

**Implementation framework for the 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
of 23 November 2017 establishing a guideline on electricity balancing

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Whereas

- (1) This document describes the implementation framework for the European platform for the exchange of balancing energy from frequency restoration reserves with automatic activation (hereafter referred to as the “aFRR-Platform”) pursuant to Article 21(1) of the Regulation (EU) 2017/2195 establishing a guideline on electricity balancing (hereafter referred to as the “EB Regulation”). This methodology is hereafter referred to as the “aFRRIF”.
- (2) The aFRRIF takes into account the general principles, goals and other methodologies set in the EB Regulation, the Regulation (EU) 2017/1485 establishing a guideline on electricity transmission system operation (hereafter referred to as the “SO Regulation”), the Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity (hereafter referred to as the “Electricity Regulation”), as well as the Regulation (EC) No 543/2013 of 14 June 2013 on submission and publication of data in electricity markets and amending Annex I to Regulation (EC) No 714/2009 of the European Parliament and of the Council (hereafter referred to as the “Transparency Regulation”).
- (3) The goal of the EB Regulation is the integration of electricity balancing markets. The integration of balancing energy markets should be facilitated with the establishment of common European platforms for the exchange of balancing energy from frequency restoration reserves and replacement reserves, and for operating the imbalance netting process (hereafter referred to as “INP”). To facilitate this goal, it is necessary to develop implementation frameworks for European platforms for balancing energy exchange from frequency restoration reserves with automatic and manual activation (hereafter referred to as “aFRR” and “mFRR” respectively), replacement reserves (hereafter referred to as “RR”) and the INP. Articles 21(1) and 21(2) of the EB Regulation constitute the legal basis for this methodology.
- (4) This aFRRIF lays down the design, functional requirements, governance and cost sharing of the aFRR-Platform, which should be able to perform among others the activation optimisation function (hereafter referred to as “AOF”) as described in the Article 21 of the EB Regulation.
- (5) Article 21(2) of the EB Regulation requires that the aFRR-Platform “...[s]hall be based on common governance principles and business processes and shall consist of at least the activation optimisation function and the TSO-TSO settlement function.” This aFRRIF fulfils these requirements by defining the common business processes of the TSO-TSO model as well as the AOF and the TSO-TSO settlement function. The common governance principles are also set forth in this aFRRIF.
- (6) Article 21(2) of the EB Regulation states further that “[t]his European platform shall apply a multilateral TSO-TSO model with common merit order lists to exchange all balancing energy bids from all standard products for aFRR, except for unavailable bids pursuant to Article 29(14).” These common merit order lists as well as the possibility to declare bids as unavailable are defined in this aFRRIF.
- (7) This aFRRIF defines the application of the TSO-TSO model and the high-level design of the aFRR-Platform required by Article 21(3)(a) of the EB Regulation. The high-level design includes basic principles of the AOF including the constraints.
- (8) The aFRRIF defines specific requirements for the calculation of the capacity limits on aFRR balancing borders. Where aFRR balancing border does not correspond to bidding zone border the capacity limits should be infinite and where it does correspond to a bidding zone border the capacity limits should be the cross-zonal capacities. In the first step, the cross-zonal capacities should be based on the cross-zonal capacities remaining after the end of the single intraday coupling and updated, where relevant, for emerging operational security issues during balancing timeframe and to take into account electricity

exchanges within the balancing timeframe, inter alia, the replacement power interchange and the manual frequency restoration power interchange. In the second step, once the methodology for cross-zonal capacity calculation within the balancing timeframe in accordance with Article 37(3) of the EB Regulation will be adopted and implemented, the cross-zonal capacities resulting from such methodology should be used instead of the cross-zonal capacity remaining after the end of the single intraday coupling. Moreover, this aFRRIF may require an amendment if the methodology in accordance with Article 37(3) of the EB Regulation would also have an impact on the updating process or introduces other changes to the approach defined in this aFRRIF.

- (9) Article 21(3)(b) of the EB Regulation requires that the aFRRIF determines the roadmap and timeline for the implementation of the aFRR-Platform which should be consistent with the deadlines for making the aFRR-Platform operational as defined in Article 21(6) of the EB Regulation. Implementation of the aFRR-Platform means implementing all necessary IT systems in order to operate the frequency restoration process for the exchange of balancing energy from aFRR. This aFRRIF adopts the establishment of aFRR-Platform with the implementation project, which will draw experience and achievements from existing implementation projects and initiatives.
- (10) Article 21(3)(c) of the EB Regulation requires the determination of functions required to operate the aFRR-Platform. This aFRRIF fulfils this requirement by defining the AOF, the TSO-TSO settlement function and the capacity management function ('CMF'). The AOF takes, among others, aFRR demands, the common merit order lists and aFRR cross-zonal capacities as input and determines the amount of automatic frequency restoration power interchange between LFC areas, which aims to ensure the activation of the most cost efficient aFRR balancing energy bids, pursuant to Article 31 of the EB Regulation. The TSO-TSO settlement function implements the settlement of intended energy exchanges as a result of the cross-border FRR activation process for the frequency restoration process with automatic activation (hereafter referred to as "aFRP") between the TSOs. The CMF implements the continuous updating of cross-zonal capacities that are available for the automatic frequency restoration power interchanges on bidding zone borders and can be implemented as a common function for all balancing platforms established pursuant to EB Regulation.
- (11) This aFRRIF defines the governance and the decision-making process for the implementation and operation of the aFRR-Platform as required by the Article 21(3)(d) of the EB Regulation. A steering committee should be established to make the decisions regarding the aFRR-Platform in accordance with the principles of the decision-making process defined in Article 4 of the EB Regulation.
- (12) Article 21(3)(e) of the EB Regulation requires to determine the designation of the entity or entities that will operate the functions of the aFRR-Platform. This aFRRIF determines the designation of a single entity established by TSOs to operate the AOF, and the TSO-TSO settlement function, whereas the designation of the entity to operate the CMF is postponed, as this function is not required to be implemented at the beginning of the operation of the aFRR-Platform. This designation ensures that the governance and operation of the European platform is based on the principle of non-discrimination and ensures equitable treatment of all member TSOs, and that no TSO benefits from unjustified economic advantages through the participation in the functions of the European platform as required by Article 21(3)(d) of the EB Regulation. It also facilitates the objectives of the EB Regulation as referred to in Article 3(b) and (d) therein.
- (13) Article 21(3)(f) of the EB Regulation requires that aFRRIF includes a framework for harmonisation of terms and conditions related to balancing. This aFRRIF sets out a process to identify, consult, adopt and implement the necessary harmonisation.
- (14) Article 21(3)(h) of the EB Regulation requires that the aFRRIF includes the balancing energy gate closure time for all standard aFRR balancing energy product bids and Article 21(3)(j) of the EB

Regulation requires that aFRRIF includes the TSO energy bid submission gate closure time. The respective gate closure times are defined in this aFRRIF. The gate closure times also apply to bids for specific products converted into standard aFRR balancing energy products according to Article 26(1)(d) of the EB Regulation. For avoidance of doubt, the gate closure times specified in this aFRRIF do not apply for specific products which are activated only locally.

- (15) Article 21(3)(i) of the EB Regulation requires the definition of standard aFRR balancing energy products in accordance with Article 25 of the EB Regulation. This aFRRIF defines all characteristics of a standard aFRR balancing energy product in accordance with Article 25(5) of the EB Regulation as well as several variable characteristics of a standard aFRR balancing energy product which should be determined during the prequalification or when submitting the standard aFRR balancing energy product bid in accordance with Article 25(4) of the EB Regulation. This implementation framework further clarifies the possible specifications of the characteristics of the mFRR standard product to be defined in terms and conditions for balancing service providers (hereafter 'BSPs').
- (16) Article 21(3)(k) of the EB Regulation requires the organisation of the common merit order lists by the AOF pursuant to Article 31 of the EB Regulation. This aFRRIF describes the creation of the two common merit order lists from the standard aFRR balancing energy product bids for positive and negative balancing energy, pursuant to Article 31(2) and (3) of the EB Regulation.
- (17) Article 21(3)(l) of the EB Regulation requires a description of the algorithm for the operation of the AOF for the standard aFRR balancing energy product bids in accordance with Article 58 of the EB Regulation. This aFRRIF provides this description including the objective functions and the constraints of the algorithm. This aFRRIF adopts an integrated algorithm that optimises activation and cross-zonal exchanges of standard aFRR balancing energy product bids as well as performs the imbalance netting within the context of the European platform for the imbalance netting process (hereafter referred to as 'IN-Platform'). To this end, aFRR-Platform and the IN-Platform are considered in an integrated way with the same underlying algorithm determining the results for both platforms.
- (18) This aFRRIF shall aim at explicitly taking into account the cross-zonal capacity that has been allocated for the exchange of balancing capacity or sharing of reserves according to Article 38(1) of the EB Regulation into the AOF in order to give a priority access to the allocated cross-zonal capacity to the TSOs that have allocated this cross-zonal capacity.
- (19) This aFRRIF adopts a control model in which the AOF uses as the input the aFRR demand of each TSO, cross-zonal capacities and standard aFRR balancing energy product bids and determines the optimal activation of standard aFRR balancing energy product bids, pursuant to Article 31 of the EB Regulation and aFRR balancing energy interchanges. However, due to local characteristics of the local load-frequency controller the actual volumes of standard aFRR balancing energy product bids requested by TSOs from their BSPs may deviate from the volumes of selected standard aFRR balancing energy product bids as determined by AOF. These differences should be subject to monitoring pursuant to Article 29(5) of the EB Regulation and in case they prove to be significant, TSOs should explore other solutions to minimise these differences.
- (20) This aFRRIF fulfils the objectives stated in Article 3 of the EB Regulation as follows:
 - (a) The aFRRIF contributes to fostering effective competition, as required by Article 3(1)(a) of the EB Regulation, by defining a standard aFRR balancing energy product, including the respective bid parameters, and striving for further harmonization during the operation of the aFRR-Platform, by setting a deadline for one of the most important characteristics of the standard aFRR balancing energy product, that being the full activation time.

- (b) This aFRRIF is non-discriminatory, as required by Article 3(1)(a) of the EB Regulation, as it applies the same rules for all TSOs and balancing service providers (hereafter referred to as “BSPs”). In particular, the standard aFRR balancing energy product is defined based on the TSOs’ need and not on the technical characteristics of the providers, and it does not differ between technologies. Moreover, the operation of the aFRR-IF by a single entity, being a single TSO or a company owned by all TSOs, and the rules set out in this aFRRIF for the governance and the decision-making process of the aFRR-Platform ensures the non-discrimination among them.
- (c) This aFRRIF contributes to the transparency in balancing markets, as required by Article 3(1)(a) of the EB Regulation, by specifying extensive requirements on publication and monitoring with respect to (a) the operation of the aFRR-Platform, e.g. on fall-back procedures, (b) the AOF, e.g. regarding the outputs, the length of the optimisation cycle, (c) TSOs actions, e.g. on changing bids, deviations on local activations, and (d) the impact on the market, e.g. on the efficiency of the pricing methodology.
- (d) This aFRRIF enhances the efficiency of balancing as well as the efficiency of the European and national balancing markets, as required by Article 3(1)(b) of the EB Regulation, by establishing a function for the consistent and transparent update of the available cross-zonal capacities, by organising common merit order lists, and by ensuring that usage of the available cross-zonal capacity is the output of an optimisation algorithm which aims to activate the most cost-efficient standard aFRR balancing energy product bids to cover the aFRR demand.
- (e) This aFRRIF, as required by Article 3(1)(c) of the EB Regulation, contributes to integrating balancing markets and promoting the possibilities for exchanges of balancing services while contributing to operational security, by establishing a common platform for the exchange of balancing energy from the activation of aFRR. The definition of the standard aFRR balancing energy product, accommodating all TSOs needs, promotes the usage of this product, limiting the need for introducing specific products, thus increasing the possibilities for exchanges of balancing energy. The rules described in this aFRRIF for the operation of the platform, with respect to the cross-border aFRR activation process, and to the TSOs flexibility to request adjustments to the available cross-zonal capacities or change the status or volume of bids, take into account the requirements of the SO Regulation, contributing to operational security.
- (f) This aFRRIF, as required by Article 3(1)(d) of the EB Regulation, contributes to the efficient long-term operation and development of the electricity transmission system by promoting the efficient use of the available cross-zonal capacities through the optimisation of the balancing energy exchanges as a result of the aFRP, achieved by the aFRR-Platform, as described in (d) above. Additionally, as required also by Article 3(1)(d), the aFRRIF facilitates the efficient and consistent functioning of day-ahead, intraday and balancing markets, by clearly separating the timeframes. Setting the balancing energy gate closure time for aFRR-Platform later than the gate closure time for the cross-border intraday market, provides the possibility for market participants to balance themselves.
- (g) This aFRRIF, as required by Article 3(1)(e) of the EB Regulation, contributes to fair, objective, transparent and market-based procurement of balancing energy for the aFRP, by specifying non-discriminatory rules for TSOs and BSPs, regarding the operation of the aFRR-Platform. Additionally, as also required by Article 3(1)(e), this aFRRIF avoids undue barriers to entry for new entrants and fosters the liquidity of balancing markets by specifying the characteristics of the standard aFRR balancing energy product, based on the TSOs needs and not on the BSPs characteristics, and by establishing a framework for further harmonisation.

- (h) This aFRRIF, as required by Articles 3(1)(f) and (g) of the EB Regulation, facilitates the participation of demand response including aggregation facilities, energy storage and renewable energy sources, by establishing a level-playing field for all BSPs, through the non-discriminatory and transparent rules for the operation of the aFRR-Platform, and the harmonisation of the standard aFRR balancing energy product characteristics.

Article 1

Subject matter and scope

1. This aFRRIF is the methodology developed in accordance with Article 21(1) of the EB Regulation and establishes a conceptual and legal framework for the implementation of the European platform for the exchange of frequency restoration reserves with automatic activation.
2. The implementation and operation of the aFRR-Platform is mandatory for all TSOs performing the aFRP. The implementation and operation of the aFRR-Platform is not mandatory for TSOs of the synchronous areas of Ireland and Northern Ireland and Great Britain, as long as they do not implement the aFRP in accordance with Article 145 of the SO Regulation. In accordance with Article 21(6) of the EB Regulation and Article 2(4) and paragraph 17 of Annex I of the SO Regulation, the implementation and operation of the aFRR-Platform is not mandatory for TSOs of the Baltic synchronous area, as long as they do not perform the aFRP.
3. The usage of the aFRR-Platform is mandatory for all TSOs of the Continental Europe and Nordic synchronous areas performing the aFRP. However, where an LFC area consists of more than one monitoring area, only the TSO appointed in the LFC area operational agreement as responsible for the implementation and operation of the aFRP according to Article 143(4) of the SO Regulation (hereafter referred to as “appointed TSO”) shall use the aFRR-Platform. For avoidance of doubt, all TSOs performing the aFRP shall become participating TSOs in accordance with the implementation process set out in Article 5 of the aFRRIF, except where an LFC area consists of more than one monitoring area, in which case only the appointed TSO shall become a participating TSO.
4. This methodology applies solely for the exchange of standard aFRR balancing energy products. The European platforms for the INP, exchange of balancing energy from mFRR and exchange of balancing energy from RR are out of the scope of this aFRRIF.
5. The classification of the activation purposes of balancing energy bids is out of the scope of aFRRIF and shall be treated in a methodology pursuant to Article 29 of the EB Regulation.
6. The pricing of balancing energy that results from the activation of balancing energy bids and cross-zonal capacity used for the exchange of balancing energy or for operating the INP is out of the scope of this aFRRIF and shall be treated in a methodology pursuant to Article 30 of the EB Regulation.
7. The common TSO-TSO settlement rules applicable to the aFRR-Platform is out of the scope of this aFRRIF and shall be treated in a methodology pursuant to Article 50 of the EB Regulation.

Article 2

Definitions and interpretation

1. For the purposes of this aFRRIF, the terms used shall have the meaning given to them in Article 2 of the Electricity Regulation, Article 2 of the Transparency Regulation, Article 3 of the SO Regulation and Article 2 of the EB Regulation. In addition, in this aFRRIF the following terms shall apply:
 - (a) 'aFRR balancing border' means a set of physical transmission lines linking adjacent LFC areas of participating TSOs;
 - (b) 'aFRR balancing border capacity limits' means the limits for the automatic frequency restoration power interchange in import or positive direction and export or negative direction for an aFRR balancing border or a set of aFRR balancing borders and serving as constraints for the optimisation algorithm;
 - (c) 'aFRR demand' means an individual TSO demand, as a volume representing the activation request for standard aFRR balancing energy product bids from the common merit order list, being equal to the combined effect of the already activated aFRR and the ACE excluding the intended exchange of balancing energy resulting from the cross border aFRP or INP. For avoidance of doubt, all aFRR demands are aFRR inelastic demands, i.e. demand that needs to be satisfied irrespective of the price of the activation of standard aFRR balancing energy product;
 - (d) 'aFRR optimisation region' means the geographical area of all participating TSOs which use the IN-Platform pursuant to Article 22 of the EB Regulation;
 - (e) 'availability status' means the condition of a bid being available or unavailable for cross-border activation pursuant to Article 29(9) and (14) of the EB Regulation;
 - (f) 'available standard aFRR balancing energy product bid' means a standard aFRR balancing energy product bid which was not declared as unavailable by the participating TSO;
 - (g) 'aFRR market time unit' (hereafter "aFRR MTU") means the time period of the AOF optimisation cycle. The first aFRR MTU starts at 00:00 market time. The aFRR MTUs shall be consecutive and not overlapping;
 - (h) 'economic surplus' means, in the context of the AOF, the sum of (i) the BSPs surplus for the aFRR-Platform for the relevant aFRR MTU, (ii) the TSOs surplus for the aFRR-Platform, (iii) the congestion income and optionally (iv) other related costs and benefits where these increase economic efficiency for the relevant aFRR MTU. BSPs' surplus is the sum of products between the selected volume of standard aFRR balancing energy bids and the corresponding differences between the price of these bids and the balancing energy price pursuant to Article 30(1) of the EB Regulation. TSOs' surplus is the sum of products between the satisfied aFRR demands and the corresponding differences between the price of these demands (maximum price in case of inelastic demand) and the balancing energy price pursuant to Article 30(1) of the EB Regulation;
 - (i) 'expert group' means the body composed of nominated experts of all member TSOs of the aFRR-Platform;

- (j) 'FRCE adjustment' means a correction of the automatic frequency restoration power interchange for the determination of operational security indicators in accordance with Article 15 of the SO Regulation, the evaluation of the fulfilment of the FRCE quality target parameters in accordance with Article 128 of the SO Regulation and for operational monitoring purposes in order to reflect in the FRCE of the receiving TSO a compliant delivery of aFRR in the LFC area of the connecting TSO;
 - (k) 'granularity' means the smallest increment in volume of a standard aFRR balancing energy product bid;
 - (l) 'member TSO' means any TSO who has joined the aFRR-Platform, including TSOs from multi-TSO LFC areas that are not appointed via their LFC area operational agreement to be responsible for implementing and operating the aFRP pursuant to Part IV of the SO Regulation, and in particular Articles 141 and 143 therein;
 - (m) 'participating TSO' means any member TSO using the aFRR-Platform to exchange standard aFRR balancing energy products. For avoidance of doubt, where an LFC area consists of more than one monitoring area, only the TSO appointed in the LFC area operational agreement as responsible for the implementation and operation of the aFRP according to Article 143(4) of the SO Regulation shall become participating TSO;
 - (n) 'PICASSO' means "Platform for the International Coordination of Automated Frequency Restoration and Stable System Operation" and is the implementation project that shall evolve into the aFRR-Platform;
 - (o) 'standard aFRR balancing energy product' means the standard product for balancing energy from aFRR, pursuant to Article 25(1) of the EB Regulation;
 - (p) 'standard aFRR balancing energy product bid' means the balancing energy bid for a standard aFRR balancing energy product;
 - (q) 'steering committee' means the decision-making body of the aFRR-Platform, consisting of nominated representatives from all member TSOs and is the superior body to the expert group;
 - (r) 'technical exchange limit' means an artificial cap of the balancing energy exchange between two adjacent LFC areas, which are not separated by a bidding zone border, that is needed only for functioning of the optimisation algorithm; and
 - (s) 'usage of the aFRR-Platform' means exchanging standard aFRR balancing energy product bids between two or more LFC areas via the aFRR-Platform, in order to operate the frequency restoration process for the exchange of balancing energy from aFRR, where the activation of balancing energy from aFRR follows the principle of a common merit order.
2. 'ENTSO-E' stands for 'ENTSO for electricity' and 'HVDC' stands for 'high voltage direct current'.
3. In this aFRRIF, unless the context requires otherwise:
- (a) the singular indicates the plural and vice versa;
 - (b) the table of contents and headings are inserted for convenience only and do not affect the interpretation of this aFRRIF;

- (c) any reference to cross-zonal capacities shall include also the reference to allocation constraints as defined in the Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management ('CACM Regulation');
- (d) any reference to legislation, regulations, directives, orders, instruments, codes or any other enactment shall include any modification, extension or re-enactment of it when in force; and
- (e) any reference to an Article without an indication of the document shall mean a reference to this aFRRIF.

Article 3

High-level design of the aFRR-Platform

1. The aFRR-Platform shall establish a cross-border aFRR activation process in accordance with Article 147 and Article 149 of the SO Regulation for all LFC areas in which the aFRP is implemented.
2. The aFRR-Platform includes all LFC areas of the participating TSOs according to Article 147 of the SO Regulation and the aFRR balancing borders.
3. The aFRR-Platform shall consist of the AOF, the TSO-TSO settlement function and the CMF in accordance with Article 4(6).
4. The inputs to the AOF of the aFRR-Platform shall be:
 - (a) the aFRR demand of every LFC area of each participating TSO being continuously reported to the aFRR-Platform by each participating TSO. The sign convention for aFRR demand is: negative value where the LFC area is in power surplus and indicates that negative aFRR balancing energy needs to be activated; and positive value where the LFC area is in power deficit and indicates that positive aFRR balancing energy needs to be activated;
 - (b) the aFRR balancing border capacity limits for the concerned aFRR balancing borders being continuously updated by the CMF in accordance with Article 4;
 - (c) the list of standard aFRR balancing energy product bids for balancing energy for the LFC area of each participating TSO, which shall include all available standard aFRR balancing energy product bids from each bidding zone, which belongs to the LFC area of the participating TSO;
 - (d) the availability status of standard aFRR balancing energy product bids that becomes available or unavailable after the TSO energy bid submission gate closure time according to Article 9(2);
 - (e) the estimated aFRR balancing energy activation of every LFC area of each participating TSO being continuously reported to the aFRR-Platform by each participating TSO; and
 - (f) other inputs of the AOF include, but are not limited to information that ensures safe and correct communication, the stability of the IT system and monitoring of the working of the systems and publication.
5. Participating TSOs applying a central dispatching model, pursuant to Article 27 of the EB Regulation, shall convert integrated scheduling process bids received from BSPs into standard aFRR balancing energy product bids and then submit them to the aFRR-Platform.

6. The AOF shall merge the lists of standard aFRR balancing energy product bids from each LFC area of each participating TSO, provided in accordance with Article 10, creating common merit order lists.
7. The aFRR balancing border capacity limits shall be determined in accordance with Article 4.
8. The outputs of the AOF shall be:
 - (a) the automatic frequency restoration power interchange on the aFRR balancing borders as defined in Article 147 of the SO Regulation;
 - (b) the selected standard aFRR balancing energy product bids that shall be activated by the participating TSO;
 - (c) the volume of satisfied aFRR balancing energy demands;
 - (d) the total automatic frequency restoration power interchange of each LFC area, being the sum of the automatic frequency restoration power interchange on the aFRR balancing borders of the LFC area, resulting from the aFRR-Platform, pursuant to paragraph (a);
 - (e) the prices for aFRR balancing energy determined using the methodology in accordance with Article 30 of the EB Regulation;
 - (f) the prices for cross-zonal capacity used for the exchange of standard aFRR balancing energy products determined using the methodology in accordance with Article 30 of the EB Regulation;
 - (g) the automatic frequency restoration power interchange on the aFRR balancing borders as defined in the Article 147 of the SO Regulation after application of the FRCE adjustment with a maximum ramping period of 7.5 minutes. By 18 December 2024, the maximum ramping period shall be 5 minutes; and
 - (h) other outputs of the AOF include, but are not limited to information that ensures safe and correct communication, the stability of the IT system, monitoring of the working of the systems and data relevant for the calculation of the performance indicators in accordance with Article 59(4) of the EB Regulation.
9. Each participating TSO may request the activation of a higher volume of standard aFRR balancing energy product bids from the common merit order lists, than the total volume of balancing energy submitted by this TSO to the aFRR-Platform, in accordance with Article 29(13) of the EB Regulation and considering the process responsibility structure as described in Article 11(4). In that case the aFRR-Platform will inform all participating TSOs, without undue delay, sending to them the information regarding the additional volume requested.
10. In case the AOF fails to produce outputs either due to algorithm or IT infrastructure issues, or in case a single or multiple TSOs fail to connect to the aFRR-Platform, and the fall-back procedures pursuant to Article 28(3) of the EB Regulation enter into force, the TSOs shall inform the market participants without undue delay. The provided information shall include the reason that triggered the fall-back procedures, the affected TSOs and LFC areas, the start time with the first affected validity period and the first affected aFRR MTU, as well as the estimated end date. Once the normal operation through the aFRR-Platform is restored, the aFRR-Platform shall inform the market participants specifying the start date with the first validity period and the first aFRR MTU, for which the balancing energy exchange is conducted through the aFRR-Platform. In cases of temporary incidents linked to the complexity of the real-time processes and the limitations of the IT systems, with an expected duration longer than 5 minutes and shorter than

30 minutes, the concerned TSO(s) shall publish that its(their) participation in the aFRR-Platform has been temporarily suspended or restored. Each TSO shall publish this information as early as possible but no later than 30 minutes after end of the first validity period of the suspension or restoration of the participation.

11. The inputs to the TSO-TSO settlement function shall be:
 - (a) the automatic frequency restoration power interchange on the aFRR balancing borders in accordance with Article 3(8)(a);
 - (b) the prices required by the methodology for common settlement rules in accordance with Article 50(1) of the EB Regulation and provided by the AOF in accordance with Article 3(8)(e) and 3(8)(f);
 - (c) other inputs of the TSO-TSO settlement function include, but are not limited to information that ensures robust and correct settlement process and financial data for invoicing.
12. The TSO-TSO settlement function shall determine the outputs using the methodology in accordance with Article 50(1) of the EB Regulation. The outputs of the TSO-TSO settlement function shall be:
 - (a) the intended exchange of aFRR balancing energy for settlement for each participating TSO;
 - (b) the settlement prices for the intended exchange of aFRR balancing energy as result of aFRP for each participating TSO;
 - (c) the calculation and distribution of the income generated by the exchange of balancing energy between LFC areas with different balancing energy prices and these different balancing energy prices;
 - (d) other outputs of the TSO-TSO settlement function include, but are not limited to information that ensures safe and correct communication, the stability of the IT system, monitoring of the working of the systems and data relevant for the calculation of the performance indicators in accordance with Article 59(4) of the EB Regulation.
13. The aFRR-Platform shall implement:
 - (a) the methodology for pricing balancing energy and cross-zonal capacity used for the exchange of balancing energy or operating the imbalance netting process in accordance with Article 30 of the EB Regulation;
 - (b) the classification methodology for the activation purposes of balancing energy bids in accordance with Article 29 of the EB Regulation;
 - (c) the TSO-TSO settlement rules for the intended exchange of energy in accordance with Article 50 of the EB Regulation.
14. Each participating TSO shall implement and carry out the procedures for the settlement of intended exchange of energy from the cross-border aFRP in a proper and timely manner.
15. The aFRR-Platform shall be implemented via a TSO-TSO model, which means in particular:
 - (a) the BSP submits standard aFRR balancing energy product bids to its participating TSO;
 - (b) the participating TSO verifies, amends if applicable pursuant to Articles 29(9), 29(10) and 29(14) of the EB Regulation, and submits the bids to the AOF;

- (c) the AOF defines the optimal activation of bids and exchange between the TSOs, by requesting the activation of the selected bids from the participating TSO, while the request for activation of bids from the AOF shall oblige the requesting and participating TSOs to accept the firm exchange of aFRR balancing energy, in the context of the cross border FRR activation process, in accordance with Articles 147(4)(a), 147(4)(c) and 147(5) of the SO Regulation;
 - (d) the participating TSO ensures the activation of the standard aFRR balancing energy product bids selected by the AOF in accordance with Article 145(4);
 - (e) the connecting, or the appointed TSO as described in Article 1(3) is responsible for prequalification, TSO-BSP settlement, monitoring and other obligations related to procurement or activation of standard aFRR balancing energy product bids in accordance with the EB Regulation and the SO Regulation.
16. Each participating TSO shall publish the exchange of volumes and prices provided by the AOF as soon as possible and no later than 30 minutes after the relevant aFRR MTU.
17. The aFRR-Platform has a two-level governance structure: the steering committee as the decision-making body of the aFRR-Platform and the expert group as the expert body of the aFRR-Platform.

Article 4

Determination of the aFRR balancing border capacity limits as input to the optimisation algorithm

1. All participating TSOs shall determine for each aFRR balancing border the aFRR balancing border capacity limits. When the aFRR balancing border corresponds to a bidding zone border these limits shall be determined in accordance with paragraphs 2 to 4. When the aFRR balancing border does not correspond to a bidding zone border, the aFRR balancing border capacity limit shall be set to the technical exchange limit, which shall be equal to 99,999 MW in both directions.
2. All TSOs and the aFRR-Platform shall continuously update the aFRR cross-zonal capacities for each of the relevant bidding zone border or set of bidding zone borders such that at any time the cross-zonal capacities available for aFRR exchanges represent:
 - (a) the initial cross-zonal capacities which shall be either the cross-zonal capacities remaining after the single intraday coupling or cross-zonal capacities calculated in accordance with the methodologies pursuant to Article 37(3) of the EB Regulation;
 - (b) the additional cross-zonal capacities allocated to the RR, mFRR and aFRR process pursuant to Article 38(1) of the EB Regulation;
 - (c) the already allocated cross-zonal capacities in the balancing timeframe:
 - (i) the already confirmed cross-zonal replacement and manual frequency restoration power interchanges;
 - (ii) cross-zonal exchanges resulting from other non-balancing processes notified by TSOs to the aFRR-Platform;
 - (d) the adjustments of cross-zonal capacities pursuant to the SO Regulation:

- (i) adjustments requested for operational security reasons by participating or affected TSOs in accordance with Articles 146(3)(c), 147(3)(c), 148 (3)(c), 149(3) and 150(3)(b) of the SO Regulation;
 - (ii) limitations imposed due to technical inability to facilitate cross-zonal automatic frequency restoration power interchange on HVDC interconnectors, in accordance with Articles 171(1), 146(3)(a), 146(3)(b), 147(3)(a) and 147(3)(b) of the SO Regulation.
3. The adjustments pursuant to paragraph 2(d) may also be applied to aFRR balancing borders that do not correspond to a bidding zone border. The adjustment pursuant to 2(d)(i) may only apply to operational security reasons which could not be addressed with the latest cross-zonal capacity calculation and coordinated regional operational security analysis and such adjustment shall be made and published as soon as the need is identified.
4. The participating or affected TSOs imposing adjustments pursuant to paragraph 2(d)(i) shall publish the request for these limitations, together with a justification for the request, no later than 30 minutes after the end of the relevant validity period in which the additional limitations have been requested.
5. The limitations pursuant to paragraph 2(d)(ii) may disable any exchange on aFRR balancing border that is constituted only of HVDC interconnector(s). The limitation of a given aFRR balancing border is allowed when duly justified by the relevant TSOs concerned by the aFRR balancing border. The concerned regulatory authorities shall be notified of this limitation. The technical justification shall be published by the concerned TSOs.
6. No later than two years after the deadline for the implementation of the aFRR-Platform pursuant to Article 5(3)(b) all TSOs shall establish a CMF, which shall implement the continuous process described in paragraph 2. In case other balancing platforms have such function, the CMF shall be the same across these platforms, if the same obligation is imposed in the relevant implementation framework for these platforms.

Article 5

The timeline and roadmap for the implementation of the aFRR-Platform

1. By thirty months after the approval of this aFRRIF, all member TSOs shall implement and make operational the aFRR-Platform that fulfils every requirement defined in this aFRRIF (unless specific deadlines are provided in this aFRRIF) and further requirements according to Articles 29, 30 and 50 of the EB Regulation.
2. To fulfil the requirement pursuant to paragraph 1, all member TSOs shall establish the aFRR-Platform implementation project, which shall be based on the implementation project PICASSO that shall be transformed into the aFRR-Platform implementation project after the approval of this aFRRIF. As a consequence, all TSOs that are members of the implementation project PICASSO before the transformation may propose to all member TSOs that a share of the costs incurred in the implementation project PICASSO before the approval of this aFRRIF, but not before 1st January 2018, be considered as common costs in accordance with Article 23(6) of the EB Regulation. The decision on the proposal shall be made pursuant to Article 14(4).
3. All member TSOs shall ensure that the aFRR-Platform implementation project fulfils the deadlines pursuant to Articles 21(4) to (6) of the EB Regulation as follows:

- (a) by six months after the approval of this aFRRIF, all member TSOs shall designate the entity responsible for performing the activation optimisation function and the TSO-TSO settlement function of the aFRR-Platform;
 - (b) by thirty months after the approval of this aFRRIF, the aFRR-Platform shall be implemented and become operational and all TSOs performing aFRR shall use the aFRR-Platform;
 - (c) before the deadline pursuant to point (b), all member TSOs shall gradually adapt the terms and conditions related to balancing in accordance with Article 18 of the EB Regulation and in line with their national legislation to make possible their early and timely accession to the aFRR-Platform;
 - (d) the implementation project for the aFRR-Platform may allow for gradual implementation of the aFRRIF requirements and gradual accession of TSOs.
4. All member TSOs shall establish and update regularly and at least twice per year the roadmap for the implementation of the aFRR-Platform, which shall consist of the following elements:
- (a) development of new processes and amending existing ones related to aFRR exchange, activation purposes, pricing and settlement in accordance with this aFRRIF within thirty months after the approval of this aFRRIF;
 - (b) development and regular update of an aFRR-Platform accession roadmap within three months after the approval of this aFRRIF, for all member TSOs that will become participating ones. The accession roadmap shall define for these TSOs timelines for:
 - (i) the adaptation and implementation of terms and conditions for BSPs by each member TSO;
 - (ii) the development of the functions of the aFRR-Platform;
 - (iii) the interoperability tests between each TSO and the aFRR-Platform;
 - (iv) the operational tests;
 - (v) the connection of each TSO to the aFRR-Platform;
 - (vi) making the aFRR-Platform operational;
 - (vii) the connection of all TSOs that have been granted a derogation by their respective regulatory authorities in accordance with Article 62 of the EB Regulation.
 - (c) the accession roadmap shall start after its finalisation by all participating TSOs and end no later than the aFRR-Platform is used by all participating TSOs.
5. All member TSOs shall publish the accession roadmap and in particular any information on national derogations shall be updated when new information becomes available.

Article 6

Functions of the aFRR-Platform

1. The aFRR-Platform shall consist of the AOF, the TSO-TSO settlement function and the CMF in accordance with Article 4(6). If deemed efficient when implementing the methodology for cross-zonal capacity (hereafter referred to as “CZC”) calculation within the balancing timeframe in accordance with Article 37(3) of the EB Regulation, a cross-zonal capacity calculation function may be added.
2. The purpose of the AOF shall be to coordinate the aFRP of the participating TSOs in accordance with the high-level design of the aFRR-Platform in Article 3 and the principles of the optimisation algorithm in accordance with Article 11.
3. The main purpose of the TSO-TSO settlement function shall be the calculation of the settlement amount that each participating TSO has to bear for the intended exchange of energy from the cross-border aFRP in accordance with the high-level design of the aFRR-Platform in Article 3.
4. The purpose of the CMF shall be to update continuously the aFRR cross-zonal capacities for each of the relevant bidding zone borders or set of bidding zone borders such that at any time the cross-zonal capacities reflect the actually available cross-zonal capacities for automatic frequency restoration power interchanges. The CMF shall be considered as a function required to operate the aFRR-Platform from the deadline referred to in Article 4(6).
5. If and when relevant, the purpose of the CZC calculation function shall be to implement the methodology for CZC calculation within the balancing timeframe in accordance with Article 37(3) of the EB Regulation. In case other balancing platforms have such function, the CZC calculation function shall be the same across these platforms, if the same obligation is imposed in the relevant implementation framework for these platforms.

Article 7

Definition of the standard aFRR balancing energy product

1. Each standard aFRR balancing energy product bid shall fulfil the following static characteristics:
 - (a) the full activation time in accordance with paragraph 3;
 - (b) the deactivation period shall not be longer than the full activation time;
 - (c) the minimum quantity and granularity shall be 1 MW;
 - (d) the maximum quantity shall be 9,999 MW;
 - (e) the validity period shall be 15 minutes. The first validity period of each day shall begin right at 00:00 market time. The validity periods shall be consecutive and not overlapping;
 - (f) the activation of the standard aFRR balancing energy product bid shall be automatic; and
 - (g) the price resolution shall be 0.01 EUR/MWh.

2. The variable characteristics of the standard aFRR balancing energy product bid to be determined by the BSPs, during prequalification or when submitting the standard aFRR balancing energy product bid shall be:
 - (a) the volume of the bid;
 - (b) the direction of the bid: positive or negative balancing energy;
 - (c) the price of the bid shall be provided in EUR/MWh. The price of the bid, be it positive, zero or negative, shall be defined in accordance with Table 1 of the EB Regulation;
 - (d) the LFC area to which the aFRR providing units and/or aFRR providing groups shall deliver the aFRR standard balancing energy;
 - (e) the validity period the standard aFRR balancing energy product bid refers to; and
 - (f) other characteristics in accordance with national terms and conditions for BSPs.
3. Each TSO shall define the full activation time of the standard aFRR balancing energy product for the time period until 17th December 2024 in their terms and conditions for BSPs in accordance with Article 18 of the EB Regulation, respecting the FRR dimensioning rules pursuant to Article 157(3) of the SO Regulation. The full activation time of the standard aFRR balancing energy product shall be 5 minutes starting from 18th December 2024. By one year after the approval of this aFRRIF each TSO shall publish on its website a timeline with the milestones for reaching this target.
4. In case of a central dispatching model, the variable characteristics of the standard aFRR balancing energy product bid may be determined by the connecting TSO based on integrated scheduling process bids submitted by BSPs following the rules for converting bids in a central dispatching model into standard aFRR balancing energy product bids pursuant to Article 27 of the EB Regulation.
5. Each standard aFRR balancing energy product bid:
 - (a) shall be divisible which means that the activation request can be lower than the volume of the bid defined in paragraph 2(a);
 - (b) can be activated and deactivated at any moment within the validity period;
 - (c) shall not have any minimum delivery time allowed or required.
6. The national terms and conditions for BSPs pursuant to the Article 18 of EB Regulation may specify additional requirements for information to be provided by BSPs to the connecting TSO.

Article 8

Balancing energy gate opening and gate closure times for the standard aFRR balancing energy product bids

1. The balancing energy gate opening time for the submission of a standard aFRR balancing energy product bid by BSPs to the participating TSO, shall be no later than 12:00 market time for all validity periods of the next day.
2. The balancing energy gate closure time for the submission of a standard aFRR balancing energy product bid by BSPs to the participating TSO, shall be 25 minutes before the beginning of the validity period of

the respective standard aFRR balancing energy product bid. The same balancing energy gate closure time applies for specific product bids converted into standard aFRR balancing energy product bids.

3. For TSOs applying a central dispatching model, the balancing energy gate closure time for integrated scheduling process bids shall be defined pursuant to Articles 24(5) and 24(6) of the EB Regulation.

Article 9

TSO energy bid submission gate closure time and changes of the standard aFRR balancing energy product bids

1. The TSO energy bid submission gate closure time for the submission of the standard aFRR balancing energy product bids to the AOF of the aFRR-Platform by the participating TSO shall be 10 minutes before the beginning of the validity period of the respective standard aFRR balancing energy product bid.
2. Any time before the TSO energy bid submission gate closure time, the participating TSO may modify the bids in accordance with Article 29(9) of the EB Regulation or change the availability status of the bid in accordance with Article 29(14) of the EB Regulation. Only when, after the TSO energy bid submission gate closure time, new information becomes available to a participating TSO that affects the possibility to activate the standard aFRR balancing energy product bids, the participating TSO may apply these changes after the TSO energy bid submission gate closure time. To avoid the impact on the implementation and functioning of the aFRR platform, all TSOs shall define the latest possible time until such changes of bids shall be allowed.
3. Standard aFRR balancing energy product bids affected by the changes pursuant to paragraph 2 shall also be submitted to the aFRR platform. TSOs shall provide the explanation of the changes of the standard aFRR balancing energy product bids pursuant to paragraph 2 no later than 30 minutes after the relevant aFRR validity period. The changes of bids shall be expressed as changes to their available volume or availability status.
4. The changes pursuant to paragraph 2 shall be limited to the following two cases:
 - (a) where the connecting TSO, or the appointed TSO as described in article 1(3), reasonably expects that in the absence of these changes the activation of such bids would lead to violations of operational security limits or specifically frequency limits, when the expected violation would be caused by technical unavailability of specific reserve providing unit(s) within the TSO or DSO control areas; and
 - (b) where the bid is conditional on the bids submitted outside the aFRR-Platform and needs to be changed at the request of the BSP, who submitted it, in order to reflect the activation(s) of conditional bid(s) outside of the aFRR-Platform, which have occurred after the aFRR balancing energy gate closure time.
5. Following the requirement of Article 3(2)(a) of the EB Regulation, the national terms and conditions on balancing shall ensure non-discrimination between standard aFRR balancing energy product bids that are declared as unavailable by TSOs. Pursuant to Article 16(7) of the EB Regulation, there shall be no

discrimination between standard aFRR balancing energy product bids submitted pursuant to the requirements of balancing capacity contracts and other standard aFRR balancing energy product bids.

6. When changing the bids pursuant to paragraph 2, the connecting TSO, or the appointed TSO as described in article 1(3), shall provide to the aFRR platform the reasons for such changes, which shall include at least:
 - (a) the party requesting the change, i.e. a TSO, a DSO or a BSP;
 - (b) in case of changes requested by a TSO or a DSO pursuant to paragraph (4)(a), the name of the TSO or the DSO and the exact operational security limit expected to be violated;
 - (c) in case of changes requested by a TSO pursuant to paragraph (4)(a), for thermal limits the concerned network element(s);
 - (d) in case of changes requested by a BSP, the information that the bid has been modified due to activation(s) of conditional bid(s) pursuant to paragraph (4)(b).
7. Changes of bids to respect thermal limits as referred to in paragraph 6(c) shall only be possible for the most expensive standard aFRR balancing energy product bids of the participating TSO that have an aggravating impact on the concerned network element(s) and taking into account their relative physical influence on the concerned network element.
8. The information pursuant to paragraph 6 shall become available to all other TSOs, communicated to the affected BSP(s) by 30 minutes after the end of the relevant validity period and published in accordance with Article 12(3)(b)(v) of the EB Regulation. The information pursuant to paragraph 6 shall be reported in an aggregated form in the report referred to in Article 13.

Article 10

Common merit order lists to be organised by the AOF

1. Each BSP shall submit the standard aFRR balancing energy product bids to the participating TSO in accordance with Article 8.
2. Each BSP connected to a TSO applying a central dispatching model shall submit integrated scheduling process bids to the connecting TSO.
3. The participating TSO shall submit the standard aFRR balancing energy product bids to the aFRR-Platform in accordance with Article 9.
4. TSOs applying a central dispatching model, pursuant to Article 27 of the EB Regulation, shall convert integrated scheduling bids received from the BSPs into standard aFRR balancing energy product bids and then submit these bids to the aFRR-Platform.
5. The aFRR-Platform shall create two common merit order lists (one for bids for positive balancing energy and one for bids for negative balancing energy) for each validity period that shall contain all the available standard aFRR balancing energy product bids submitted by the participating TSOs:

- (a) the positive common merit order list shall contain all the available standard aFRR balancing energy product bids for positive balancing energy submitted by the participating TSOs and shall be sorted in ascending order of price;
 - (b) the negative common merit order list shall contain all the available standard aFRR balancing energy product bids for negative balancing energy submitted by the participating TSOs and shall be sorted in descending order of price.
6. All available standard aFRR balancing energy product bids submitted to the aFRR-Platform by the participating TSOs shall be used in the common merit order lists for the activation.

Article 11

Description of the optimisation algorithm

1. The inputs to the optimisation algorithm are:
 - (a) the two common merit order lists in accordance with Article 10(5);
 - (b) the aFRR demands in accordance with Article 3(4);
 - (c) the aFRR balancing border capacity limits, as output of the CMF, determined in accordance with Article 4(2).
2. The objective functions of the optimisation algorithm are:
 - (a) First priority: maximise satisfaction of the aFRR demand of individual LFC areas;
 - (b) Second priority: minimise the volume of selected standard aFRR balancing energy product bids;
 - (c) Third priority: maximise the economic surplus;
 - (d) Fourth priority: minimise the amount of the automatic frequency restoration power interchange on each aFRR balancing border.
3. The constraints of the optimisation algorithm are:
 - (a) the aFRR power balance equation of each LFC area must be satisfied, meaning that the sum of cross-zonal automatic frequency restoration power interchanges, the standard aFRR balancing energy product bids activated and the satisfied aFRR demand is equal to zero;
 - (b) the sum of all automatic frequency restoration power interchanges of all LFC areas of the participating TSOs must be zero;
 - (c) the aFRR balancing border capacity limits determined in accordance with Article 4.
4. The optimisation algorithm shall consider the process responsibility structure of the participating synchronous areas:
 - (a) The automatic frequency restoration power interchange shall be calculated for each LFC area and for each aFRR balancing border.
 - (b) For the maximisation of the satisfied demand in accordance with Article 11(2)(a), the following priorities shall be applied, in case of unfulfilled aFRR demand:

- (i) First priority: The LFC areas which form one control area shall have priority access to the offered standard aFRR balancing energy product bids and aFRR balancing border capacity limits inside the control area.
 - (ii) Second priority: The LFC areas which form one LFC block and perform common dimensioning shall have priority access to the standard aFRR balancing energy products and aFRR balancing border capacity limits inside the LFC block.
 - (iii) Third priority: The TSOs procuring a part of their balancing capacity outside of their LFC areas pursuant to Article 33 of the EB Regulation shall have priority access to standard aFRR balancing energy product bids corresponding to the procured volume of balancing capacity. The TSOs sharing aFRR pursuant to Article 168 or Article 177 shall have priority access to the shared volume.
5. The outputs of the optimisation algorithm in every optimisation cycle are:
 - (a) the automatic frequency restoration power interchange on the aFRR balancing borders as defined in the Article 147 of the SO Regulation;
 - (b) the selected standard aFRR balancing energy product bids that shall be activated by the TSO;
 - (c) the volume of satisfied aFRR balancing energy demands;
 - (d) the total automatic frequency restoration power interchange of each LFC area, being the sum of the automatic frequency restoration power interchange on the aFRR balancing borders of the LFC area resulting from the aFRR-Platform, pursuant to paragraph (a);
 - (e) the prices for aFRR balancing energy determined using the methodology developed in accordance with Article 30(1) of the EB Regulation;
 - (f) the prices for cross-zonal capacity used for the exchange of standard aFRR balancing energy products determined using the methodology developed in accordance with Article 30(3) of the EB Regulation.
6. For the purposes of the optimisation, each aFRR balancing border has a mathematically defined negative and positive direction for the automatic frequency restoration power interchange.
7. The optimisation cycle shall be specified so that both boundaries of the imbalance settlement period coincide with the boundaries of optimisation cycles and shall be published six months before the deadline for the implementation of the aFRR-Platform pursuant to Article 5(3)(b). Each subsequent modification shall be published and notified to BSPs at least one month before it is implemented. All participating TSOs shall establish a data publication and communication format for data related to aFRR that is independent from the changes in the optimisation cycle.
8. As long as there is at least one TSO participating in the IN-Platform who is not participating TSO, the optimisation algorithm shall run in each optimisation cycle the following optimisation sequence:
 - (a) First step: Optimisation within the aFRR optimisation region in accordance with paragraphs 1 to 6 of this Article, i.e. optimisation of cross-border interchange of aFRR, including the implicit netting of aFRR demands; the result of this optimisation, namely the corrected aFRR demands

of the TSOs of the aFRR optimisation region and the new CZCs within the aFRR optimisation region, shall be provided as input to the second step.

- (b) Second step: Optimisation among all TSOs that use the IN-Platform in accordance with the implementation framework for the IN-Platform, pursuant to Article 22(1) of the EB Regulation, i.e. netting of all remaining aFRR demands of the IN-Platform, under consideration of the remaining CZC after the first step; the result of this optimisation, namely the remaining aFRR demands of the participating TSOs that use the IN-Platform and the new CZCs between the LFC areas of these TSOs, shall be provided as input to the third step.
- (c) Third step: Optimisation in the LFC areas covered by all participating TSOs in accordance with paragraphs 1 to 6 of this Article, i.e. optimisation of the selected standard aFRR balancing energy product bids, considering the aFRR interchange and netting determined in the previous steps.

Article 12

Designation of entity

1. Each member TSO of the aFRR-Platform is accountable towards its national regulatory authority and its market participants for the execution of the cross-border aFRR activation process in accordance with this aFRRIF.
2. All TSOs shall appoint one entity being a single TSO or a company owned by TSOs that shall be entrusted to operate the activation optimisation function and the TSOS-TSO settlement function of the aFRR-Platform. No later than eighteen months before the deadline when the capacity management function shall be considered as a function required to operate the aFRR-Platform pursuant to Article 6(4), all TSOs shall develop a proposal for amendment of this aFRRIF, which shall designate the entity performing the capacity management function in accordance with Article 21(3)(e) of the EB Regulation and clarify whether the aFRR-Platform will be operated by a single entity or multiple entities.
3. The designation of the entity will be done in accordance with Article 21(4) of the EB Regulation.
4. The designated entity shall be acting on behalf of all member TSOs under the supervision of the steering committee of the aFRR-Platform, in accordance with Article 14(2)(a) and in accordance with the operational rules approved by the steering committee.
5. For the avoidance of doubt, the designated entity may contract third parties for executing supporting tasks, subject to the agreement of the steering committee.

Article 13

Transparency and reporting

1. All member TSOs shall monitor, evaluate and report the following aspects of implementation and operation of the aFRR-Platform at least on a yearly basis. The common report shall be published by ENTSO-E on its website and reported to regulatory authorities:
 - (a) the implementation progress and roadmap in accordance with Article 5;
 - (b) the amount of aFRR balancing energy requested by each participating TSO in relation to the total volume of balancing energy pursuant to Article 29(12) of the EB Regulation;

- (c) the frequency and volume of deviations between the activation of bids by each participating TSO and the selection of bids by the AOF as referred to in paragraph 3(b) and (c), pursuant to Article 29(5) of the EB Regulation;
 - (d) the impact on the economic surplus of minimising the volume of selected standard aFRR balancing energy product bids for balancing energy pursuant to Article 11(2)(b);
 - (e) aggregated information and detailed statistics on the bids which were declared as unavailable by TSOs in accordance with Article 9;
 - (f) the efficiency of the pricing method for aFRR pursuant to Article 30 of the EB Regulation;
 - (g) the availability of cross-zonal capacity for the aFRR exchange on the platform;
 - (h) the results of the survey conducted in accordance with Article 16(2)(a).
2. If the above mentioned report identifies inefficiencies or harmfulness, TSOs should include in a report the recommendation on how to deal with identified issues and where relevant, develop a proposal for an amendment to this aFRRIF and submit it for approval.
 3. The deviations between the activation of bids by each participating TSO and the selection of bids by the AOF, reported under paragraph 1(c), shall be calculated as follows:
 - (a) deviations per LFC area and per aFRR MTU: the differences in MWh between the AOF output pursuant to 11(5)(c) and the volume requested by activation by the participating TSO over the specific aFRR MTU;
 - (b) total annual volume of deviations per LFC area: annual sum of absolute values of deviations per LFC area pursuant to (a) divided by the annual volume selected by the AOF in that LFC area; and
 - (c) total annual volume of deviations in all LFC areas : annual sum of absolute values of deviations from all LFC areas calculated pursuant to (a) divided by the total annual volume selected by the AOF in all LFC areas.
 4. Following the annual report published two years after the implementation deadline for the aFRR-Platform, all TSOs shall compare alternative control models and analyse the options to minimise the reported deviations and no later than 12 months after the publication of the report shall propose amendments to this aFRR IF with the aim to address the deviations or change the monitoring of deviations.
 5. Each participating TSO shall provide upon a request of the competent regulatory authority within one month, the relevant information on all the bid volumes selected by the AOF alongside the volumes of the same bids requested for activation by this TSO, together with the information about the reasons for the occurrence of any deviation between the bid volumes determined by the AOF and volumes requested for activation. The same information shall be provided within the same deadline to any BSP requesting such information for the bids this BSP has provided to this TSO.
 6. All member TSOs shall conduct an annual public stakeholder workshop to report on implementation and operation of the aFRR-Platform. The first workshop shall take place at the latest 6 months after approval of this aFRRIF.

Article 14

Governance and decision-making process

1. The rules concerning the governance and operation of the aFRR-Platform shall ensure that no connecting TSO benefits from unjustified economic advantage through the participation in the aFRR-Platform. Each member TSO has a representative in the steering committee and in the expert group. The member TSOs aim to make unanimous decisions. Where unanimity cannot be reached, qualified majority voting according to Article 14 shall apply. The steering committee makes decisions according to Articles 14(3)(a), 14(4) and 14(5).
2. Each member TSO shall carry out the common governance principles of the aFRR-Platform by means of:
 - (a) the steering committee of the aFRR-Platform, which is the decision-making body of the aFRR-Platform with the right to make any binding decision on any matter or question related to the aFRR-Platform and not covered by the Article 14(3)(b). Thereto, each member TSO shall appoint at least one regular representative to the steering committee. It is a superior body to the expert group;
 - (b) the expert group of the aFRR-Platform, which is the expert body of the aFRR-Platform and prepares background materials for the steering committee (including, for example, analyses, impact assessments, summaries) and evaluates and proposes concepts in relation to the development, governance and operation of the aFRR-Platform. Thereto, each member TSO shall appoint at least one regular representative to the expert group.
3. Decisions leading to a proposal for an amendment of this aFRRIF or the amendment of the methodologies submitted by all TSOs in accordance with Articles 29, 30 or 50 of the EB Regulation shall be made according to the following process:
 - (a) member TSOs' decision: all member TSOs shall approve in advance a proposal to be sent to all TSOs for decision;
 - (b) all TSOs' decision: shall be subject to the approval of all TSOs pursuant to the voting principles of Article 4(3) of the EB Regulation, where 'all TSOs' includes both all member TSOs in the framework of the steering committee of the aFRR-Platform and non-member TSOs and this decision-making process is independent from the member TSO's decision-making process.
4. Decisions concerning the aFRR-Platform not leading to a proposal for an amendment of this aFRRIF or the amendment of the methodologies pursuant to Articles 29, 30 or 50 of the EB Regulation relative to aFRR but affecting all member TSOs shall be subject to approval of all member TSOs.
5. Decisions concerning the aFRR-Platform not leading to a proposal for an amendment of this aFRRIF and only affecting a geographical area of several member TSOs smaller than the geographical area of all member TSOs shall be subject to approval of the member TSOs of the concerned geographical area.
6. In case of decisions according to Articles 14(3)(a), 14(4) and 14(5), each member TSO of the concerned region is expected to take part in the decision-making process. The quorum for initiating a decision-making process is a majority (50 % + 1) of the member TSOs that are present or represented through another member TSO participating in the decision-making process.

7. The member TSOs shall implement a decision-making process, which ensures effective decision-making with the aim to make decisions unanimously. Where unanimity cannot be reached, qualified majority voting shall apply.
8. Decisions according to Articles 14(3)(a) and 14(4) where no consensus is reached shall, pursuant to the voting principles of Article 4(3) of the EB Regulation, require a majority of:
 - (a) member TSOs representing at least 55 % of the TSOs' countries concerned and present or represented in accordance with Article 14(6); and
 - (b) member TSOs representing countries comprising at least 65 % of the population of countries concerned and present or represented in accordance with Article 14(6).
5. Decisions in accordance with Article 14(5) where no consensus is reached shall, pursuant to the voting principles of Article 4(4) of the EB Regulation, require a majority of:
 - (a) member TSOs representing at least 72 % of the member TSOs' countries of the concerned region and present or represented according to Article 14(6); and
 - (b) member TSOs representing countries comprising at least 65 % of the population of member TSOs' countries of the concerned region and present or represented according to Article 14(6).
10. Decisions in accordance with Article 14(5) in relation to regions concerned composed of five member states and third countries or less shall be decided based on consensus.
11. Voting on steering committee decisions can be made in physical meetings, conference calls or by circular resolution via e-mail.

Article 15

Categorisation of costs and detailed principles for sharing the common and regional costs

1. The costs of establishing, amending and operating the aFRR-Platform shall be broken down into:
 - (a) common costs resulting from coordinated activities of all member TSOs in the aFRR-Platform;
 - (b) regional costs resulting from activities of several but not all member TSOs in the aFRR-Platform;
 - (c) national costs resulting from activities of the participating TSOs of the aFRR Platform.
2. Common costs shall include costs resulting from the steering committee decisions on proposals related to:
 - (a) common costs for establishing or amending the aFRR-Platform:
 - (i) implementation of the aFRR-Platform or new functionalities in the AOF which have an impact on the intended or unintended exchange of energy and which is for the benefit of all member TSOs;
 - (ii) implementation of new functionalities in the TSO-TSO settlement function which have an impact on the TSO-TSO settlement;
 - (iii) commissioning of joint studies for the benefit of all member TSOs;
 - (iv) costs required for external support to the project and the project management office;
 - (b) common costs for operating the aFRR-Platform:

- (i) operational costs related to the operation of the AOF which are agreed as common costs by member TSOs in accordance with the decision-making process according to Article 14;
 - (ii) operational costs related to the operation of the TSO-TSO settlement function which are agreed as common costs by member TSOs in accordance with the decision-making process according to Article 14.
3. The common costs for establishing or amending the aFRR-Platform in accordance with Article 15(2)(a) shall be shared among the member TSOs in accordance with Article 15(15) and in accordance with the following principles set out by Article 23 of the EB Regulation:
 - (a) one eighth of common costs shall be divided equally between member states and third countries whose TSOs are member TSOs;
 - (b) five eighths of common costs shall be divided proportionally to the consumption of member states and third countries whose TSOs are member TSOs;
 - (c) two eighths of common costs shall be divided equally between member TSOs.
4. The common costs of operating the aFRR-Platform in accordance with Articles 15(2)(b) and 15(5) shall not be borne by member TSOs that are not participating TSOs in the aFRR-Platform.
5. The common costs for operating the aFRR-Platform in accordance with Article 15(2)(b) shall be shared among the participating TSOs in accordance with Article 15(17) and in accordance with the following principles set out by Article 23 of the EB Regulation:
 - (a) one eighth of common costs shall be divided equally between member states and third countries whose TSOs are participating TSOs;
 - (b) five eighths of common costs shall be divided proportionally to the consumption of member states and third countries whose TSOs are participating TSOs;
 - (c) two eighths of common costs shall be divided equally between participating TSOs.
6. Regional costs shall be borne by member TSOs of the concerned region and consist of:
 - (a) regional costs for establishing or amending the aFRR-Platform:
 - (i) implementation of new functionalities in the AOF which have an impact on the intended or unintended exchange of energy and which are applicable only by the member TSOs of the concerned region;
 - (ii) implementation of new functionalities in the TSO-TSO settlement function which have an impact on the TSO-TSO settlement of the member TSOs of the concerned region;
 - (iii) commissioning of joint studies performed for the member TSOs of a concerned region.
 - (b) regional costs of operating the aFRR-Platform:
 - (i) operational costs related to the operation of the AOF which are agreed as regional costs by member TSOs in accordance with the member TSOs' decision-making process according to Article 14;

- (ii) operational costs related to the operation of the TSO-TSO settlement function which are agreed as regional costs by member TSOs in accordance with the decision-making process according to Article 14.
- 7. The regional costs for establishing or amending the aFRR-Platform in accordance with Article 15(6)(a) shall be shared among the member TSOs of the concerned region according to the following principles set out by Article 23 of the EB Regulation:
 - (a) one eighth of regional costs shall be divided equally between member states and third countries whose TSOs are member TSOs of the concerned region;
 - (b) five eighths of regional costs shall be divided proportionally to the consumption of member states and third countries whose TSOs are member TSOs of the concerned region;
 - (c) two eighths of regional costs shall be divided equally between member TSOs of the concerned region.
- 8. The regional costs for operating the aFRR-Platform in accordance with Article 15(9) shall not be borne by member TSOs that are not participating TSOs in the aFRR-Platform.
- 9. The regional costs for operating the aFRR-Platform in accordance with Article 15(6)(b) shall be shared among the participating TSOs of the concerned region in accordance with Article 15(17) and in accordance with the following principles set out by Article 23 of the EB Regulation:
 - (a) one eighth of regional costs shall be divided equally between member states and third countries whose TSOs are participating TSOs of the concerned region;
 - (b) five eighths of regional costs shall be divided proportionally to the consumption of member states and third countries whose TSOs are participating TSOs of the concerned region;
 - (c) two eighths of regional costs shall be divided equally between participating TSOs of the concerned region.
- 10. National costs shall be the costs for using the aFRR-Platform, which consist of the costs of development, implementation, operation and maintenance of technical infrastructure and procedures as well as for the settlement process.
- 11. Each member TSO shall bear its own national costs and is solely responsible (i.e.: no joint and several liability) for the due payment of all the costs related to the technical infrastructure necessary for the successful usage of the aFRR-Platform.
- 12. The cost sharing principle may apply to costs incurred since 1 January 2018, and shall apply to costs incurred after the approval of this aFRRIF.
- 13. For the avoidance of doubt, any costs incurred before 1 January 2018 shall not be considered as historical costs.
- 14. Each member TSOs shall pay its share of costs pursuant to Articles 15(2)(a)(i) and (ii) also retrospectively in accordance with Article 15(12).
- 15. When sharing the common and regional costs for establishing and amending the aFRR-Platform according to Articles 15(3) and 15(7), the TSO's share of the costs of the member TSOs shall consider

only the member TSOs appointed in the LFC area operational agreement as responsible for implementing and operating the aFRP in this LFC area according to Article 143(4) of the SO Regulation. For the avoidance of doubt, the member TSOs that are not appointed as responsible for implementing and operating the aFRP shall not have to bear costs related to Article 15(3)(c) and (7)(c).

16. In case several member TSOs are active in a Member State, the Member State's share of the costs shall be distributed among those member TSOs proportionally to the consumption in the member TSOs' monitoring areas.
17. When sharing the common and regional costs for operating the aFRR-Platform in accordance with Articles 15(5) and (9), the consumption share of the costs of a participating TSO shall consider respectively the consumption of the member TSOs which appointed the participating TSO to perform the aFRP according to Article 143(4) of the SO Regulation.

Article 16

Framework for harmonisation of terms and conditions related to the aFRR-Platform

1. Terms and conditions pursuant to Article 18 of the EB Regulation remain a responsibility of each TSO but have to respect a framework for harmonisation pursuant to Article 21(3)(f) of the EB Regulation.
2. The framework for harmonisation shall take into account differences between TSOs applying central and self-dispatching models and respect the following process:
 - (a) all TSOs shall continuously evaluate the 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 aFRR-Platform. This survey shall support the identification by all TSOs of a short list of prioritised harmonisation needs with close involvement of all relevant regulatory authorities;
 - (b) all TSOs shall then identify harmonisation options for each prioritised harmonisation need with close involvement of stakeholders and regulatory authorities;
 - (c) all TSOs shall publicly consult the harmonisation options with the stakeholders for a period of two months;
 - (d) all TSOs shall evaluate the public consultation results and develop a common harmonisation proposal for the identified issues. The proposal shall also include the necessary implementation time for the amendment of terms and conditions for BSPs;
 - (e) the aFRRIF shall be amended with the common harmonisation proposal in accordance with Article 6(3) of the EB Regulation;
 - (f) the implementation of changes stemming from an amendment process of the aFRRIF pursuant to (e) shall be handled at national level in the national terms and conditions for BSPs, which shall specify which changes are needed and define the implementation timeline;
 - (g) all TSOs shall submit an amended aFRRIF including the common harmonisation proposal no later than 36 months after the aFRR-Platform becomes operational. The next aFRRIF amendment including the common harmonisation proposal shall be submitted no later than 36 months after the previous aFRRIF amendment.

Article 17

Publication and implementation of this aFRRIF

1. The TSOs shall publish this aFRRIF without undue delay pursuant to Article 7 of the EB Regulation after a decision has been made by the European Union Agency for the Cooperation of Energy Regulators in accordance with Article 5(7) and 6(2) of the EB Regulation.
2. The TSOs shall implement the aFRRIF in accordance with Article 5.
3. One month before the deadline for the implementation of the aFRR-Platform pursuant to Article 5(3)(b), all TSOs shall publish a detailed description of the optimisation algorithm pursuant to Article 12(3)(k) of the EB Regulation.

Article 18

Language

The reference language for this aFRRIF shall be English. For the avoidance of doubt, where TSOs need to translate this aFRRIF into their national language(s), in the event of inconsistencies between the English version published by TSOs in accordance with Article 7 of the EB Regulation and any version in another language, the relevant TSOs shall be obliged to dispel any inconsistencies by providing a revised translation of this aFRRIF to their relevant regulatory authorities.