ACER Decision on the Implementation framework for aFRR Platform: Annex II

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

Consolidated version of
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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 representing the activation request for standard aFRR balancing energy product bids from the common merit order list. The volume of the aFRR demand is equal to the combined effect of the already activated aFRR and the area control error (ACE) excluding the intended exchange of balancing energy resulting from the cross border aFRP or INP. The aFRR demand can either be an elastic aFRR demand or an inelastic aFRR demand.

(d) ‘aFRR optimisation region’ means the geographical area of all participating TSOs which use theIN-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) ‘elastic aFRR demand’ means an aFRR demand for activation of standard aFRR balancing energy product bids, which satisfaction partially depends on the price of activation of standard aFRR balancing energy product bids. The elastic aFRR demand is composed of an inelastic part below the power threshold and an elastic part above the power threshold;

(j) 'power threshold of the elastic aFRR demand‘ is the volume of the elastic aFRR demand corresponding to the inelastic part of the aFRR elastic demand;

(k) 'price of the elastic aFRR demand‘ is the price a TSO is willing to pay or receive for the activation of standard aFRR balancing energy product bids for the part of the elastic aFRR demand exceeding the power threshold;

(l) 'expert group' means a body composed of nominated experts of all member TSOs and established by the steering committee;

(m) '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;

(n) 'granularity' means the smallest increment in volume of a standard aFRR balancing energy product bid;

(o) 'inelastic aFRR demand' means an aFRR demand for activation of standard aFRR balancing energy product bids, which needs to be satisfied irrespective of the price of the activation of standard aFRR balancing energy product bids. Therefore, the price of inelastic demand is set at the value of the lower (resp. higher) of the two technical price limits in the positive (resp. negative) direction defined in the methodology pursuant to Article 30(1) of the EB Regulation;

(p) 'joint steering committee' means the joint decision-making body of the European platforms for the exchange of balancing energy and for the imbalance netting process as established in accordance with Article 14;

(q) 'member TSO' means any TSO to which the EB Regulation applies and which 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;

(r) '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;

(s) '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;

(t) 'setpoint for automatic FRR activation' means the output of the frequency restoration controller within a LFC area as described in Article 145(4) of the SO Regulation;

(u) 'standard aFRR balancing energy product' means the standard product for balancing energy from aFRR, pursuant to Article 25(1) of the EB Regulation;

(v) 'standard aFRR balancing energy product bid' means the balancing energy bid for a standard aFRR balancing energy product;

(w) '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;

(x) ‘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

(y) ‘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. A participating TSO may submit an elastic aFRR demand for positive or negative balancing energy within one MTU. In such case, a participating TSO shall respect the following high-level principles:
   a) the power threshold of the elastic aFRR demand shall be equal to or higher than the aFRR capacity requirement, resulting from the application of the ratio between aFRR and mFRR of the FRR capacity requirement determined for the relevant LFC block pursuant to the FRR dimensioning rules as defined in Article 157 of the SO Regulation.
   b) the elastic aFRR demand shall not be used in such a way that it imposes a cap on balancing energy prices for all LFC areas or bidding zones.

c) The formula to compute the price and the power threshold of the elastic aFRR demand shall remain the same during all MTUs of an imbalance settlement period. However, a TSO may deviate from the power threshold computed by its formula at any MTU in case it declares a change of system state according to the SO Regulation.

d) the elastic aFRR demand shall not be used before the publication in English of the following rules:

   i. FRR dimensioning rules as defined in Article 157(1) of the SO Regulation, including the split between aFRR and mFRR; and

   ii. rules applied by the TSO to compute the power threshold and price of the elastic aFRR demand based on a formula that could be dependent on parameters relevant for the safe operation of the system.

To ensure transparency of using the elastic aFRR demand, each TSO using elastic aFRR demand shall publish, as soon as possible after the use of the elastic demand, the power threshold of its elastic aFRR demand, the price of its elastic aFRR demand and, if applicable, information on the deviation from the power threshold based on the change of system state pursuant to point (c).

5. 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 setpoint for automatic FRR activation of every LFC area of each participating TSO being continuously reported to the aFRR-Platform by each participating TSO. The sign convention for the setpoint for automatic FRR activation is: negative value where negative aFRR balancing energy needs to be activated in the LFC area; and positive value where positive aFRR balancing energy needs to be activated in the LFC area;

   (c) the aFRR balancing border capacity limits for the concerned aFRR balancing borders being continuously updated by the CMF in accordance with Article 4;

   (d) 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;

   (e) 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);

   (f) 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

   (g) 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.

6. 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.
7. 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.
8. The aFRR balancing border capacity limits shall be determined in accordance with Article 4.
9. 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.

10. 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.
11. 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.

12. In case the CMF and the back-up pursuant to Article 18(1) and Article 18(2) fail to produce outputs, each participating TSO shall individually send the available cross-zonal capacities to the aFRR-Platform.
13. 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(9)(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(9)(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.

14. 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.

15. 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.

16. 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.
17. 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.

18. 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.

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 TSOs shall designate the entity responsible for performing the AOF 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 biding 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(5);

   (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 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. For the operation of the aFRR-Platform, all TSOs shall designate one TSO to perform the AOF and the TSO-TSO settlement function and another TSO to perform the CMF. In case other balancing platforms have such function, the CMF shall be the same across these platforms and shall be operated by the

same TSO, if the same obligation is imposed in the relevant implementation framework of each platform.

3. The TSOs referred to in paragraph 2 proposed to be designated in accordance with Article 21(4) of the EB Regulation are:

   (a) TransnetBW GmbH to perform the AOF and TSO-TSO settlement function; and

   (b) ČEPS a.s. to perform the CMF.

4. The entities designated to perform the functions shall be acting for the benefit and on behalf of all member TSOs of the aFRR-Platform. They shall fulfil their tasks in accordance with the objectives of the EB Regulation, this aFRRIF, the contractual framework, the steering committee decisions and the operational procedures in accordance with Article 14(4)(a).

5. Each entity designated to perform one or more functions specified in paragraph 2 shall:

   (a) perform its tasks in a cost-efficient way;

   (b) keep, in its internal accounting, separate accounts for all related activities and for the purposes of the cost reporting and sharing in accordance with Article 19 to prevent cross-subsidiation;

   (c) keep information gained through the operation of the aFRR-Platform confidential and guarantee non-discriminatory treatment of information offering any economic advantage for other parts of their commercial business;

   (d) make the aFRR-Platform's information available to all member TSOs at all times to allow all member TSOs to fulfil the transparency and reporting obligations according to Article 13;

   (e) keep records to provide an accurate, complete, up-to-date and accessible reporting of all activities in case of audits by one or more member TSOs;

   (f) duly coordinate with all member TSOs and the other entities performing the functions, notably in the case of dispute resolution; and

   (g) duly coordinate in case of termination of the designation to ensure continuity of the aFRR-Platform implementation and operations at all times.

6. For the avoidance of doubt, the designated entities 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 usage of elastic aFRR demand pursuant to Article 3(4), including the part of the elastic demand that has been satisfied; the part of the elastic demand that has not been satisfied; and

the influence of satisfying the elastic demand on the balancing energy price determined pursuant to Article 30(1) of the EB Regulation;

(c) 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;

(d) 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;

(e) 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);

(f) aggregated information and detailed statistics on the bids which were declared as unavailable by TSOs in accordance with Article 9;

(g) the efficiency of the pricing method for aFRR pursuant to Article 30 of the EB Regulation;

(h) the availability of cross-zonal capacity for the aFRR exchange on the platform;

(i) 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.

7. All member TSOs shall publish the relevant information stemming from this aFRRIF in a commonly agreed harmonised format at least through the ENTSO-E central information transparency platform established pursuant to Article 3 of Regulation (EU) No 543/2013 and Article 12 of the EB Regulation.

8. After the implementation of the CMF in accordance with Article 4(6), all member TSOs shall submit to regulatory authorities and ACER a report on the assessment of the effectiveness and efficiency of the currently used designation setup including multiple entities in accordance with Article 12. In case other balancing platforms have a cross-platform function such as the CMF, this part of the report shall be compiled with the respective assessments of the other platforms. This report shall be submitted every second year. It can be submitted together with the report pursuant to Article 59(2)(a) of the EB Regulation. The steering committee shall coordinate the establishment of the report.

9. The assessment referred to in paragraph 8~~9~~ shall include indicators reflecting at least:

   (a) the availability of the aFRR-Platform;

   (b) the incidents during the operations of the aFRR-Platform with a specific assessment of interoperability incidents between the different entities performing the functions; this shall also include a list of incidents in the operation of the functions and the application of back-up and fall-back procedures, including the reasoning for their occurrence and the applied or anticipated remedies to prevent their reoccurrence in the future;

   (c) identification of problems related to implementation and operation of the aFRR-Platform;

   (d) recommendations for further development of the aFRR-Platform.

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.

2. The aFRR-Platform has a two-level governance structure: the steering committee and the expert group. The steering committee shall be the decision-making body. The expert group shall be the expert body of the aFRR-Platform, shall prepare background materials for the steering committee and shall evaluate and propose concepts in relation to the implementation of the aFRR-Platform.

3. Each member TSO of the aFRR-Platform shall appoint at least one regular representative to the steering committee and at least one regular representative to the expert group of the aFRR-Platform and, where applicable, to the cross-platform expert group according to paragraph 5. The member TSOs shall aim to

make unanimous decisions. Where unanimity cannot be reached, qualified majority voting according to this Article shall apply.

4. The steering committee shall:

   (a) organise the management of the implementation and the operation of the aFRR-Platform; this shall include the establishment and amendment of operational procedures;

   (b) take binding decisions according to the decision-making principles pursuant to paragraphs 7 to 9;

   (c) organise an operational committee which shall decide on day-to-day operational situations and supervise tasks related to the incident management as laid down in the operational procedures;

   (d) establish the aFRR-Platform expert group. It may also establish further expert groups or merge the aFRR-Platform expert group with other expert group(s). In such event, the steering committee shall determine the composition, the modalities of the functioning and the dedicated tasks of such new expert group;

   (e) monitor the implementation of its decisions;

   (f) meet regularly;

   (g) provide regulatory authorities and ACER with conclusions and findings of the meetings within two weeks unless they invite regulatory authorities and ACER to the meetings as observers. This is without prejudice to the regulatory authorities' and ACER's right to request information from TSOs pursuant to the applicable national law or Article 3(2) Regulation (EU) 2019/942;

   (h) coordinate the establishment of the annual work programme to be provided by all member TSOs to all regulatory authorities and ACER in accordance with Article 15; and

   (i) coordinate the establishment of the report on the effectiveness and efficiency to be provided by all member TSOs to all regulatory authorities and ACER in accordance with Article 13.

   In case of a joint steering committee, paragraph 6 shall apply.

5. In case other balancing platforms have a cross-platform function such as the CMF, the steering committee shall be the same across these platforms, if the same obligation is imposed in the relevant implementation framework for these platforms. In such case, the steering committee shall be a joint steering committee for the relevant platforms, and all references to the steering committee in this aFRRIF shall be understood as referring to the joint steering committee. The joint steering committee shall be supported by an additional expert group for all cross-platform functions including at least the CMF and all cross-platform issues. The expert group on cross-platform functions and issues shall prepare background materials for the joint steering committee and shall evaluate and propose concepts in relation to the implementation of the cross-platform functions and any other cross-platform related content.

6. The joint steering committee shall be responsible for the tasks referred to in paragraph 4, except points (a), (b) and (c). In addition, it shall:

(a) organise the management of the implementation and the operation of all involved European platforms for the exchange of balancing energy and for the imbalance netting process; this shall include the establishment and amendment of operational procedures;

(b) take binding decisions on any matter related to the AOF and the TSO-TSO settlement function of the aFRR-Platform according to the decision-making principles pursuant to paragraphs 7 to 9;

(c) take binding decisions on any matter related to the cross-platform functions and cross-platform issues by voting of all member TSOs of all involved European platforms for the exchange of balancing energy and for the imbalance netting process by applying the decision-making principles pursuant to paragraphs7 to 9;

(d) organise a joint operational committee for the operation of all involved European platforms for the exchange of balancing energy and for the imbalance netting process; the joint operational committee shall decide on day-to-day operational situations and supervise tasks related to the incident management as laid down in the operational procedures.

7. 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.

8. 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.
9. 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.
10. 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.
11. 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.

12. 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).
13. 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).

14. 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.
15. Voting on steering committee decisions can be made in physical meetings, conference calls or by circular resolution via e-mail.

Article 15
Annual work programme

No later than 30th September of each year, all member TSOs shall provide an annual work programme for at least the two subsequent years to all regulatory authorities and ACER that describes the projects aiming at implementing the aFRR-Platform and all related tasks. For each project, the document shall indicate the scope, the interdependency with other projects, including the interdependency with other European balancing platforms as regards cross-platform functions such as the CMF and other cross-platform issues, the requested investments including, if necessary, research and development activities, the expected benefits, the budget, the timeline for implementation including a clear assignment of responsibilities and deadlines to the involved parties, especially separating the involvement of the different entities performing the functions and other parties such as TSOs, as well as identified risks and possible mitigation measures. The steering committee shall coordinate the establishment of the annual work programme.

Article 16
Dispute resolution

1. In the event of a dispute, a dispute notice shall be submitted in written to the steering committee by the parties involved. The dispute notice shall include at least a description of the dispute, the involved member TSOs or entities performing the functions, the claims raised and their legal grounds and a proposal for settlement if available.
2. The settlement process of arising disputes shall be as follows:

(a) the steering committee shall appoint without undue delay amongst its representatives a person responsible for the amicable settlement procedure without undue delay.

(b) should no amicable settlement be reached within one month or within a reasonable time agreed upon by the involved parties, disputing member TSOs or entities performing the functions, after agreement by the steering committee may ask the relevant regulatory authorities and/or ACER for guidance, should the dispute directly concern regulatory issues if it is in compliance with their competences under the law, which an amicable settlement may take into account, or refer the dispute to mediation.

(c) in case none of the above led to the settlement of the dispute, the dispute shall be settled either by arbitration or by court.

3. The outcome of any of the above measures shall be binding upon the disputing member TSOs or entities performing the functions.

4. The dispute resolution process shall not preclude the steering committee from applying for interim or conservatory measures or any injunctive relief. The contractual framework may further detail the dispute resolution process set out in this paragraph.

Article 17
Cooperation framework

1. In order to ensure efficient and effective implementation and operation of the aFRR Platform, each member TSO shall set up a contractual framework applicable to all member TSOs. Under the contractual framework, each member TSO shall adhere to at least the following high level principles:

(a) not to undertake actions which may be detrimental to the operation of the aFRR-Platform functions as defined in the contractual framework;

(b) to assist each other and cooperate among themselves in case of an investigation regarding the aFRR-Platform by a competent regulatory authority provided that it is allowed under the applicable national law or laws;

(c) to apply the principles of equal treatment, proportionality and non-discrimination towards all other member TSOs; and to perform its obligation in compliance with laws and regulations, including this aFRRIF.

2. In their contractual framework, all member TSOs shall clearly allocate the roles and responsibilities of the member TSOs, the designated entities in accordance with Article 12, notably the obligations of reporting and exchange of information in accordance with Article 13. This shall also define liabilities arising from any actions or omissions of the signing parties, being the member TSOs or the entities designated to perform the functions, especially in case of failure of those entities to comply with their obligations such as the breaching of deadlines.

3. The contractual framework shall include the conditions for renewal and termination, as well as in case of termination or hand-over of one designated entity to another, specific obligations on the entities designated to perform the functions to ensure a smooth transition and continuity of the aFRR-Platform at all times. Such conditions shall include clear timelines and responsibilities for the entities performing

the functions, deadlines for early involvement of the steering committee, and clearly defined liabilities for the cases of not meeting the timelines or the obligations.

4. The contractual arrangements may be amended following a decision of the steering committee including the renewal or termination of the contractual relations with the entities designated to perform the functions of the aFRR-Platform as well as the designation of another entity following a respective amendment of this aFRRIF.

5. All member TSOs shall own and govern the IT solutions including the intellectual property to operate the aFRR-Platform functions.

6. All member TSOs shall define and establish operational procedures to be approved by the steering committee in accordance with Article 14(4)(a) with a specific emphasis on the coordination need between different entities performing different functions of the aFRR-Platform. These procedures shall at least cover day-to-day operations, the incident resolution processes, fall-back and back-up procedures including communication procedures, data processing and validation.

7. In case a request from one or several regulatory authorities made in compliance with the applicable national law or laws or ACER made in compliance with Article 3(2) Regulation (EU) 2019/942 is received by one or several member TSOs or by one or several TSOs designated to perform the platform's functions, these TSOs shall immediately inform all member TSOs via the steering committee of the content of such request. All member TSO shall cooperate to respond adequately, consistently and promptly to a request for information received in relation to fulfilment of the obligations of the aFRRIF. However, requests for information submitted by regulatory authorities can only be disclosed provided that this is allowed under the applicable national law.

Article 18
Back-up principles

1. All member TSOs shall ensure that for all day-to-day operational steps, back-up processes and communication procedures are in place, regularly tested, properly documented as well as involved parties being trained regularly. This shall include back-up processes and communication procedures between the designated entities performing different functions of the aFRR-Platform.

2. All member TSOs shall ensure that the hosting and communication infrastructure of the designated entities performing the platform's functions shall be equipped with back-up solutions enabling its operations in case of outages or technical incidents.

Article 19
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 20
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~~36 months and no earlier than six months following the date of the preceding ACER decision on the common harmonisation proposal, 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) in case justified harmonisation needs were identified, 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 identified under Article 20(2)(b) of this aFRRIF, if any, with the stakeholders for a period of two months during the following year;

(d) all TSOs shall evaluate ~~the~~ any public consultation results and develop a common harmonisation proposal for the identified issues, if any, to harmonise terms and conditions for BSPs; ~~. The proposal shall also include the necessary implementation time for the amendment of terms and conditions for BSPs;~~

~~(e)~~ all TSOs shall submit an amended ~~the~~ aFRRIF ~~shall be amended with~~including the common harmonisation proposal as an Annex 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;~~

(e) ~~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, in case justified harmonisation needs were identified;~~.~~

~~(g)~~(f) each relevant TSO shall implement the provisions on the harmonisation of Terms and Conditions for Balancing Service Providers according to Article 18(5) of the EB Regulation as set out in Annex I by proposing an amendment of the terms and conditions for BSPs to its relevant NRA where necessary no later than one (1) year after the relevant ACER decision.

Article 21
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 Articles 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. This description shall ensure that the interested public is able to understand the functioning of the algorithm. All TSOs shall keep this document updated.

Article 22
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.

Annex 1:

All TSOs Common Harmonisation Proposal

18 December 2025

Contents

Title 1
General provisions

Article 1
Subject matter and scope

1. The Terms & Conditions (T&Cs) for a Common Harmonisation Proposal (CHP) contains a framework for harmonisation of T&Cs related to Frequency Restoration Process (FRR) to be further specified following the process as defined in the Automatic Frequency Restoration Process (aFRR) Implementation Framework (IF) and Manual Frequency Restoration Process (mFRR) IF. Besides general provisions, it specifies six (6) areas for harmonisation:
    a. English Publication of T&Cs;
    b. Permission of English communication between TSOs and Balancing Service Providers (BSPs);
    c. Harmonisation of FRR Prequalification Process;
    d. Switching of reserve providing units (RPUs) between BSPs;
    e. Re-Prequalification; and
    f. Data exchange standards.
2. The provisions of this CHP shall apply to the setup of TSO-TSO model, where the BSP provides balancing services to its reserve connecting TSO.
3. Grid prequalification shall not be considered part of the FRR Prequalification Process. The reserve connecting TSOs or the DSO may require grid prequalification ahead of finishing or during the FRR Prequalification Process. The reserve connecting TSOs or the DSO may take into consideration extensions from grid prequalification.
4. TSOs may delegate all or part of any tasks under this IF to a third party. The reserve connecting TSO shall remain responsible for ensuring compliance with the obligations in this CHP. Such assignment shall be limited to tasks and obligations executed at national level. The limitations to the assignment should not lead to unnecessary changes to the existing national arrangements.

Article 2
Definitions and interpretation

1. Terms used in this document shall have the meaning of the definitions included in Article 2 of the Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing (EB Regulation), of the Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation (SO Regulation), of the Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management, of the Regulation (EU) 2019/943, of the Directive (EU) 2019/944 of 5 June 2019 on common rules for the internal market for electricity and of the Commission Regulation (EU) 543/2013 of 14 June 2013 on submission and publication of data in electricity markets.
2. In addition, unless the context requires otherwise, the following terms shall have the meaning below:

a. 'Activation test' means a test whereby the reserve connecting TSO sends an activation signal to ensure that the RPU or RPG is capable of being activated and meets the product requirements.
b. 'Ex-post verification' means the evaluation by the reserve connecting TSO of the ability of a RPU or RPG to provide the relevant service based on the monitoring activities according to the Article 158(5) of the SO Regulation.
c. 'Re-prequalification' means the reassessment of qualification as defined in Article 159(6) of the SO Regulation, if at least one of the conditions of Article 10 (1) is met.
d. 'Baseline' means a counterfactual reference about the electrical quantities that would have been withdrawn or injected if there had been no activation of any balancing services.
e. 'Baselining method' means the formula for the calculation of a specific baseline or the set of data constituting the specific baseline.
f. 'Controllable unit' or 'CU' means a single power-generating module and/or demand unit or an energy storage module, when these units or an ensemble of these units are located behind the same [metering] point and these units are commonly controlled.
g. "RPU" means a reserve providing unit as defined in Article 3(2)(10) of SO Regulation.
h. "RPG" means a reserve providing group as defined in Article 3(2)(11) of SO Regulation.

3. In this CHP, 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 the CHP; and
   c. any reference to legislation, regulations, directive, order, instrument, code or any other enactment shall include any modification, extension or re-enactment of it then in force.

Article 3
English Publication of Terms and Conditions

1. Each reserve connecting TSO shall, in addition to the version(s) as approved by the relevant NRA, publish a non-legally binding English version of T&Cs for BSPs established pursuant to Article 18(1)(a) of the EB Regulation. The English version shall be a full version of the T&Cs, but not-necessarily encompassing the links to other documents included in the translated version. The reserve connecting TSO shall publish the version in English via the ENTSO-E Transparency Platform, via the TSO's website and, if applicable, a joint-TSO website. Each relevant TSO shall keep the English version up-to-date.

Article 4
Permission of English communication between TSOs and BSPs

1. Each reserve connecting TSO shall allow written and verbal working-level communication in English between BSPs and TSOs. This requirement shall not apply to legally binding documents.

2. Communication with TSO's control room operators shall be in a national language, if not specified otherwise.

Title 2
Harmonisation of FRR Prequalification

Article 5
Harmonised FRR Prequalification Process

1. The prequalification process, pursuant to Article 159 of the SO Regulation, for a standard product for aFRR balancing energy, according to Article 25(1) of the EB Regulation, shall follow the Harmonised FRR Prequalification Process for RPUs and RPGs. The prequalification process for RPUs and RPGs connected to a DSO network shall take into account the provisions of Article 182 of SO Regulation.

2. The Harmonised FRR Prequalification Process shall be defined by the following mandatory steps:

    a. Application submission: Submission of an FRR prequalification application by the aspirant BSP to the reserve connecting TSO, providing an overview of the information relevant to the provision of the balancing service by the respective RPUs and RPGs. The application shall contain the information to be specified by the reserve connecting TSO in accordance with Article 7.

    b. Confirmation of application: The reserve connecting TSO shall confirm whether the application submitted in accordance with Article 5(2)(a) is complete within four (4) weeks of its submission. In exceptional cases, the reserve connecting TSO may extend the confirmation process up a maximum of eight (8) weeks in accordance with Article 159 of the SO Regulation and notify the extension to the aspirant BSP.

    c. Technical evaluation: Within 3 months after the reserve connecting TSO confirms the completion of the application according to Article 5(2)(b), the reserve connecting TSO, in coordination with the aspirant BSP, shall evaluate the technical characteristics of the application in comparison with the corresponding FRR requirements of Article 158 of the SO Regulation. The reserve connecting TSO shall then decide whether the RPUs or RPGs under prequalification meets the criteria for prequalification as established under Article 159 of the SO Regulation. During the technical evaluation, without prejudice to Article 5 (3), the reserve connecting TSO shall request that the BSP demonstrates by an activation test or an ex-post verification the ability of the RPU or RPG to provide the relevant balancing service. A communication test shall be carried out, within the technical evaluation timeline, according to Article 158(1)(e) of the SO Regulation, and may be included in the activation test. The reserve connecting TSO shall notify its decision to the BSP without undue delay. Upon notification by the reserve connecting TSO of a negative result of the technical evaluation, the BSP can be requested to repeat the activation

tests or provide supplementary information within the timeline established in Article 5 (4).

d. Approval of Prequalification: The reserve connecting TSO shall approve the prequalification of the RPU or RPG following the successful completion of the proceedings of Article 5(2)(c), respecting the timeline established under Article 5(4).

3. If the information provided under any of the steps referred to in Article 5(2) is deemed unsuitable for the requirements of the reserve connecting TSO, or is rejected by the reserve connecting TSO due to errors or missing information, the BSP shall be required to submit additional or corrected information to supplement the application. Upon notification by the TSOs, the BSP shall provide the additional or corrected information within four (4) weeks in accordance with Article 159(3) of the SO Regulation. The reserve connecting TSO shall assess within four (4) weeks the updated application. The connecting TSO shall consider the application as withdrawn if the BSP fails to submit all of the requested information within the provided deadline.

4. In the event of a negative result of the technical evaluation pursuant Article 5(2)(c), the reserve connecting TSO may grant an extension to the BSP to repeat the activation test. The BSP shall submit the requested supplementary information or perform the repeated activation test requested within four (4) weeks. The reserve connecting TSO shall assess the supplementary information or/and the requested activation test within four (4) weeks following its receipt. The total duration of the extension shall not exceed nine (9) months from the date of submission of the FRR prequalification application pursuant to Article 5(2)(a). After this period, the FRR prequalification request shall be considered withdrawn by the BSP in accordance with Article 11(2)(a).

5. Provided sufficient controls and penalties are in place to incentivise the BSP to ensure the reliability of the submitted bids, a reserve connecting TSO may foresee in the national T&C for BSP to approve the prequalification of the RPU or RPG without any activation test or ex post verification, as defined in Article 5(2)(c).
6. The National Regulatory Authority (NRA) may grant a derogation from the prequalification timeline of Article 5, in order to account for the operational specificities of a TSO.

Article 6
Ex-Post Verification

1. Following the process defined in Article 5(2)(a) and Article 5(2)(b), the reserve connecting TSO may apply ex-post verification as an alternative to the activation test according to Article 5(2)(c). Prequalification with an activation test shall be considered the standard process for prequalification of an RPU or RPG.
2. A reserve connecting TSO may allow for ex-post verification for RPUs or RPGs during the first time prequalification process mentioned in Article 5(2)(b), only for participation in the balancing energy market if provided by the national T&Cs for BSPs.
3. The reserve connecting TSO may allow for ex-post verification for RPU or RPGs in one or

more cases, for the balancing energy and capacity markets:

a. Switching between BSPs according to Article 8(1); or

b. Changing the RPU or RPG in accordance to Article 10(1)(a); or

c. Re-prequalifying at the end of the validity period in accordance to Article 10(1)(d); or

d. Prequalifying an identical RPU previously prequalified; or

e. Prequalifying a RPU with the same technology previously prequalified; or

f. Stipulating other cases, to be specified in the national T&Cs.

4. During ex-post verification, the RPU or RPG will have a temporary prequalification status. The temporary prequalification status will be given within the timelines of Article 6(5)(c) after the notification from the reserve connecting TSO of the start of the ex-post verification process as per Article 5(2)(c).
5. The reserve connecting TSO will conduct the ex-post verification of the RPU or RPG according to the below steps:
    a. The reserve connecting TSO will enable the RPU or RPG to participate in the corresponding market. The reserve connecting TSO may limit the volume of the RPU or RPG with temporary prequalification status participating in the market according to the reserve connecting TSO T&Cs.
    b. The reserve connecting TSO shall conduct its monitoring activities of the RPU or RPG according to the Article 158(5) of the SO Regulation after the temporary prequalification status is provided.
    c. If the ex-post verification is not finalised with a positive result within a maximum of three (3) months from the moment the temporary prequalification is issued by the reserve connecting TSO, an activation test shall be mandatory.
6. The reserve connecting TSO's T&Cs for BSPs shall further define:
    a. the verification criteria, including minimum timeframes according to the minimum requirements of the standard product;
    b. a minimum number of activations needed for ex post verification;
    c. minimum requirements regarding activation quality; and
    d. any additional requirements needed for the ex-post verification process.
7. The reserve connecting TSO may also request additional data from the BSP about the RPU or RPG, in case the reserve connecting TSO's monitoring is based on aggregated RPG data.
8. The National Regulatory Authority (NRA) may grant a derogation from ex-post verification timeline of Article 6 (5) in order to account for the operational specificities of a TSO.

Article 7
Application Submission requirements

1. The BSP shall submit the following information to the provision of the balancing service by

the respective RPUs or RPGs in their application submission to the reserve connecting TSOs:

a. The Controllable Unit (CU) information shall include the identifier of the CU, the technology type, and the control band positive/ negative and information connection point and DSO name if CU is connected to DSO grid.
b. The confirmation by BSP of compliance of RPU or RPG with the minimum technical requirements as stipulated in the Article 158 of SO Regulation and in the national T&C for BSPs.
c. The confirmation by BSP that the connecting DSO has been informed of the intent of the BSP to provide balancing services, if applicable.
d. The technical concept shall include baselining method(s), and State of Charge (SoC) management in case of RPUs and RPGs assessed as limited energy reservoirs (LERs) or energy storage according to national T&Cs.
e. The general communication requirements shall include a description of BSP and TSO communication.

2. The reserve connecting TSO may further request, by non-discriminatory treatment of the BSP, the below information to be submitted via the reserve connecting TSO respective means of submission:
    a. Fundamental BSP information that may describe the name of the BSP, the address of the company, the key contact person information, the operational contact and the settlement contact.
    b. The CU information details may further include the capacity, location of the CU, RPU/RPG owner and/or CU authorisation proof of legal title, activation dynamics, the measurement accuracy, power output, allocation point information, test reports or certificate, BSP certificate if it already exists, among other requirements based on each TSO's T&Cs.
    c. The Technical requirements may further include the delivery, market type participation, redundancy requirements, combined activation of different balancing services, primary commercial purpose, handling of possible compensation and rebound-effects, energy efficiency during negative balancing provision, among other requirements based on each TSOs' national T&Cs for BSPs.
    d. The general communication requirements may further include a description of exchange and processing of measurement data, data granularity, and archive requirements. Additional data items that are not currently foreseen, where such data is deemed necessary for technical evaluation or system security requirements.
3. The reserve connecting TSOs shall check whether these criteria are met according to Article 5(2)(c).

Article 8
Switching of Reserve Providing Units between Balancing Service Providers

1. After obtaining prequalification as defined in Article 5, RPUs may be switched between different BSPs under the same TSO while retaining their prequalification status, provided that the switching complies with the harmonised conditions set out below:

a. The communication infrastructure between BSP and RPUs of both the previous BSP and the new BSP shall be compatible;
b. The new BSP shall have a valid qualification status as defined by Article 16 of the EB Regulation;
c. The new BSP shall have demonstrated the ability to control an RPU of the same technology for the provision of the same service; and
d. The RPU switching between BSPs has a prequalified capacity less than the threshold defined in the reserve connecting TSO national T&Cs for BSPs.

2. In case of fulfilling all above-mentioned conditions, the reserve connecting TSO may perform an ex-post verification of the BSP's newly added RPU, as defined in Article 6.
3. In case of non-fulfilment of at least one condition of Article 8(1), the new BSP and the reserve connecting TSO, pursuant to Article 158(1)(e) of the SO Regulation, shall decide whether a prequalification process with activation test or ex-post verification is necessary. The timeframe shall be in accordance with Article 5(2) (c) and Article 6(5)(c).
4. The provisions of Article 7 shall remain valid for the process of switching.
5. In case the communication infrastructure between BSP and TSO has been modified to include additional data exchange, a communication test shall be conducted specifically for the newly implemented components either prior to applying the ex-post verification or as part of the activation test.
6. The switching of RPUs between BSPs, as mentioned in Article 8 (1), shall be carried out within six (6) weeks.
7. When an RPU switches from one BSP to another, the reserve connecting TSO shall determine the validity period of the prequalification status in a way that maximizes operational efficiency. This may involve retaining the validity period of the previous or adapting it to the validity period of the new RPG's prequalification status, aligned to the provisions of Article 159(6)(a), depending on which approach ensures the most efficient integration of the RPU.
8. A reserve connecting TSO may further define in the national T&Cs the process and conditions for switching RPGs from one BSP to another while retaining their prequalification status.
9. The National Regulatory Authority (NRA) may grant a derogation from the switching timeline of Article 8 (4), in order to account for the operational specificities of a TSO.

Article 9
Re-Prequalification notification and process

1. Subject to the applicable national T&Cs for BSPs, the BSP shall inform the reserve connecting TSO no later than six (6) weeks before the planned implementation date of any changes pursuant to Article 10(1) to their RPU or RPG via the reserve connecting TSO communication interface.
2. Subject to the applicable national T&Cs for BSPs, the reserve connecting TSO shall within four (4) weeks of receiving the notification pursuant to Article 9(1), assess whether re-

prequalification on RPU or RPG level pursuant to Article 10(1) is required. If re-prequalification is required, the reserve connecting TSO shall formally notify the BSP of this requirement, as established under Article 5(2)(c), specifying the scope of the reassessment. Alternatively, the TSO can provide an (API) interface that allows the BSP to query the duration of a prequalification independently. The reserve connecting TSO may limit the scope of the reassessment to evaluate specifically the changes to the RPU or RPG based on the conditions being triggered under Article 10(1). The reserve connecting TSO shall decide if an activation test or an ex-post verification shall be needed according to Article 5(2)(c) under the scope of the reassessment.

3. If a re-prequalification is required pursuant to Article 10(1)(a), the BSP shall be permitted to continue providing the relevant balancing service with the unaffected part of the RPU or RPG if the minimum requirements according to Article 158 of the SO Regulation are still met. The reserve connecting TSO may limit the process of re-prequalification of an RPG when identical RPUs are added to the existing RPG to the steps in Article 5(2)(a) and Article 5(2)(b). The reserve connecting TSOs may define limits to the volume of the RPUs being added to the existing RPG in the national T&Cs.

Article 10
Conditions for Re-Prequalification

1. A BSP shall notify according to Article 9(1) the reserve connecting TSO of the implementation of any changes to their RPU or RPG upon which the reserve connecting TSO may request re-prequalification pursuant to Article 9, if at least one of the following conditions are met:
    a. The prequalified or verified capacity of the RPU or RPG changes by more than ten percent (10%) or three (3) megawatts (MW), whichever is lower, and at least 0.5 MW, compared to the prequalified capacity confirmed in the most recent prequalification;
    b. The BSP replaces or modifies the ICT system controlling the RPU or RPG in a way that may materially affect the technical performance, reliability, or efficiency of the service. The reserve connecting TSO shall define what counts as a significant modification in the national T&Cs. The BSP shall inform the reserve connecting TSO about any change in its ICT system with potential effect on the reliability and efficiency of its service provision. The reserve connecting TSO shall have the right to require the re-performance of a communication test, in accordance with Article 158(1)(e) of the SO Regulation, when the reliability of the service provision due to a significant change in the ICT system may be compromised, if defined in the national T&Cs for BSPs;
    c. Information pursuant to Article 7(1) and Article 7(2) is no longer valid;
    ~~a.~~d. The last prequalification occurred more than five (5) years ago, or the RPU or RPG has not delivered the corresponding service in line with the service requirements of Article 158 of the SO Regulation to its reserve connecting TSO within the last twelve (12) months. If the RPU or RPG has delivered the corresponding service, the RPU or RPG may continue services without undergoing a new activation test or ex-post verification. If the reserve connecting TSO does not have the information of the service provision on

RPU or RPG level, the reserve connecting TSO can request activation tests or a confirmation according to Article 7(1)(b) from the BSP as part of the re-prequalification with the aim of assessing compliance with the requirements on RPU and RPG level;

e. Modifies an existing RPU or RPG with CUs that use a different technology compared to the RPUs or RPGs already prequalified.

f. Further conditions may be defined in national T&C as far as duly justified and approved by the competent NRA(s).

2. The reserve connecting TSO may request a re-prequalification of a RPU or RPG if the respective RPU or RPG no longer complies with the technical service requirements under Article 158 of the SO Regulation, or causes a detrimental impact on system operation, or the situation in accordance with Article 11(1)(a) takes place. The relevant re-prequalification process will be limited to the TSOs' detected issue of the respective RPU or RPG. The reserve connecting TSO may further do an activation test to a RPU or RPG in order to maintain system security and ensure service reliability ahead of a request for re-prequalification.

Article 11
Termination of prequalification status or prequalification and re-prequalification process

1. The reserve connecting TSO may terminate the prequalification status of a RPU or RPG if one of the following conditions takes place:
    a. BSP did not deliver the corresponding service on RPU or RPG level to its reserve connecting TSO, in line with the service requirements of Article 158 of the SO Regulation or/and in line with the national T&Cs. The reserve connecting TSO may contact the BSP requiring improvement. If the BSP does not show improvement to the standards of the service requirements according to Article 158 of the SO Regulation or/and in line with the national T&Cs within three (3) months or five (5) representative activations, the condition for termination shall be deemed fulfilled; or
    b. the condition of Article 10(2) is triggered.
2. The reserve connecting TSO will consider any prequalification or re-prequalification process as withdrawn by the BSP if one of the following conditions takes place:
    a. the BSP does not finalise the prequalification or re-prequalification process pursuant to the timelines set out in Article 5 and Article 9; or
    b. the FRR qualification process takes longer than the TSO derogation to repeat the activation test according to Article 5(5).

Title 3
IT Harmonisation

Article 12
Data exchange standards

1. By 18 months after the approval of this proposal, ENTSO-E shall define and publish a list of European data exchange standards based on ETSI-CEN-CENELEC set of standards, with one standard defined per relevant data exchange used in the interactions between TSOs and balancing service providers with regard to standard balancing products excluding operational real-time data exchange. Such standards shall focus on market access, marked-based procurement, non-real-time activation, and settlement, and should take into account specificities of the central dispatch model.
2. By 24 months after the publication of the list referred to in Article 12(1) of this Annex, each reserve connecting TSO shall implement the use of the European data exchange standards. Data exchange standards already implemented at the national level may continue to be applied. This implementation may be in addition to existing data exchange interfaces.

Title 4
Final provisions

Article 13
Language

1. The reference language for this CHP shall be English. For the avoidance of doubt, where TSOs need to translate this CHP 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, in accordance with national legislation, provide the relevant national regulatory authorities with an updated translation of the CHP.