| 7. BEGCT | Information on central dispatch models missing | Information on central dispatch model has been included in the updated the aFRRIF and the ED. Please see Art. 8(3) of the aFRRIF and the section 4.2.2 of the ED. |
| 7. BEGCT | Information by connecting TSO to BSP whether bid is included in CMOL or refused is missing | According to EBGL Art. 29 (10) limiting the amount of bids that is forwarded to the European platform requires a national proposal by the TSO and approval by the respectively responsible NRA. According to Art. 29 (10) b) also the information of the concerned BSPs is to be included in the national proposal. The application of Art. 29 (10) is therefore not within the scope of the IF. |
| 7. BEGCT | Alignment of BEGOT and BEGCT with other balancing processes (mFRR, FCR) | Clarified in the aFRRIF that "the balancing energy gate opening time for the submission of a standard aFRR balancing energy product bid to the connecting TSO by BSPs shall be no later than 12:00 CET for all validity periods of the next day". The decisions on GCTs relative to the aFRR-Platform have been made in a coordinated manner with those relative to the other European balancing platforms; in particular the GCT for the aFRR- and mFRR-Platforms will both be equal to 25 min before the beginning of the validity period of the respective bid. Further information in ED. |
| 7. BEGCT | Sequence of GCT should be (XBID, RR, mFRR, aFRR) | In the preparation of the proposal for the BEGCT of the aFRR process different sequences with other balancing process and the ID market have been analysed. The main conclusion from this analysis was that any sequence of BEGCTs may lead to either trade-offs between different processes depending on their ordering or insufficient time for BSPs to restructure their bids and move to another market. For the analysis besides the XBID GCT also national ID GCTs need to be considered. |
| 7. BEGCT | Linkage of Platforms (mFRR, XBID) to include unused bids | For the initial phase of the go-live of the European platforms for balancing processes no linkage of platforms is envisaged. However, some linkage could be done at local level. See ED section 4.5. |
| 7. BEGCT | Return of free bids exceeding TSO demand to BSPs according to Art. EBGL 29 (10) | According to EBGL Art. 29 (10) limiting the amount of bids that is forwarded to the European platform requires a national proposal by the TSO and approval by the respectively responsible NRA. The |



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| | | application of Art. 29 (10) is there not within the scope of the IF. |
| 8. TSO-TSO GCT | Time between BEGCT and information of not awarded bids should be determined. Longer lead time (e.g. 60') requested | In accordance with EBGL Art. 12 the information regarding awarded bids remains a responsibility of the respective connecting TSO and is therefore not part of the Implementation Framework. |
| 8. TSO-TSO GCT | Information on central dispatch models missing | Information on central dispatch model has been included in the updated the aFRRIF and the ED. Please see Art. 8(3) of the aFRRIF and the section 4.2.2 of the ED. |
| 8. TSO-TSO GCT | Modification and rejection of bids should be exception and published and justified | Submission of bids (including conditional bids) will be done by BSP themselves in the local TSO-BSP bidding interface. Furthermore, according to the national terms and conditions, a TSO can have the possibility to modify or to reject bids in the case of non-compliance. As this possibility should be covered by national terms and conditions the publication of these cases should be also covered by local terms and conditions. |
| 8. TSO-TSO GCT | Method for filtering should be transparent. BSPs should be compensated by opportunity loss | Each TSO shall have the possibility at all time after the TSO GCT (including within the validity period) of changing the availability status of this bid. A bid can be set as unavailable in accordance with Article 29 (9) of EBGL. A bid can also be set as unavailable or available accordingly to the national Terms and Conditions that would allow, for instance, conditional bidding of one underlying asset to different balancing processes. The communication of the availability status to BSPs will follow the national Terms and Conditions. The topic of the compensation, or not, is not part of EBGL and will also be tackled at national level. |
| 8. TSO-TSO GCT | TSO GCT should be close (or identical) to BEGCT | It is considered that more than 5 minutes will be needed for TSO processes between BEGCT and TSO GCT therefore 15 min BEGCT is not feasible at this time. |
| 8. TSO-TSO GCT | Explanation what range for TSO GCT implies is missing | TSOs propose a TSO GCT at 10' before the start of the validity period. |
| 8. TSO-TSO GCT | One timing for TSO GCT should be proposed | Defined in the aFRRIF: "The TSO energy bid submission gate closure time for the submission of the available standard aFRR balancing energy product bids to the activation optimisation function by the connecting TSO shall be 10 minutes before |



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| | | the beginning of the validity period of the respective standard aFRR balancing energy product bid." |
| 8. TSO-TSO GCT | Framework for real-time communication between TSOs and BSPs should be envisaged | The European platform will be based on a TSO-TSO model, therefore the communication with BSPs lies within the scope of the respective connecting TSOs. Generally these points will be tackled in the implementation phase of the platform by the connecting TSOs individually. |
| 9. CMOL | Definition of available bids. | The aFRRIF now includes the definition of 'available standard aFRR balancing energy product bid' and 'availability status'. |
| 9. CMOL | Transparency of bid filtering shall be achieved and BSPs compensated in case of TSO error. | Each TSO shall have the possibility at all time after the TSO GCT (including within the validity period) of changing the availability status of this bid. A bid can be set as unavailable in accordance with Article 29 (9) of EBGL. A bid can also be set as unavailable or available accordingly to the national Terms and Conditions that allow, for instance, conditional bidding of one underlying asset to different balancing processes. The communication of the availability status to BSPs will follow the national Terms and Conditions. The topic of the compensation, or not, is not part of EBGL and will also be tackled at national level. |
| 9. CMOL | Linking between upward and downward bids not explained. | Due to the continuous character of the aFRR product and mathematical constraints for the optimisation, linking the bids is not feasible. Technical constraints of the dynamic behaviour of the activation must thus be considered by the BSP in their bidding strategy and (if applicable) portfolio activation strategy. A clarification was added to ED chapter 5.4 to address this comment. |
| 9. CMOL | Clarify the role of TSOs. Activation performed only by TSOs. | Please refer to the TSO-TSO model description (Figure 2 of ED) and to Control Demand description (Figure 13 of ED) |
| 10. Algorithm | Bids should not be marked as unavailable, as they would usually still be available for activation in specific locations. The algorithm should be smarter to take this into account, or the option to mark a bid as partially unavailable should be included. | There is no legal constraint on making bids partially unavailable. However, there could be technical constraints. It is currently unclear if it will be possible to make bids partially unavailable as this will be assessed in a next phase of the project. |



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| 10. Algorithm | The optimisation algorithm should be made open-source, including future developments. | TSOs intend to publish the requirements of the algorithm in accordance with EBGL 12(3)(k). As a requirement to have open-source algorithm may affect the procurement process and the cost of the platform, it is too soon to commit on this. |
| 10. Algorithm | Is it possible to use TRM capacity for aFRR exchange and is it possible to have in the same ISP (15 min block) situation of used aFRR cross border exchange and blocked intraday cross border capacities (e.g. at Austrian - Slovenian border)? Additionally in 5(d) - Is it possible to get more details and examples for such situations? | A clarification was added in ED chapter 5.7. : "In any case, only available cross-zonal capacities will be used for cross-border activation, the transmission reliability margin of TSOs will not be used by the aFRR platform". The aFRR platform shall only use remaining capacities for exchange. However, these capacities could still change after the intraday market due to for instance mFRR activation or in the long run recalculation of capacity. |
| 10. Algorithm | No CZC reservation in case of procuring balancing reserve in other scheduling area. | Cross-zonal capacity reservation is out of the scope of the aFRRIF, and linked to the procurement strategy of each LFC Block. Methods are described in the Art. 38 EBGL, but their application is optional. |
| 10. Algorithm | TSOs should not be allowed to limit ATC to reserve capacity for balancing exchanges. Such action will distort competition in other market timescales and is not necessary to manage congestion. Any approach must be justified in advance and transparent to market participants. | Cross-zonal capacity reservation is out of the scope of the aFRRIF, and linked to the procurement strategy of each LFC Block. Methods are described in the Art. 38 EBGL, but their application is optional. |
| 10. Algorithm | Beyond reference to article 37 of EBGL, the sequence between the different timeframes and products for the use of cross-zonal capacity should be specified. How will the use of cross-border capacity be coordinated between mFRR and aFRR, which products will affect the same timeframes? | A new Art. 4 of the aFRRIF has been introduced to detail determination of cross-zonal capacity and on the priority of CZC usage between platforms in chapter 5.7 of the ED. |
| 10. Algorithm | Eurelectric considers necessary to specify in the binding document the definition of "activation cost" in the optimisation function: we understand this as referring solely to the bid price as submitted to the platform, and not taking into account expectations of future prices as cleared during another activation cycle or past prices that were cleared during a previous activation cycle. Is this understanding correct? In our understanding, the TSOs' individual aFRR demand calculation cycles should be consistent with the control cycle of the aFRR platform. A range of 1 to 10 | A note was added to ED chapter 5.1.1. on Control Demand concept. All TSOs experience confirms Control Demand Model is robust to have participating TSO with different control cycles. The AOF always take as an input the last updated value for aFRR demand of the participating TSO to perform the optimisation. |



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| | seconds could lead to disturbances, e.g. counter-activations or overreactions, which could be a critical issue. To avoid this, the the aFRRIF should detail the requirements for individual TSOs' calculation cycles. | |
| 10. Algorithm | Art. 10(2)(a): objective functions of the optimisation algorithm: As mentioned in our comment to Art. 2, we see a danger in including an objective of improving so-called "social welfare" in the optimisation algorithm if the welfare analysis will only concern the aFRR process. The TSOs' proposed definition of social welfare in Art. 2(2)(k) is inaccurate in the sense that it defines social welfare taking into account exclusively the aFRR process. Both the definition of Art. 2(2)(k) and the provision of Art. 10(2)(a)(i) could give the impression that social welfare optimisation in the aFRR process alone would necessarily improve social welfare as a whole. This is not the case, as the definition focuses on "aFRR platform surplus" only. Would the definition of social welfare in Art. 2(2)(k) refer to all balancing processes and all market timeframe, then we would support the inclusion of this objective of maximising social welfare in the optimisation functions of the algorithm. However, and probably because the assessment of overall social welfare (not limited to the aFRR process) is too complex to include in the aFRR process, then the optimisation function of the algorithm should focus on the criteria of fulfilling TSO needs, minimising the amount of aFRR energy activated, as laid out in Art. 10(2)(a)(ii) and at minimal cost by selecting the cheapest bids on the CMOL. These criteria are both precise and accurate (contrary to the definition of social welfare proposed by the TSOs), and simple (contrary to what the implementation of an accurate definition of social welfare would lead to). | All TSOs agreed to use the term aFRR economic surplus instead of the term social welfare in order to avoid confusion between the objective of the algorithm function and the general use of the term social welfare. |
| 10. Algorithm | What are the procedures for failing to balance equilibrium in the LFC area? | This is out of the scope of the aFRRIF. Generally, TSO set several measures to regulate FRCE to zero, there should be detailed in the LFC Block operational agreement (according to SOGL) |
| 10. Algorithm | More visibility about the fallback solutions in case of non-functioning AOF. A description | Clarification on the fall-back process included in the ED, please see Chapter 5.1.2. |



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| | of fall-back procedures should be given in the aFRRIF document: stakeholders need to be informed and consulted on this important issue. | The consultation of fall-back processes in not formally foreseen in the EBGL. |
| 10. Algorithm | Request for additional limitations for operational security purposes in accordance to article 150 of SOGL have to be made fully transparent (methodology, values, revisions), including towards market parties. | The aFRRIF already states that publication will be performed by the participating TSO in case of additional limitation (see article 4.3) |
| 10. Algorithm | Overlapping of Paragraph 2 with paragraph 3 of Article 3. Suggestion to refer in A3 to A10. | Articles on high-level design and on optimisation algorithm have been reworded and now follow a clearer structure, aligned with the imbalance netting implementation framework: the article on high-level design covers the functions of the aFRR-Platform and their inputs and outputs; the article on the optimisation algorithm describes the details of the optimisation algorithm, including inputs, objectives and constraints. |
| 10. Algorithm | The expression "by activating the economically efficient bids" is not defined in the IF. The criteria to select bids of the CMOL must be transparent and clearly described. | A clarification was added in ED chapter 5.4 : "(c) Minimise the cost of activation – Activate the most economic efficient bids (i.e. the cheapest bids in case of upward activation and the most expensive bids in case of downward action)". The objective functions of the optimisation algorithm have been clarified in the aFRRIF. |
| 10. Algorithm | It mentions several objectives for the optimisation algorithm. This must be clarified. There can only be one overriding objective, namely maximising welfare (or surplus) created by the optimal activation of balancing energy bids. Minimising the amount of activation can only be a secondary objective and can only have an impact if it does not reduce this welfare/surplus. | Description in Article 11 of the aFRRIF was updated. Accordingly an explanation was added in the ED chapter 5.4 to explain the several objectives and how they are related. |
| 10. Algorithm | The optimisation algorithm should also aim at minimizing the overall balancing cost, which may be challenging in case of a 15 min BEPP (the activation price is not known before the end of the ISP). This difficulty should be considered when defining the optimisation algorithm. | Maximization of economic surplus (from algorithm perspective) leads to overall costs minimization. This is clarified in ED. Then the AOF optimisation will run independently on optimisation cycle basis. In general it is not possible to optimise activation of bids on 15 minute basis knowing that the aFRR Demand from participating TSO is instantaneous and real-time and change on control cycle basis. So, the optimisation problem is invariant to the choice of the BEPP. Whatever the BEPP definition the |

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| | | same bids will be activation with the same amount. |
| 10. Algorithm | The following data should be published in order to ensure adequate transparency of the aFRR process: * The activated upward and downward volumes for each bidding zone; * The clearing prices (when appropriate, for each biding zone); * The need expressed by each TSO and the level of satisfied/unsatisfied need; * The cross-zonal capacity available and used (for each border). | According to Article 12(5) each TSO is responsible and obliged to publish all relevant information listed in Article 12(3) as soon as it becomes available. All TSOs are obliged to publish required information no later than two years after entry into force of the EBGL (18th December 2019). All TSOs are investigating possibilities to delegate some TSOs obligations to European platform if this delegation can be accepted by all participating TSOs. However, each TSO is allowed to publish any additional information according to national terms and conditions in case of NRA approval. |
| 10. Algorithm | Agreement with social welfare maximization. Not supporting minimizing exchange of mFRR between zones. Explanation required. Request for transparent process of drafting of CZC allocation methodology. | A clarification was added to ED chapter 5.4 to address this comment: "the objective of the third rule of power exchange minimization is to choose the optimal solution which provides the less usage of cross-zonal capacity when several solutions fulfil both the first and the second objectives (same level of maximum satisfaction of demand with the minimum total amount of aFRR activation, and distribution of unsatisfied demand. " |
| 10. Algorithm | See our answer to question number 8 on the objective function "maximization of the social welfare". Regarding the process responsibility structure , it should be clarified if the priority access rules (on aFRR balancing energy bids and on XB capacity) apply only in case of unsatisfied demand or also in other circumstances | A new section was added to ED chapter 5.4 to further describe how priority access rules shall apply. Please refer to subchapter "Priority access to submitted volume to CMOL". |
| 10. Algorithm | As we see a similar definition of Social Welfare in all the Balancing Products, would it be possible to implement a Total Social Welfare for the total process of Balancing? | A definition applicable to other European balancing platforms is out of scope of the aFRRIF. Nevertheless, the ENTSO-E reports on integration of the balancing markets pursuant Art. 59 of the EBGL will address the monetary gains and savings due to imbalance netting, exchange of balancing services and sharing of reserves. |
| 10. Algorithm | How is managed the sum of all aFRR which need to be zero? | This hypothetical case was added to ED chapter 5.4. - In case for one optimisation cycle the sum of aFRR demands of all participating TSO is equal to zero and there is enough CZC to permit netting then there is no activation of aFRR bids. |



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| 10. Algorithm | What is the increase in efficiency to give priority to control blocks? | As described in the ED, the priority access is used to guarantee a favoured access to procured aFRR volume for each block due to full access to CMOL. Basically, one block shall always have access to its procured volume to satisfy its own aFRR demand. There is no economic efficiency, but it is necessary from system operation security purposes. |
| 10. Algorithm | There should be defined a national minimum amount for aFFR capacity. | The requirements for FRR capacity are covered by SOGL and shall be declined in the national terms and conditions. |
| 10. Algorithm | Consumers - Service Provider - Producers must be based on real conditions while maintaining compliance. | All TSOs agree, this is why bids shall be made based on real condition according to their feasibility by BSPs. |
| 11. Entities | The article should define certain steps or criteria to designate the entity or entities that will operate the aFRR platform. The designation process is currently unknown to market participants and will lead to concerns | TSOs will follow the designation process sets out in EBGL. There is no requirement to define steps or criteria. |
| 11. Entities | Process for designation of the entity should be better defined. | All TSOs will make a proposal for the designation of entities to relevant regulatory authorities in accordance to Art. 21(4) of EBGL. The decision will be done in a co-ordinated manner, taking into account all balancing Platforms. |
| 12. Governance; 13. Decision Making | the aFRRIF should describe how reporting on the running platform will happen | All TSOs agreed that stakeholders will be informed about all relevant design and implementation phases by organising public workshops, reporting to Balancing Stakeholder Group or conducting public consultations about relevant further development and implementation of the aFRR-Platform. |
| 12. Governance; 13. Decision Making | Stakeholders should be involved sufficiently through consultations which should be stated in the respective chapter of the IF | EBGL Article 10 contains elaborate and rather extensive provisions on public consultations. We have not found it needful to repeat it in the IF. Nor do we intend to exceed the provisions as we already at present level see a shortage in time available and stakeholder participation. Apart from the consultation, Article 13(4) of the aFRRIF now foresees a yearly workshop with stakeholders to guarantee their involvement. |
| 12. Governance; 13. Decision Making | Stakeholders should be involved to (at least) EG (or even SC) | Stakeholder involvement in the development of the platform takes place through stakeholder workshops, dialogue with individual TSOs and Balancing Stakeholder Group (BSG). To have |



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| | | stakeholders take part in EG or SC would be impracticable and against the intention of EBGL. |
| 12. Governance; 13. Decision Making | Several stakeholders have problem with the expression "unjustified economic advantages". | All TSOs apply the same wording as the Art. 21 (3) d EBGL. |
| 14. Cost Sharing | Would it be cost free approach to the Platform for BSPs? | The platform development has no BSP related costs. TSO costs are shared transparently according to EBGL between TSOs. |
| 14. Cost Sharing | Cost should be shared from go-live | Since the projects already have costs during design phase, the aFRRIF is recognising the PICASSO project in order to allow having historical costs. Those would be shared transparently according to EBGL between TSOs. |
| 15. Harmonisation | Some stakeholders are dissatisfied with the proposed level of harmonisation and ask for more element | All TSOs are trying achieve the best level of harmonisation what current possible. Several design item might be harmonised in later stage after the platform is in operation. |
| 15. Harmonisation | Starting point for harmonisation is acceptable. However, next steps should be taken faster. | The first harmonisation proposal from All TSOs will be presented 36 months after the start of the platform. It does not seem feasible to make this earlier, also to allow operational experience to be taken into account. However, All TSOs intend to have stakeholder involvement on at least a yearly basis, in order to, amongst other things, facilitate the harmonisation process. |
| 15. Harmonisation | Stakeholder surveys are supported | We appreciate your feedback. |
| 15. Harmonisation | Several stakeholder asks for a more frequent stakeholder survey (once a year) also some asks for the opportunity to react on urgent issues | A stakeholder survey shall be organised every year, with the first survey occurring during the first operational year of the common aFRR-Platform |
| General Questions | Activation strategies should be progressively harmonised with the objective to maximise the possibilities for market participants to balance demand and supply, establish a level playing field, and allow flexible capacities to be used XB in all timeframes | Activation strategies of aFRR do not differ greatly between proactive and reactive TSOs, except for how they are affected by earlier processes (mFRP, RRP). Therefore this comment is considered out of scope of PICASSO and the aFRRIF, and more of a question for the MARI and TERRE platforms. |
| General Questions | Cross-zonal capacity allocation should have been part of the proposal. | A new Art. 4 of the aFRRIF has been introduced to detail determination of cross-border capacity and on the priority of cross-border capacity usage between platforms in chapter 5.7 of the ED. |



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| | | If the comment refered to Art. 38 and following, this is the object of other proposals and is out of scope of aFRRIF |
| General Questions | Cross-zonal capacity should never be reserved for balancing by the TSO but always offered to BRPs to balance themselves | Cross-zonal capacity reservation is out of the scope of the aFRRIF, and linked to the procurement strategy of each LFC Block. Methods are described in the Art. 38 EBGL, but their application is optional. |
| General Questions | Information on Article 28 (fall-back procedures) is missing from the aFRRIF | During the implementation phase TSOs will consider developing fall-back procedures for the platform. The availability of fall-back procedures is the responsibility of each TSO in accordance with Art 28. |
| General Questions | Insufficient level of harmonisation for level playing field (beyond FAT). Several topics mentioned: - ramping period, preparation period, deactivation period / activation rules / general rules / product definitions; - prequalification requirements; - penalization rules; - quality criteria for delivery; | Given the time constraints increasing harmonisation at the start of the platform is not feasible. However, TSOs recognise that the level of harmonisation can always be improved. For that reason it is intended to progressively harmonise further, for which stakeholder input will be valuable to assess in what order aspects of the aFRR markets should be harmonised. |
| General Questions | National legislation and competition between TSOs may hamper cooperation. Where this is due to the regulation of TSOs by NRAs, the latter are challenged to address this. | Thank you for your input. |
| General Questions | We worry losses on HVDC may be counted twice | All TSOs clarified in the ED chapter 5.4 that they will investigate if the HVDC losses should be taken into account and how, in order to avoid double counting, considering the experience from previous timeframes. |
| General Questions | There are overlaps between article 3, 5, 10 | Articles on high-level design and on optimisation algorithm have been reworded and now follow a clearer structure, aligned with the imbalance netting implementation framework: the article on high-level design covers the functions of the aFRR-Platform and their inputs and outputs; the article on the optimisation algorithm describes the details of the optimisation algorithm, including inputs, objectives and constraints. |
| General Questions | Interaction between proposals for different balancing platforms is important. | In the drafting of the aFRRIF we have as much as possible taken into account the INIF and the mFRRIF, pricing and settlement proposals. However, significant differences remain between the three IFs due to the different nature of these processes. |



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| General Questions | Functionality of aFRR and mFRR platforms should be integrated to be able to reuse bids for mFRR in the aFRR optimisation. | As standard products differ between mFRR and aFRR, direct reuse of bids is not possible. It was considered to adjust BEGCTs in such a manner that unused mFRR bids could be released, allowing BSPs to offer their flexibility for resubmission into the aFRR market. However, this was not possible given the process timelines as well as the time indicated by BSPs would be needed to evaluate resubmission. Integration of the platforms, using for example linked bids, is considered as too complex, with unclear benefits and could make the process non-transparent. Therefore, we suggest addressing this topic locally, as some countries intend to introduce local processes to facilitate interactions between the mFRR and aFRR markets. |
| General Questions | Activation strategies should be more aligned between TSOs. Reactive activation of reserves is preferred. This makes aFRR the most important balancing product. There should be a clear framework of the interaction between the platforms and this should be consulted upon with stakeholders. | Activation strategies of aFRR do not differ greatly between proactive and reactive TSOs, except for how they are affected by earlier processes (mFRP, RRP). Therefore this comment is considered out of scope of PICASSO and the aFRRIF, and more of a question for the MARI and TERRE platforms. |
| General Questions | Information on Article 12 is missing from the aFRRIF. Transparency requirements should be more detailed. Some stakeholders had more detailed comments on transparency requirements. | For publication the obligations of EBGL in Article 12 will be followed. Article 12 requires each TSO to publish data, which is generally facilitated through the ENTSO-E transparency platform. |
| General Questions | Consultation should have included all relevant aspects in order for stakeholders to take an informed decision. The pricing/settlement proposals (including imbalance settlement) should have been available at the time of consultation. The interaction between the proposals is important | Due to time constraints consultations could not take place at the same time. |
| General Questions | The introduced proposal of implementation framework must also take into consideration technical possibilities of balancing providers resources (in given LFC area) that are used for system balancing. Unilateral solutions for whole EU can exacerbate the position of produces and can have negative impact on supply of balancing energy what can reduce operational security. Some of the energy producers will need to change their technology to become able to participate at | Technical possibilities of the balancing providers vary across Europe as it depends on the model of activation and generation structure. The aim of the aFRRIF is to establish level playing field across whole Europe and we are fully aware that requirements harmonisation may lead to the change of technology for some energy produces. This is mitigated by the full harmonisation of the FAT to 5 minutes by 2025 and by the progressive harmonisation |



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| | balancing platforms what will force new cost on produces side and will have dramatic impact on producer's economy. | foreseen in the framework for harmonisation. Additionally some TSOs may introduce intermediate steps which will be applied on the local level, which can provide smooth transition for BSPs to adopt to new requirements. |
| General Questions | Questions from French stakeholders to clarify in ED | Please see the national terms and conditions. |



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