

METHODOLOGY FOR A HARMONISED ALLOCATION PROCESS OF CROSS-ZONAL CAPACITY FOR THE EXCHANGE OF BALANCING CAPACITY OR SHARING OF RESERVES PER TIMEFRAME

All TSOs proposal to harmonise the methodology for the allocation processes of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves per timeframe in accordance with Article 38(3) of the Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing

[For Consultation]

29 June – 29 August 2022

DISCLAIMER

This document is released on behalf of the all transmission system operators (“TSOs”) only for the purposes of the public consultation on the proposal for methodology for a harmonised allocation process of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves per timeframe (hereafter referred to as “methodology for a harmonised allocation process per timeframe”) in accordance with Article 38(3) of the Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing (“EB Regulation”). This version of the methodology for a harmonised allocation process per timeframe does not, in any case, represent a firm, binding or definitive TSOs’ position on the content.

Contents

Whereas	3
TITLE 1 General provisions	6
Article 1 Subject matter and scope	6
Article 2 Definitions	7
Article 3 Economic Surplus	9
Article 4 Principles on the processes of allocating cross-zonal capacity for the exchange of balancing capacity or sharing of reserves	9
Article 5 Notification process for applying cross-zonal capacity allocation for the exchange of balancing capacity or sharing of reserves	11
TITLE 2 Methodology for the co-optimised allocation process	11
Article 6 The market timeframes of the co-optimised allocation process	11
Article 7 The process to define the maximum volume of allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves for the co-optimised allocation process	14
Article 8 Determination of the actual market value of cross-zonal capacity for the exchange of energy in SDAC for the co-optimised allocation process	14
Article 9 Determination of the actual market value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves in the co-optimised allocation process	15
Article 10 Determination of the allocated volume of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves for the co-optimised allocation process	15
TITLE 3 Methodology for the inverted market-based allocation process	16
Article 11 Governance Structure of inverted market-based allocation	16
Article 12 The market timeframes of the inverted market-based allocation	16
Article 13 The process to define the maximum volume of allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves for the timeframes of inverted market-based allocation	18
Article 14 Determination of the actual market value of cross-zonal capacity for the exchange of energy in SDAC for the timeframes of inverted market-based allocation	20
Article 15 Determination of the forecasted market value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves for the timeframes of inverted market-based allocation	20
Article 16 Determination of the allocated volume of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves for the timeframes of inverted market-based allocation	21
Article 17 Determination of the allocated volume of cross-zonal capacity for the exchange of energy for the timeframes of inverted market-based allocation	23
TITLE 4 Methodology for the market-based allocation process	24
Article 18 The market timeframes of the market-based allocation	24
Article 19 The process to define the maximum volume of allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves for the timeframes of market-based allocation	26

Article 20 Determination of the forecasted market value of cross-zonal capacity for the exchange of energy for the timeframes of market-based allocation	27
Article 21 Determination of the actual market value of cross-zonal capacity for the exchange of balancing capacity and sharing of reserves for the timeframes of market-based allocation.....	29
Article 22 Determination of the allocated volume of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves for the timeframes of market-based allocation.....	30
TITLE 5 Provisions on cross-zonal capacity	31
Article 23 Firmness regime for the allocation of cross-zonal capacity	31
Article 24 Pricing of cross-zonal capacity	31
Article 25 Sharing of congestion income from cross-zonal capacity.....	33
TITLE 6 Final provisions.....	33
Article 26 Publication of Information	33
Article 27 Implementation timeline.....	35
Article 28 Publication.....	37
Article 29 Language	37

All TSOs, taking into account the following:

Whereas

- (1) This document sets out the methodology for a harmonised allocation process of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves per timeframe (hereafter referred to as “methodology for a harmonised allocation process per timeframe”) in accordance with Article 38(3) of Commission Regulation (EU) 2017/2195 establishing a guideline on electricity balancing (hereafter referred to as “EB Regulation”).
- (2) The methodology for a harmonised allocation process per timeframe takes into account the general principles and goals set in the
 - a) EB Regulation;
 - b) the Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation (hereafter referred to as the “SO Regulation”);
 - c) Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management (hereafter referred to as the “CACM Regulation”);
 - d) as well as Regulation (EU) 2019/943 of the European Parliament and of Council of 5 June 2019 on the Internal Market for Electricity (recast) (hereafter referred to as the “Electricity Regulation”);
 - e) as well as Commission Regulation (EC) No 543/2013 of 14 June 2013 on submission and publication of data in electricity markets; and amending Annex I to Regulation (EC) No 714/2009 of the European Parliament and the Council (hereafter referred to as the “Transparency Regulation”).

- (3) The Transmission System Operators (hereafter referred to as the “TSOs”) that intend to allocate cross-zonal capacity for the exchange of balancing capacity or sharing of reserves shall develop common and harmonised rules and processes in relation to this allocation in accordance with Article 33 of the EB Regulation. To secure this exchange of balancing capacity, the TSOs shall submit an application proposal in accordance with Article 38(1) of the EB Regulation to allocate cross-zonal capacity across market timeframes using this Harmonised Methodology according to Article 38(3).
- (4) This methodology for a harmonised allocation process per timeframe includes the cross-zonal capacity allocation processes of Article 40 and 41 of the EB Regulation consisting of cross-border procurement processes organised day D-1 pursuant to Art. 6.9 of Electricity Regulation.
- (5) This methodology for a harmonised allocation process per timeframe serves the objectives stated in Article 3 of the EB Regulation. In particular:
 - (a) The methodology for a harmonised allocation process per timeframe fosters effective competition in case of cross-border balancing capacity markets, non-discrimination and transparency pursuant to Article 3(1)(a) of the EB Regulation by defining the principles on the harmonised allocation process per timeframe and how to notify all relevant stakeholders in case of applications as described in Articles 3 and 4 of this methodology for a harmonised allocation process per timeframe;
 - (b) The methodology for a harmonised allocation process per timeframe facilitates the integration of the balancing capacity markets and enables for the exchanges of balancing services based on market-based mechanisms and ensuring operational security as stated in Article 3(1)(c) and Article 3(2)(d) of the EB Regulation. This is ensured by defining harmonised rules for the cross-border procurement of the balancing capacity, through the allocation of cross-zonal capacity for the balancing capacity market taking into account the impact of the allocation of cross-zonal capacity for the exchange of balancing capacity or the sharing of reserves on the day-ahead energy market;
 - (c) The methodology for a harmonised allocation process per timeframe does not compromise the development of the day-ahead market in accordance with Article 3(2)(e) of the EB Regulation as it specifies in Articles 5 to 9 how the co-optimised allocation process shall be effectively integrated in the single day-ahead coupling (hereafter referred to as “SDAC”) process;
 - (d) The methodology for a harmonised allocation process per timeframe ensures that the procurement of balancing services is performed in a fair, non-discriminatory, objective, transparent way and uses the market-based mechanisms as stated in Article 3(1)(e) of the EB Regulation. Therefore, the Articles 7, 8, 9, 12, 13, 14, 17, 18, and 19 of this methodology for a harmonised allocation process per timeframe set harmonised requirements on how the market value and volume, as well as the offered volumes and prices of bids from Standard Balancing Capacity Products (“SBCP”) in both directions are determined;
 - (e) The methodology for a harmonised allocation process per timeframe respects the responsibility assigned to the relevant TSOs in order to ensure system security, including as required by national legislation, in accordance with Article 3(2)(f) of the EB Regulation by taking into account the maximum limitations for the application of a harmonised allocation process per timeframe as defined in Articles 6, 11 and 16 of this methodology for a harmonised allocation process per timeframe following the provisions of SO Regulation and EB Regulation;

- (f) The methodology for a harmonised allocation process per timeframe considers agreed European standards in accordance with Article 3(2)(h) of EB Regulation such as the single day-ahead market time unit defined within the CACM Regulation and the optimisation resolution from the market coupling operator function (hereafter referred to as “MCO function”), as specified in Articles 3, 5, 7, 8 and 9 of this methodology for a harmonised allocation process per timeframe;
- (g) The methodology for a harmonised allocation process per timeframe enhances efficiency of balancing as well as efficiency of European in a cross-border setting in accordance with Article 3(1)(b) of the EB Regulation by establishing a harmonised process for the allocation of cross-zonal capacity for the exchange of balancing capacity or the sharing of reserves which aims to optimise the total economic surplus of both, SDAC and balancing capacity procurement, leading to a more economical efficient procurement of balancing capacities in the day-ahead timeframe;
- (h) The methodology for a harmonised allocation process per timeframe contributes to the efficient long-term operation and development of the electricity transmission system and electricity sector in the European Union, while facilitating the efficient and consistent functioning of day-ahead, intraday and balancing capacity markets in accordance with Article 3(1)(d) of the EB Regulation by aiming at a more efficient use of available day-ahead cross-zonal capacities. This will be provided by taking into account the economic surplus of SDAC and balancing capacity procurement at a day-ahead timeframe, as specified in Articles 7, 8 and 9 of this methodology for a harmonised allocation process per timeframe;
- (i) All TSOs consider that the methodology for a harmonised allocation process per timeframe does not negatively impact the objectives in accordance with Article 3(1)(f) and (g) and (2)(a), (b), (c) and (g) of the EB Regulation.

In conclusion, the methodology for a harmonised allocation process per timeframe contributes to the general objectives of the EB Regulation to the benefit of all market participants and electricity end consumers.

- (7) Each application of this methodology for a harmonised allocation process per timeframe shall be compliant with Title 1, Title 5, and Title 6 of this methodology. Each application pursuant to Article 38(1) of EB Regulation applying the methodology for a harmonised allocation process per timeframe shall choose one allocation process for each SBCP in each direction it intends to exchange or share according to the provisions in either Title 2, Title 3, or Title 4.
- (8) Article 38(3) of the EB Regulation requires all TSOs to develop the methodology for a harmonised allocation process per timeframe. The TSOs who are responsible for the development of the proposal and for its submission to ACER are the following:: APG - Austrian Power Grid AG, VÜEN-Vorarlberger Übertragungsnetz GmbH, Baltic Cable AB, Elia - Elia Transmission Belgium S.A., ESO – Electroenergien Sistemen Operator EAD, HOPS - Croatian Transmission System Operator Ltd, ČEPS - ČEPS, a.s., Energinet - Energinet, Elering - Elering AS, Fingrid - Fingrid OyJ, Kraftnät Åland Ab, RTE - Réseau de Transport d'Electricité, S.A, Amprion - Amprion GmbH, TransnetBW -TransnetBW GmbH, TenneT GER - TenneT TSO GmbH, 50Hertz - 50Hertz Transmission GmbH, IPTO - Independent Power Transmission Op-erator S.A., MAVIR ZRt. - MAVIR Magyar Villamosenergia-ipari Átviteli Rendszerirányító Zártkörűen Működő Részvénytársaság ZRt., EirGrid - EirGrid plc, Terna - Terna SpA, Augstsprieguma tīkls - AS Augstsprieguma tīkls, LITGRID - LITGRID AB, CREOS Luxembourg - CREOS Luxembourg S.A., TenneT TSO - TenneT TSO B.V., PSE – Polskie Sieci Elektroenergetyczne

S.A., REN - Rede Eléctrica Nacional, S.A., Tranelectrica - C.N. Tranelectrica S.A., SEPS - Slovenská elektrizačná prenosová sústava, a.s., ELES - ELES,d.o.o, REE - Red Eléctrica de España S.A.U, Svenska Kraftnät - Affärsverket Svenska Kraftnät, SONI System Operator for Northern Ireland Ltd.

SUBMIT THE FOLLOWING PROPOSAL FOR the methodology for a harmonised allocation process per timeframe TO ACER

TITLE 1

General provisions

Article 1

Subject matter and scope

- (1) This methodology for a harmonised allocation process per timeframe specifies how to allocate cross-zonal capacity for the exchange of balancing capacity or sharing of reserves,
 - (a) for the market timeframes of co-optimised allocation, which is based on the actual market values of cross-zonal capacity for the exchange of energy and for the exchange of balancing capacity or sharing of reserves in accordance with Article 40 of the EB Regulation;
 - (b) for the market timeframes of market-based allocation, which are based on either the forecasted market value of cross-zonal capacity for the exchange of energy and the actual market value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves (hereinafter referred to as “market-based allocation”) or the actual market value of cross-zonal capacity for the exchange of energy and the forecasted market value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves (hereinafter referred to as “inverted market-based allocation”) in accordance with Article 41 of the EB Regulation.
- (2) The application of a CZC allocation process as part of this Harmonised Methodology may be developed by one or more TSO(s) at their own initiative or at the request of their relevant national regulatory authorities in accordance with Article 38(1) of the EB Regulation.
- (3) One or more TSO(s) exchanging balancing capacity or sharing reserves being part of an application shall use a common and harmonised set of rules and processes for the exchange and procurement of balancing capacity in accordance with Article 33 of the EB Regulation and respecting the requirements set out in Article 32 of the EB Regulation.
- (4) A TSO applying a central dispatching model and applying one of the harmonised allocation processes per timeframe shall convert, as far as possible, the integrated scheduling process bids into standard balancing capacity product bids, pursuant to Article 27(3) of the EB Regulation. In this case, each reference to the standard balancing capacity bids in this methodology for a harmonised allocation process per timeframe shall be understood for this TSO as a reference to the integrated scheduling process bids converted into standard balancing capacity bids.

Article 2

Definitions

- (1) For the purposes of this methodology for a harmonised allocation process per timeframe, the terms used shall have the meaning given to them in Article 2 of the EB Regulation, Article 2 of the Transparency Regulation, Article 2 of the CACM Regulation, Article 3 of the SO Regulation and Article 2 of the EB Regulation. Regulation (EC) 943/2019, Commission Regulation (EU) No 543/2013 of 14 June 2013 on submission and publication of data in electricity markets and amending Annex I to Regulation (EC) No 714/2009 of the European Parliament and of the Council (hereafter referred to as "Transparency Regulation") and Directive 944/2019.
- (2) The following definitions shall also apply:
 - (a) "Application" means one or more TSOs applying one cross-zonal capacity allocation process for the exchange of balancing capacity and/or sharing of reserves of a certain SBCP.. The application shall be subject to an approved methodology of Article 38(1) of EB Regulation.
 - (b) "Forecast adjustment" means correction of the order books of the applied reference day per bidding zone in order to improve the accuracy of the forecasted market value of cross-zonal capacity for the exchange of energy;
 - (c) 'Data aggregating interface' means a tool which collects all standard balancing capacity bids, TSOs' balancing capacity demand ("TSOs' BC demand"), day-ahead market bids (for market-based allocation of the applied reference day per bidding zone), available cross-zonal capacities, and if relevant limitations for the exchange of balancing capacity and sharing of reserves. For the co-optimised allocation process the data aggregating interface shall connect the SBCP bids and the day-ahead market bids in case of cross-product linking. All data shall be aggregated by the data aggregating interface and it shall forward the relevant information to the cross-zonal capacity allocation optimisation function. There shall be one single data aggregating interface per CZCAOF;
 - (d) 'Data disaggregating interface' means a tool that collects all relevant outputs from the cross-zonal capacity allocation optimisation function and communicates the relevant outputs to each TSO, and for the market-based allocation to the day-ahead capacity calculation process per CCR. There shall be one single data disaggregating interface per cross-zonal capacity allocation optimisation function ("CZCAOF");
 - (e) 'Cross-zonal capacity allocation optimisation function' means the functionality that determines the allocation of cross-zonal capacity for the exchange of energy and for the exchange of balancing capacity or sharing of reserves, and for the market timeframes of the co-optimised allocation process and the market-based allocation process, the cross-zonal capacity allocation optimisation function shall determine the marginal clearing prices and volumes of balancing capacity for each TSO of the application;
 - (f) 'Economic surplus from the exchange of balancing capacity or sharing of reserves' means the sum for the relevant time period of (i) the TSOs' surplus for the exchange of balancing capacity or sharing of reserves, (ii) the balancing service providers' surplus for the exchange of balancing capacity or sharing of reserves, and (iii) the congestion income.

- (g) ‘Inverted market-based allocation’ means the process of market-based allocation in which the actual market value of cross-zonal capacity for the exchange of energy is compared with the forecasted market value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves;
 - (h) ‘Forecast error 1’ is the deviation of the market value in percent per day-ahead market time unit of the applied reference day from a default reference day of the applied forecasted market value of cross-zonal capacity for the single day ahead coupling when applying the market-based allocation and for the exchange of balancing capacity or sharing of balancing reserves when applying the inverted market-based allocation;
 - (i) ‘Forecast error 2’ is the deviation of the adjusted market value and the market value of the applied reference day in percent per day-ahead market time unit of cross-zonal capacity for the single day ahead coupling when applying the market-based allocation and for the exchange of balancing capacity or sharing of balancing reserves when applying the inverted market-based allocation;
 - (j) ‘Forecast error 3’ is the deviation of the adjusted market value of the applied reference day from the actual market value in percent per day-ahead market time unit for the exchange of energy when applying the market-based allocation (‘positive forecast error’) and for the single day ahead coupling when applying the inverted market-based allocation (‘negative forecast error’);
 - (k) ‘Reference day’ means the day which is used to define the forecasted market value of cross-zonal capacity for the exchange of energy for the timeframes of the market-based allocation approach or to define the forecasted market value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves for the timeframes of the inverted market-based allocation approach; ‘TSO BC demand’ means the balancing capacity volume to be procured for own purposes resulting from the TSO’s dimensioning process within the scope of the methodology pursuant to Article 33(1) of the EB Regulation and defined per control area and bidding zone in accordance with Article 32(1) of the EB Regulation;
 - (l) ‘TSO BC sensitive demand’ means a part of the TSO BC demand defined by the respective TSO to be volume sensitive for the purpose of reserve sharing, bid indivisibility, and substitution of reserves for cost minimisation and volume shortage;
 - (m) ‘TSO procurement volume’ means the balancing capacity volume to be procured by the respective TSO in its own area determined by the cross-zonal capacity allocation optimisation function.
- (3) In this methodology for a harmonised allocation process per timeframe, unless the context clearly indicates otherwise:
- (a) the singular also includes 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 methodology for a harmonised allocation process per timeframe;
 - (c) 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
 - (d) any reference to an Article without an indication of the document shall mean a reference to this methodology for a harmonised allocation process per timeframe.

Article 3

Economic Surplus

- (1) The Economic Surplus of a balancing capacity market shall be the sum of the surplus of balancing service providers, the surplus for TSOs for the exchange of balancing capacity and the surplus from congestion income.
- (2) The Surplus for balancing service providers shall be the difference between the price of the accepted bids and the clearing price multiplied by the accepted capacity volume of TSO BC demand.
- (3) The Surplus for TSOs for the exchange of balancing capacity shall be the difference between the maximum possible clearing price and the actual clearing price multiplied by the volume of TSOs' BC demand.
- (4) The Surplus from congestion income shall be the price of cross-zonal capacity as determined by Article 21 of this methodology multiplied with the allocated volume of cross-zonal capacity.

Article 4

Principles on the processes of allocating cross-zonal capacity for the exchange of balancing capacity or sharing of reserves

- (1) The contracting period of bids of SBCP in each direction for all market timeframes exchanged with an application of this methodology for a harmonised allocation process per timeframe shall be equal to or a multiple of the day-ahead market time unit and not more than one (1) day
- (2) The validity period of bids of SBCP in both directions for each application of this methodology for a harmonised allocation process applying the market timeframes of co-optimised allocation and the inverted-market based allocation shall be equal to the day-ahead market time unit.
- (3) Where the market timeframes of co-optimised allocation process and inverted market-based allocation of this methodology for a harmonised allocation process per timeframe is applied for the allocation of cross-zonal capacity for the exchange of balancing capacity and if relevant in combination with sharing of reserves, the settlement of the bids of SBCP in both directions between TSOs and the balancing service providers (hereafter referred to as "BSPs") shall be based on cross-zonal marginal pricing (pay-as-cleared).
- (4) The maximum price of each bid of SBCP in both directions shall be equal to the maximum day-ahead market bid price for SDAC, both following Article 41(1) of Commission Regulation (EU) 2015/1222 of 24 July 2015. The pricing scheme shall be the same for each TSO of the application using an allocation process as defined in this methodology.
- (5) For each process mentioned in Article 1(1) of this methodology and each SBCP in any direction per timeframe, one single gate closure time for BSPs submitting bids of SBCP in each direction to their respective connecting TSOs shall be applied by TSOs applying this methodology for a harmonised allocation process per timeframe, taking into account time zone differences, such that one gate closure time applies to all BSPs connected to a TSO applying this methodology for a harmonised allocation process per timeframe.
- (6) Cross-zonal capacities allocated by the cross-zonal capacity allocation optimisation function per timeframe for the exchange of balancing capacity or sharing of reserves from a harmonised allocation

- process per timeframe shall be provided by the TSOs applying the relevant allocation process to the capacity management of the balancing platforms exclusively for the product they were allocated for.
- (7) Cross-zonal capacities allocated by the cross-zonal capacity allocation optimisation function for the exchange of balancing capacity or sharing of reserves from a harmonised allocation process per timeframe shall be provided by each TSOs of the application as an input to the respective balancing platform pursuant to Articles 19 to 21 of the EB Regulation, exclusively for the SBCP in the direction they were allocated for.
 - (8) The cross-zonal capacities allocated for the exchange of balancing capacity or sharing of reserves that have not been used for the associated exchange of balancing energy shall be released for the exchange of balancing energy with shorter activation times or for operating the imbalance netting process in accordance with Article 38(9) of the EB Regulation.
 - (9) The process of releasing allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves in accordance with Article 10(2) shall be coordinated between the balancing energy platforms and the capacity management of the balancing platforms pursuant to Articles 19 to 21 of the EB Regulation.
 - (10) Each TSO shall not put a price on its TSO BC demand for the purpose of the exchange of balancing capacity or sharing of reserves applying this methodology for a harmonised allocation process per timeframe.
 - (11) Each TSO may link its TSO BC demand across the different products for the purpose of substitution of reserves for volume shortage and cost minimisation applying this methodology for a harmonised allocation process per timeframe.
 - (12) In case applications procure cross-border two or three SBCPs of the same direction, cross-product linked bids of SBCPs may be submitted by the BSPs. The common CPOF of the respective applications shall match the cross-product linked bids per balancing capacity market according to multilateral linking, such that the bids of SBCPs are placed in the specific balancing capacity market where it minimises the overall procurement costs of all TSOs combined pursuant to Art. 58(3)(a) of EB Regulation.
 - (13) For each application using an allocation process as defined in this methodology where the TSO BC demand for a SBCP exceeds the available amount of bids in all bidding zones of the application for the relevant SBCP, while taking into account the maximum volume of allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves, a fallback procedure shall apply. Such a fallback procedure shall be described by the applicant TSOs in the proposal pursuant to Article 33(1) of the EB Regulation. If a TSO BC demand for a SBCP per bidding zone exceeds the available amount of locally submitted bids in the bidding zone for the respective SBCP, but the fallback procedure is not required, the cross-zonal capacity allocation process shall be performed. In order to calculate the change of economic surplus from the exchange of balancing capacity or sharing of reserves in such a case, the price equal to the maximum bid price of SBCP according to Article 4(4) shall be used as a fictional clearing price in case of insufficient local bids.

Article 5

Notification process for applying cross-zonal capacity allocation for the exchange of balancing capacity or sharing of reserves

- (1) Each TSO intending to apply any timeframe of this methodology for a harmonised allocation process shall notify TSOs of the same synchronous area three (3) months prior to entering into operation in accordance with Article 150 of the SO Regulation and inform all stakeholders and all TSOs through an announcement on the ENTSO-E website, at least three (3) months prior to entering into operation.

The announcement to be published on the ENTSO-E website shall include:

- a) the TSOs applying this methodology for a harmonised allocation process per relevant timeframe;
- b) the expected date to enter into operation for the exchange of balancing capacity and/or sharing of reserves pursuant to Article 33(1) of the EB Regulation with the harmonised allocation process per timeframe;
- c) the detailed description of the specifications, including the applied timeframe, in accordance with EB Regulation Article 38(2);
- d) the maximum volume of allocated cross-zonal capacity for exchange of balancing capacity as defined pursuant to Article 6; and
- e) the type and direction of the SBCP which will be exchanged or shared.

TITLE 2

Methodology for the co-optimised allocation process

Article 6

The market timeframes of the co-optimised allocation process

- (1) The co-optimised cross-zonal allocation process for allocating cross-zonal capacity for the exchange of balancing capacity and sharing of reserves shall comply to the following consecutive timings:
 - (a) The BSP-TSO gate closure time for the submission of all bids of SBCP in both directions and the TSO BC demand shall be equal to the single day-ahead coupling gate closure time pursuant to Article 47(2) of the CACM Regulation.
 - (b) For TSOs applying a central dispatching model and applying co-optimised cross-zonal allocation, the gate closure time for the submission of the integrated scheduling process bids that are converted to the bids of SBCP in both directions shall be defined in the national terms and conditions pursuant to Articles 24(5) and 24(6) of the EB Regulation.
 - (c) Notification to BSPs of selected standard balancing capacity bids shall be made no later than fifteen (15) minutes after the publication of SDAC results.
- (2) The co-optimised cross-zonal allocation process for allocating cross-zonal capacity for the exchange of balancing capacity and for sharing of reserves shall include the following consecutive steps:

- (a) bids of SBCP in positive and or negative direction, bids of SBCP in positive and or negative direction linked to bids of SBCP in positive and or negative direction of different quality, bids of SBCP in positive and or negative direction cross-product linked to day-ahead market bids, and the TSO BC demand shall be submitted by TSOs to the respective data aggregating interface. Cross-product linked bids between SBCP and day-ahead market bids shall in any case be understood as unilateral cross-product linking of bids from SBCP bids to day-ahead market in case the price of a SBCP is above the clearing price of the respective balancing capacity market and never in opposite direction.
- (b) For TSOs applying a central dispatching model and applying co-optimised cross-zonal allocation, BSPs may submit only integrated scheduling process bids (instead of bids of SBCP in either direction), which shall be converted, as far as possible, into bids of SBCP in the corresponding direction by the respective TSO in accordance with Article 27 of the EB Regulation. These converted bids shall be submitted by TSOs in accordance with paragraph (a).
- (c) After the gate closure time pursuant to Paragraph 1(a), the data aggregating interface of the co-optimised allocation process shall convert the bids into a merit order list per bidding zone for the exchange of balancing capacity or sharing of reserves.
- (d) The data aggregating interface of the co-optimised allocation process shall send to the Market Coupling Operator (MCO) which operates the cross-zonal capacity allocation optimisation function, per product, per direction and per bidding zone:
 - i. the aggregated merit order lists for the respective bids of SBCP of positive and or negative direction;
 - ii. cross-product linking codes between SBCP and between SBCP and day-ahead market bids, if any,
 - iii. the TSOs' BC demand for the respective bids of SBCP of positive and or negative direction;
 - iv. the TSOs' volume sensitive BC demand;
 - v. the tolerance band for the reduced TSO BC demand dependent on the available cross-zonal capacities, based on sharing of reserves agreement of two or more TSOs to be applied with the co-optimised allocation process;
 - vi. the minimum local reserve requirements, if any;
 - vii. additional cross-zonal capacity allocation limitations in accordance with Article 7, if any; and
 - viii. the TSOs' minimum and maximum procurement volumes of balancing capacity per product per direction according to Article 167 of SO Regulation;
 - ix. the TSO's maximum volume of balancing capacity to be exchanged with each participating TSO within the application of the co-optimised allocation timeframe;
- (e) The deadline for sending the data of Article 6(2)(d) equals the deadline for sending the aggregated supply and demand curves of the day-ahead market bids.

- (f) The cross-zonal capacity allocation optimisation function shall determine the cross-zonal capacity allocated to the exchange of balancing capacity and/or sharing of reserves by maximising the social welfare of the day-ahead market and the balancing capacity market combined and shall decide on the placement of cross-product linked bids between SBCP and day-ahead market bids.
- (g) The cross-zonal capacity allocation optimisation function shall determine for each bidding zone the procurement volumes and marginal clearing prices of each SBCP per direction.
- (h) The MCO shall send the results to the data disaggregating interface.
- (i) TSOs shall send the allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves and the procurement volumes and the relevant marginal clearing prices of the balancing capacity markets to each TSO applying the co-optimised allocation process.
- (j) TSOs shall send the allocated volumes of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves to all relevant CCRs and all relevant TSOs for the purpose of:
 - (i) the intra-day capacity calculation;
 - (ii) capacity calculation in the balancing timeframe; and
 - (iii) Regional Operational Security Coordination.
- (k) TSOs of each application of this methodology for the timeframes of co-optimised allocation shall procure the balancing capacity bids from the BSPs without any discrepancies to the outputs of the cross-zonal capacity allocation optimisation function pursuant to Article 33(3) of the EB Regulation. TSOs applying a central dispatching model and applying co-optimised cross-zonal allocation shall convert as far as possible the outputs of the cross-zonal capacity allocation optimisation function to the outputs of integrated scheduling process and procure bids according to this results
- (l) TSOs of each application of this methodology for the timeframes of co-optimised allocation shall notify the capacity management of the balancing platforms about the allocated cross-zonal capacity volumes of each bidding zone border, for each SBCP in each direction, pursuant to Article 4(7).
- (m) TSOs of each application of this methodology for the timeframes of co-optimised allocation shall notify the respective balancing energy platforms, pursuant to Articles 19, 20 and 21 of the EB Regulation, about the volumes of allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves on each bidding zone border, for each SBCP and direction, pursuant to Article 4(8).
- (n) TSOs of each application of this methodology for the timeframes of co-optimised allocation shall send to the relevant process of day-ahead congestion income, the balancing capacity market prices per bidding zone and the allocated cross-zonal capacity volumes for each SBCP in each direction per bidding zone border.
- (o) If after the procurement process of balancing capacity, cross-zonal capacity that was previously allocated to the exchange of balancing capacity or sharing of reserves is not needed, the not needed cross-zonal capacity shall be released without undue delay for its use in the Intraday Market timeframe.

Article 7

The process to define the maximum volume of allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves for the co-optimised allocation process

- (1) In accordance with the requirements laid down in Article 40(1)(d) of the EB Regulation, the process to define the maximum volume of allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves for the cross-zonal capacity allocation optimisation function shall be as follows:
 - (a) by default, the maximum volume of allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves for the cross-zonal capacity allocation optimisation function shall be equal to the available cross-zonal capacity; or
 - (b) TSOs jointly applying one CZC allocation process may propose to apply additional limits for the maximum volume of allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves. These additional limits shall be justified with respect to the objectives set out in Article 3 of the EB Regulation and Article 3 of Electricity Regulation and, in particular, ensure effective competition, non-discrimination and transparency in balancing capacity markets.
- (2) The exchange of balancing capacity or sharing of reserves as determined by the cross-zonal capacity allocation optimisation function shall, in addition to the limits defined in accordance with Article 7(1), be limited also by the provisions for the exchange of FRR and RR in Article 157(2)(g), Article 167 and Article 169 of the SO Regulation.

Article 8

Determination of the actual market value of cross-zonal capacity for the exchange of energy in SDAC for the co-optimised allocation process

- (1) The actual market value of cross-zonal capacity for the exchange of energy shall be:
 - (a) equal to the change of economic surplus based on the change of cross-zonal capacity provided to the SDAC;
 - (b) defined per day-ahead market time unit; and
 - (c) calculated based on the actual bids for the exchange of energy submitted to the SDAC.
- (2) In accordance with Article 8(1)(a), the actual market value of cross-zonal capacity for the exchange of energy between all bidding zones of the SDAC shall be calculated based on the change of economic surplus for the entire SDAC depending on the availability of cross-zonal capacity.

Article 9

Determination of the actual market value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves in the co-optimised allocation process

- (1) The actual market value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves between all bidding zones where the co-optimised allocation process is applied shall be:
 - (a) equal to the change of economic surplus from the exchange of balancing capacity or sharing of reserves;
 - (b) defined per the day-ahead market time unit;
 - (c) calculated per SBCP and per direction, separately;
 - (d) calculated as one combined market value for balancing capacity in case the sharing of reserves is applied in combination with the exchange of balancing capacity and calculated based on the bids of SBCP in both directions submitted to the capacity procurement optimisation function pursuant to Article 33(3) of the EB Regulation;
- (2) In accordance with Article 9(1)(a), the actual market value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves between all the active bidding zones where co-optimised cross-zonal allocation is applied shall be calculated based on the change of economic surplus from the exchange of balancing capacity or sharing of reserves, resulting from the change of available cross-zonal capacities allocated for the exchange of balancing capacity or sharing of reserves.
- (3) TSOs may procure a higher amount of SBCP in the corresponding direction than their TSO BC demand to include the capacity from an indivisible bid, if this decreases the overall BC procurement costs.

Article 10

Determination of the allocated volume of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves for the co-optimised allocation process

- (1) The allocation of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves is determined simultaneously with the cross-zonal capacity allocation for the exchange of energy by the cross-zonal capacity allocation optimisation function.
- (2) The objective of the cross-zonal capacity allocation optimisation function shall be the maximisation of the sum of economic surplus for SDAC and the economic surplus from the exchange of balancing capacity or sharing of reserves per trading day.
- (3) The time resolution for the allocation of cross-zonal capacity for the exchange of balancing capacity and sharing of reserves shall be equal to the day-ahead market time unit.
- (4) Each marginal volume of cross-zonal capacity shall be allocated to the exchange of energy in case the market value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves pursuant to Article 9 is lower or equal to the market value of cross-zonal capacity for the exchange of energy pursuant to Article 8.

- (5) Netting of cross-zonal capacity allocated to the exchange of balancing capacity or sharing of reserves shall not be possible between:
 - (a) bids of SBCP in positive and or negative direction;
 - (b) SBCP bids from different products;
 - (c) a SBCP bid and a day-ahead market bid; and
 - (d) bidding zone border directions in case of sharing of reserves.
- (6) In case two TSOs exchange balancing capacity and perform sharing of reserves with the same SBCP in the same direction, netting of cross-zonal capacity shall be possible. The allocated CZC shall however at least correspond to the difference between the original TSO demand (before sharing of reserves) and the actually procured volume in the TSOs LFC area that is importing the sharing of reserves.
- (7) For applying the co-optimised allocation process, the cross-zonal capacity allocation optimisation function requires the additional inputs listed under Article 6(2)(d).
- (8) When applying the co-optimised allocation process, the cross-zonal capacity allocation optimisation function shall send the following additional outputs to each respective application:
 - (a) allocated volumes of cross-zonal capacity for the exchange of the relevant SBCP per bidding zone border in each direction;
 - (b) allocated volumes of cross-zonal capacity for sharing of reserves per SBCP and bidding zone border in each direction; and
 - (c) marginal clearing prices and volumes of balancing capacity markets per bidding zone.

TITLE 3

Methodology for the inverted market-based allocation

Article 11

Governance Structure of inverted market-based allocation

- (1) The inverted-market based allocation shall be performed by the CZCAOF of the co-optimised allocation process.

Article 12

The market timeframes of the inverted market-based allocation

- (1) The inverted-market based allocation process to allocate cross-zonal capacity for the exchange of balancing capacity and sharing of reserves shall include the following consecutive timings for each application:

- (a) The gate closure time for the submission of all forecasted SBCP in both directions and the TSO BC demand shall be equal to the single day-ahead coupling gate closure time pursuant to Article 47(2) of the CACM Regulation.
 - (b) The data disaggregating interface shall send the allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves to the TSOs applying the timeframes of inverted market-based allocation of this methodology for the harmonised allocation process per timeframe before notification of selected bids for the exchange of energy from the SDAC.
 - (c) Notification to the BSPs of available cross-zonal capacity for the exchange of balancing capacity or sharing of reserves shall be equal to the notification of selected bids for the exchange of energy from the SDAC.
 - (d) The BSP-TSO gate closure time for the submission of bids for SBCP in positive and or negative direction and the TSO BC demand shall be set after the SDAC process and before the gate closure time of the SIDC pursuant to Article 47(2) of the CACM Regulation.
 - (e) If after the procurement process of balancing capacity, cross-zonal capacity that was previously allocated to the exchange of balancing capacity or sharing of reserves remains unused, the unused cross-zonal capacity shall be released without undue delay for its use in the subsequent markets in the balancing energy timeframe.
 - (f) If after the procurement process of balancing capacity, cross-zonal capacity that was previously allocated to the exchange of balancing capacity or sharing of reserves is not needed, the not needed cross-zonal capacity shall be released without undue delay for its use in the Intraday Market timeframe.
 - (g) For TSOs applying a central dispatching model and applying inverted market-based allocation, the BSP-TSO gate closure time for the submission of the integrated scheduling process bids that are converted to the bids of SBCP in positive and or negative direction shall be defined in the national terms and conditions pursuant to Articles 24(5) and 24(6) of the EB Regulation.
 - (h) The BSPs of selected bids of SBCP in positive and or negative direction shall be notified by the relevant TSO(s) before the gate closure time of the SIDC.
- (2) The inverted market-based allocation process for the allocation of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves shall include the following steps:
- (a) The balancing capacity market forecast validation process operated by the Regional Coordination Centers (RCCs) shall submit a set of recommendations to the balancing capacity market forecast process for improving the accuracy of this forecast. In case an application of the inverted market-based allocation consists of one single TSO, this TSO shall operate the balancing capacity market forecast validation process.
 - (b) The balancing capacity market forecast process operated by TSOs shall prepare the forecasted SBCP offers of each relevant market time unit for the allocation and shall submit them to the data aggregating interface.
 - (c) TSOs or an entity delegated by the TSOs shall submit the TSO BC demand and additional CZC allocation limitations to the data aggregating interface of the co-optimised allocation process.

- (d) In addition to Article 6(2)(d), the data aggregating interface shall send to the MCO per product, per direction and per bidding zone:
 - i. SBCP offers of the applied reference day of the balancing capacity market per direction per market time unit taking into account possible forecast adjustments as a result of the balancing capacity market forecast process; and
 - ii. cross-zonal capacity allocation limitations for the exchange of balancing capacity or sharing of reserves for the timeframes of inverted market-based allocation in accordance with Article 13.
 - (e) The cross-zonal capacity allocation optimisation function shall determine for each bidding zone border the cross-zonal capacity allocated to the exchange of balancing capacity and/or sharing of reserves of each product in each direction of each application.
 - (f) The data disaggregating interface of the co-optimised allocation process shall send the information of Article 12(2)(g) and Article 12(2)(h) to the TSOs of an application of the inverted market-based allocation.
 - (g) The data disaggregating interface shall send the allocated volumes of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves to all relevant CCRs and all relevant TSOs.
 - (h) TSOs of each application shall notify the capacity management of the balancing platforms about the volumes of allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves of each bidding zone border, for each balancing capacity product and per direction pursuant to Article 4(7).
 - (i) TSOs of each application of this methodology for the timeframes of inverted market-based allocation shall notify the respective balancing energy platforms, pursuant to Articles 19, 20 and 21 of the EB Regulation, about the volumes of allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves on each bidding zone border, for each balancing capacity product and direction pursuant to Article 4(8).
 - (j) TSOs of each application of this methodology for the timeframes of inverted market-based allocation shall add the congestion rent resulting from the allocation of CZC to the exchange of balancing capacity or sharing of reserves to the relevant day-ahead congestion income and shall send the determined cross-border balancing capacity market prices per bidding zone and the respective allocated cross-zonal capacity volumes for the exchange of balancing capacity or sharing of reserves of each balancing capacity product in each direction per bidding zone border.
- (3) The allocation of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves shall be based on all data submitted to the data aggregating interface according to Article 12(2)(f).

Article 13

The process to define the maximum volume of allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves for the timeframes of inverted market-based allocation

- (1) In accordance with Article 41(1)(d) of the EB Regulation, the process to define the maximum volume of allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves for the timeframes of inverted market-based allocation shall be as follows:
 - a. by default the maximum volume of cross-zonal capacity allocated for the exchange of balancing capacity shall be ten (10) percent of cross-zonal capacity calculated for the day-ahead timeframe in accordance with the capacity calculation methodologies developed pursuant to Article 20(2) of the CACM Regulation;
 - b. in case the allocation of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves is performed on bidding zone borders within an LFC Block or bidding zones borders of one single TSO, no volume limitation shall be applied based on the exemption rule pursuant to Article 41(2) of EB Regulation.
 - c. to resolve a situation where the limit for the maximum volume of cross-zonal capacity allocated for the exchange of balancing capacity for the timeframes of inverted market-based allocation in accordance with paragraph 1(a) is not sufficient to satisfy TSO BC demand in a bidding zone, the percentage limit pursuant to paragraph 1(a) on the relevant critical network elements for the relevant day-ahead market time units may be increased. The limit for the maximum volume of cross-zonal capacity allocated for the exchange of balancing capacity or sharing of reserves for the timeframes of inverted market-based allocation shall only be increased to the point until the TSO BC demand is satisfied and maximum up to 20% of the calculated cross-zonal capacity calculated for day ahead market timeframe. If this maximum limit is still not sufficient to satisfy a TSO BC demand, a fallback procedure pursuant to Article 4(13) shall be initiated. TSOs shall notify all the regulatory authorities about each increase of the limit for the maximum volume of cross-zonal capacity allocated for the exchange of balancing capacity or sharing of reserves for the timeframes of inverted market-based allocation above the threshold set in paragraph 1(a). This notification shall include at least the final volume percentage and value in MW of cross-zonal capacity allocated for the exchange of balancing capacity or sharing of reserves for the timeframes of inverted market-based allocation and the reasons for the shortage of balancing capacity bids in the importing bidding zone. The annual impact of such increases shall be reported pursuant to Article 27(9)(b);
 - d. if increases pursuant to paragraph 1(c) occur due to a structural local shortage of SBCEP bids from BSPs for at least a month, the limit for the maximum volume of cross-zonal capacity allocated for the exchange of balancing capacity in accordance with paragraph 1(a) may be increased by two (2) percentage points. Such increase of the default limit shall be reported to stakeholders and all regulatory authorities at least two weeks in advance of application. This process can be performed repeatedly until the maximum limit of twenty (20) percent is reached. The applied default limits shall be published in accordance with Article 27(9)(b).
- (2) The maximum volume limitations of allocated cross-zonal capacity for the exchange of balancing capacity and/or sharing of reserves for the timeframes of inverted market-based allocation shall be organised in accordance with Article 38(5) of EB Regulation and include the cumulative allocation of all balancing capacity products per direction.
- (3) The maximum volume shall be set by the minimum resulting from paragraph 1 and by applying the rules for the exchange of frequency restoration reserve (FRR) and replacement reserve (RR) in accordance with Article 157(2)(g), Article 165(3)(g), Article 167, Article 169 and Article 170 of the SO Regulation.

- (4) In case flow-based is applied, the volume of cumulative allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves for the timeframes of inverted market-based allocation on a certain bidding zone border for all standard balancing capacity products and per direction jointly shall not exceed the available cross-zonal capacity volume based on available transmission constraint extraction of the particular bidding zone border.
- (5) TSOs applying the timeframes of inverted market-based allocation of this methodology may, in accordance with relevant NRAs, set a limit other than that specified in Article 41(2) of the EB Regulation and referred to in the above paragraphs, according to Article 39(6) of the EB Regulation.

Article 14

Determination of the actual market value of cross-zonal capacity for the exchange of energy in SDAC for the timeframes of inverted market-based allocation

- (1) The actual market value of cross zonal capacity for the exchange of energy shall be determined as described Title II – Article 8.

Article 15

Determination of the forecasted market value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves for the timeframes of inverted market-based allocation

- (1) The forecasted market value of cross-zonal capacity for the exchange of balancing capacity and sharing of reserves shall be calculated for each relevant market time unit of the allocation, where the cross-zonal capacity is calculated in accordance with the Capacity Calculation Methodology per relevant CCR, following Article 20(2) of the CACM Regulation.
- (2) The forecasted market value of cross-zonal capacity for the exchange of balancing capacity and sharing of reserves between bidding zones per MW allocated cross-zonal capacity shall be determined by the calculation of the expected balancing capacity markets welfare using SBCP offers of the applied reference day per bidding zone and actual TSOs' BC demand, taking into account possible adjustments for the corresponding market time units in the relevant bidding zones in all relevant directions.
- (3) To monitor the efficiency of the forecasting process, each forecasting methodology shall consist of two processes:
 - a. the balancing capacity market forecast validation process;
 - b. the balancing capacity market forecast process.
- (4) The balancing capacity market forecast validation process shall be operated by RCCs and provide a recommendation for the implementation of the reference day selection and the SBCP adjustment from the selected reference day. This recommendation shall be based, in particular, on the outcome of the assessment of the deviation of the market values of cross-zonal capacity for the exchange of balancing capacity and sharing of reserves per bidding zone border based on the forecast of the adjusted SBCP and the market values of cross-zonal capacity for the exchange of balancing capacity and sharing of reserves per bidding zone border based on the actual SBCP bids and actual TSOs' BC demand. This deviation is called the forecast error 3 (cf. Articles 15 (6)(e) and 15 (7)).

- (5) The balancing capacity market forecast process performed by TSOs shall provide a most appropriate forecast of the market value of cross-zonal capacity for the balancing capacity and sharing of reserves per bidding zone border based on the actual SBCP offers and actual TSOs' BC demand.
- (6) Each balancing capacity market forecast process shall include the following forecast steps:
 - a. selection of the relevant bidding zones per application;
 - b. taking into account the recommendations from the balancing capacity market forecast validation process;
 - c. selection of the applied reference day per bidding zone and the use of the respective SBCP offers;
 - d. an adjustment process conducted on the SBCP offers per bidding zone according to paragraph 3(a) to improve the accuracy of the forecasting of the market values of cross-zonal capacity for the exchange of balancing capacity and sharing of reserves per bidding zone border;
 - e. evaluations of (1) the deviation of the market values of cross-zonal capacity for the exchange of balancing capacity and sharing of reserves per bidding zone border based on the SBCP of the applied reference day and on the SBCP of the default reference day (forecast error 1, in case an application uses the approach of a default reference day), (2) the deviation of the corresponding market values determined from the adjusted SBCP offers and the SBCP offers of the applied reference day (forecast error 2) and (3) the deviation of the corresponding market values determined from the actual SBCP offers and the corresponding market values determined from the adjusted SBCP offers of the applied reference day (forecast error 3).
- (7) The determination of the applied reference day, forecast adjustment and additional cross-zonal capacity allocation limitations per bidding zone and bidding zone border per market time unit shall be based on an assessment of the forecast error 3 of the previous 30 days.
- (8) The reference day to be applied, forecast adjustment and additional cross-zonal capacity allocation limitations per bidding zone border pursuant to Article 13(2) shall be chosen such that a negative forecast error 3 over the last 30 days shall not exceed 5 percent.
- (9) As a default, the previous working day shall be applied as the reference day in case an application uses the approach of a default reference day.
- (10) The TSO(s) performing the balancing capacity forecast processes of inverted market-based allocation shall monitor, demonstrate and publish on the ENTSO-E website the efficiency of the forecast process and the appropriateness of the applied reference days, and application of forecast adjustment and volume limitations on at least a quarterly basis, including a comparison of the forecasted and actual market values of cross-zonal capacity for the exchange of energy and take appropriate actions, where needed.

Article 16

Determination of the allocated volume of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves for the timeframes of inverted market-based allocation

- (1) The provisions in Title II – Article 10 shall apply to the timeframes of inverted market-based allocation, only the:

- a. Calculated marginal clearing prices and volumes per SBCP per direction shall not constitute an output for the procurement of balancing capacity performed by the CPOF; and
 - b. Calculated marginal clearing prices and volumes per SBCP per direction shall constitute an output for the balancing capacity market forecast validation process.
- (2) When applying inverted market-based cross-zonal capacity allocation, the TSO BC demand per balancing capacity product submitted to the capacity procurement optimisation function shall not be higher than the total volume of the forecasted balancing capacity bids for the same product within the control area of the TSO.

Article 17

Determination of the allocated volume of cross-zonal capacity for the exchange of energy for the timeframes of inverted market-based allocation

1. The determination of allocation of cross-zonal capacity to the exchange of energy for the timeframes of the inverted market-based allocation shall be performed by the CZCAOF using all inputs received from the data aggregating interface.
2. The objective of the cross-zonal capacity allocation optimisation function shall be the maximisation of social welfare resulting from the sum of expected economic surplus for SDAC and the economic surplus from the exchange of balancing capacity or sharing of reserves for the timeframes of inverted market-based allocation per trading day.
3. The cross-zonal capacity allocation optimisation function shall include the capacity procurement optimisation function of the application respecting its requirements pursuant to Article 58(3) of EB Regulation.
4. The inputs of the cross-zonal capacity allocation optimisation function for the timeframes of inverted market-based allocation are listed in Article 12(2)(f).
5. The outputs from the cross-zonal capacity allocation optimisation function, per standard balancing capacity product and for each day-ahead market time unit are listed in Article 12(2)(g) and Article 12(2)(h).
6. The optimisation resolution of the allocation of cross-zonal capacity for the exchange of energy for the timeframes of inverted market-based allocation shall be equal to the optimisation resolution of the capacity procurement optimisation function.
7. Each marginal volume of cross-zonal capacity shall be allocated to the exchange of energy for the timeframes of inverted market-based allocation in case the actual market value of cross-zonal capacity for the exchange of energy for the timeframes of inverted market-based allocation is higher than the forecasted market value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves, within the limitations of Article 12 of this methodology for the timeframes of inverted market-based allocation.
8. Each marginal volume of cross-zonal capacity shall be allocated to the higher quality product in case the actual market value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves of a certain balancing capacity product is equal or higher to the actual market value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves of another balancing capacity product exchanged on the same border.
9. In case bids for SBCP are temporally linked or are indivisible, the economic surplus shall be maximised over all market time units belonging to an entire day.
10. Netting of cross-zonal capacity is not possible between:
 - a. bids for SBCP in positive and or negative directions;
 - b. bids for different SBCP;
 - c. a bid for a SBCP and a day-ahead market bid; and
 - d. bidding zone border directions in case of sharing of reserves.

TITLE 4

Methodology for the market-based allocation process

Article 18

The market timeframes of the market-based allocation

- (1) The market-based allocation process to allocate cross-zonal capacity for the exchange of balancing capacity or sharing of reserves shall include the following consecutive timings for each application:
 - a. For TSOs of an application of this methodology for the timeframes of market-based allocation applying a central dispatching model, the gate closure time for BSPs to submit the integrated scheduling process bids that are converted to the bids of SBCP in both directions shall be defined in the national terms and conditions pursuant to Articles 24(5) and 24(6) of the EB Regulation.
 - b. The data disaggregating interface shall send the allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves, the procurement volumes and clearing prices of the balancing capacity markets to each TSO applying market-based allocation without undue delay.
 - c. The data disaggregating interface shall send the allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves to the day-ahead capacity calculation process per CCR without undue delay.
 - d. Each application of the methodology for the timeframes of market-based allocation shall notify the BSPs about their selected bids of SBCP in positive and or negative direction at the latest one (1) hour before the gate closure time of the SDAC.
 - e. Notification to all market participants of allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves shall be done at the same point in time as described in paragraph 1(e).
- (2) The market-based allocation process for the allocation of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves shall include the following steps:
 - (a) The day-ahead market forecast validation process operated by RCCs shall submit a set of recommendations to the day-ahead market forecast process for improving the accuracy of this forecast. In case an application of the market-based allocation consists of one single TSO, this TSO shall operate the day-ahead market forecast validation process.
 - (b) The day-ahead market forecast process operated by TSOs shall prepare the forecasted order books of the day ahead markets and shall submit them to the data aggregating interface.
 - (c) BSPs shall send the bids of SBCP in both directions to their connecting TSO(s) or a delegated TSO.
 - (d) For TSOs applying a central dispatching model BSPs may submit only integrated scheduling process bids (instead of bids of SBCP in positive and or negative direction), which shall be converted, as far as possible, into bids of SBCP in the corresponding direction by the respective

- TSO, in accordance with Article 27 of the EB Regulation. These converted bids shall be submitted by TSOs in accordance with paragraph (e).
- (e) TSOs or an entity delegated by TSO(s) shall submit the pseudonymised bids for SBCP, the TSO BC demand and additional CZC allocation limitations to the data aggregating interface.
 - (f) The data aggregating interface of each market-based allocation process operated by TSOs shall convert all the bids of SBCP per direction into merit order lists per bidding zone.
 - (g) The data aggregating interface of each market-based allocation process shall send to the cross-zonal capacity allocation optimisation function of market-based per product, per direction and per bidding zone:
 - iii. the aggregated merit-order lists for the respective bids and cross-product linking information between the different SBCPs;
 - iv. the TSOs' BC demand;
 - v. the TSOs' volume sensitive BC demand;
 - vi. the minimum local reserve requirements per LFC Block and/or LFC Area;
 - vii. the TSOs' minimum and maximum procurement volumes of balancing capacity per product per direction according to Article 167 of SO Regulation;
 - viii. the TSO's maximum volume of balancing capacity to be exchanged with each TSO within the application;
 - ix. order books of the applied reference day of the day-ahead market per market time unit taking into account possible forecast adjustments as a result of the day-ahead market forecast process;
 - x. cross-zonal capacity allocation limitations for the exchange of balancing capacity or sharing of reserves for the timeframes of market-based allocation in accordance with Article 18; and
 - xi. additional cross-zonal capacity allocation limitations provided by TSOs, if any
 - xii. the PTDFs, if flow based is applied in one or more bidding zones of the application;
 - (h) The cross-zonal capacity allocation optimisation function shall determine for each bidding zone border the cross-zonal capacity allocated to the exchange of balancing capacity and/or sharing of reserves of each product in each direction of each application.
 - (i) The cross-zonal capacity allocation optimisation function shall determine for each application and for each SBCP in both directions the TSO procurement volumes and the marginal clearing prices per bidding zone of the balancing capacity markets.
 - (j) The data disaggregating interface shall send the information of Article 18(2)(g) and Article 18(2)(h) to each TSO of an application of the market-based allocation.
 - (k) The data disaggregating interface shall send the allocated volumes of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves to all relevant CCRs and all relevant TSOs.
 - (l) TSOs of each application of this methodology for the timeframes of market-based allocation shall procure the balancing capacity bids from the BSPs according to the outputs of the cross-zonal

- capacity allocation optimisation function pursuant to Article 18(2)(h). TSOs applying a central dispatching model and applying market-based cross-zonal allocation shall convert as far as possible the outputs of the cross-zonal capacity allocation optimisation function to the outputs of integrated scheduling.
- (m) TSOs of each application shall notify the capacity management of the balancing platforms about the volumes of allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves of each bidding zone border, for each balancing capacity product and per direction pursuant to Article 4(7).
 - (n) TSOs of each application of this methodology for the timeframes of market-based allocation shall notify the respective balancing energy platforms, pursuant to Articles 19, 20 and 21 of the EB Regulation, about the volumes of allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves on each bidding zone border, for each balancing capacity product and direction pursuant to Article 4(8).
 - (o) TSOs of each application of this methodology for the timeframes of market-based allocation shall add the congestion rent resulting from the allocation of CZC to the exchange of balancing capacity or sharing of reserves to the relevant day-ahead congestion income and shall send the determined cross-border balancing capacity market prices per bidding zone and the respective allocated cross-zonal capacity volumes for the exchange of balancing capacity or sharing of reserves of each balancing capacity product in each direction per bidding zone border.
- (3) The allocation of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves shall be based on all data submitted to the data aggregating interface according to Article 18(2)(g).
 - (4) If after the procurement process of balancing capacity, cross-zonal capacity that was previously allocated to the exchange of balancing capacity or sharing of reserves is not needed, the not needed cross-zonal capacity shall be released without undue delay for its use in the Intraday Market timeframe.

Article 19

The process to define the maximum volume of allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves for the timeframes of market-based allocation

- a. In accordance with Article 41(1)(d) of the EB Regulation, the process to define the maximum volume of allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves for the timeframe of market-based allocation shall be the maximum volume of cross-zonal capacity allocated for the exchange of balancing capacity shall be ten (10) percent of cross-zonal capacity calculated for the day-ahead timeframe in accordance with the capacity calculation methodologies developed pursuant to Article 20(2) of the CACM Regulation.
- b. In case the allocation of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves is performed on bidding zone borders within an LFC Block or bidding zones borders of one single TSO, no volume limitation shall be applied based on the exemption rule pursuant to Article 41(2) of EB Regulation.
- c. to resolve a situation where the limit for the maximum volume of cross-zonal capacity allocated for the exchange of balancing capacity for the timeframes of market-based allocation in

- accordance with paragraph 1(a) is not sufficient to satisfy TSO BC demand in a bidding zone, the percentage limit pursuant to paragraph 1(a) on the relevant critical network elements for the relevant day-ahead market time units may be increased. The limit for the maximum volume of cross-zonal capacity allocated for the exchange of balancing capacity or sharing of reserves for the timeframes of market-based allocation shall only be increased to the point until the TSO BC demand is satisfied and maximum up to 20% of the calculated cross-zonal capacity calculated for day ahead market timeframe. If this maximum limit is still not sufficient to satisfy a TSO BC demand, a fallback procedure pursuant to Article 4(13) shall be initiated. TSOs shall notify all the regulatory authorities about each increase of the limit for the maximum volume of cross-zonal capacity allocated for the exchange of balancing capacity or sharing of reserves for the timeframes of market-based allocation above the threshold set in paragraph 1(a). This notification shall include at least the final volume percentage and value in MW of cross-zonal capacity allocated for the exchange of balancing capacity or sharing of reserves for the timeframes of market-based allocation and the reasons for the shortage of balancing capacity bids in the importing bidding zone. The annual impact of such increases shall be reported pursuant to Article 28(9)(b);
- d. if increases pursuant to paragraph (1)(c) occur due to a structural local shortage of SBCP bids from BSPs for at least a month, the limit for the maximum volume of cross-zonal capacity allocated for the exchange of balancing capacity in accordance with paragraph (1)(a) may be increased by two (2) percentage points. Such increase of the default limit shall be reported to stakeholders and all regulatory authorities at least two weeks in advance of application. This process can be performed repeatedly until the maximum limit of twenty (20)% is reached. The applied default limits shall be published in accordance with Article 28(9)(b).
- (2) The maximum volume limitations of allocated cross-zonal capacity for the exchange of balancing capacity and/or sharing of reserves for the timeframes of market-based allocation shall be organised in accordance with Article 38(5) of EB Regulation and include the cumulative allocation of all balancing capacity products per direction.
- (3) The maximum volume shall be set by the minimum resulting from paragraph 1 and by applying the rules for the exchange of frequency restoration reserve (FRR) and replacement reserve (RR) in accordance with Article 157(2)(g), Article 165(3)(g), Article 167, Article 169 and Article 170 of the SO Regulation.
- (4) In case flow-based is applied, the volume of cumulative allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves for the timeframes of market-based allocation on a certain bidding zone border for all standard balancing capacity products and per direction jointly shall not exceed the available cross-zonal capacity volume based on available transmission constraint extraction of the particular bidding zone border.

Article 20

Determination of the forecasted market value of cross-zonal capacity for the exchange of energy for the timeframes of market-based allocation

1. The forecasted market value of cross-zonal capacity for the exchange of energy shall be calculated for each day-ahead market time unit, where the cross-zonal capacity is calculated in accordance with the Capacity Calculation Methodology per relevant CCR, following Article 20(2) of the CACM Regulation.
2. The forecasted market value of cross-zonal capacity for the exchange of energy between bidding zones per MW allocated cross-zonal capacity shall be determined by the calculation of the expected day-ahead market welfare using order books of the applied reference day per bidding zone, taking into account

- possible adjustments for the corresponding day-ahead market time units in the relevant bidding zones in all relevant directions.
3. To monitor the efficiency of the day-ahead market forecast process, each forecasting methodology shall consist of two processes:
 - a. the day-ahead market forecast validation process
 - b. the day-ahead market forecast process
 4. The day-ahead market forecast validation process performed by RCCs shall provide a recommendation for the implementation of the reference day selection and the order book adjustment from the selected reference day. This recommendation shall be based, in particular, on the outcome of the assessment of the deviation of the market values of cross-zonal capacity for the exchange of energy per bidding zone based on the forecast of the adjusted order books and the market values of cross-zonal capacity for the exchange of energy per bidding zone based on the actual order books. This deviation is called the forecast error 3 (cf. Articles 20(6)(e) and 19(7)).
 5. The day-ahead market forecast process performed by TSOs shall provide a most appropriate forecast of the market value of cross-zonal capacity for the exchange of energy per bidding zone based on the actual DAM order books.
 6. Each day-ahead market forecast process shall include the following forecast steps:
 - a. selection of the relevant bidding zones per application;
 - b. taking into account the recommendations from the day-ahead market forecast validation process;
 - c. selection of the applied reference day per bidding zone and the use of the respective order books of day-ahead bids;
 - d. an adjustment process conducted on the order books per bidding zone according to paragraph 3(a) to improve the accuracy of the forecasting of the market values of cross-zonal capacity for the exchange of energy per bidding zone;
 - e. evaluations of (1) the deviation of the market values of cross-zonal capacity for the exchange of energy per bidding zone based on the order books of the applied reference day and on the order books of the default reference day (forecast error 1, in case an application uses the approach of a default reference day), (2) the deviation of the corresponding market values determined from the adjusted order books and the order books of the applied reference day (forecast error 2) and (3) the deviation of the corresponding market values determined from the actual order books and the corresponding market values determined from the adjusted order books of the applied reference day (forecast error 3).
 7. The determination of the applied reference day, forecast adjustment and additional cross-zonal capacity allocation limitations per bidding zone and bidding zone border per market time unit shall be based on an assessment of the forecast error 3 of the previous 30 days.
 8. The reference day to be applied, forecast adjustment and additional cross-zonal capacity allocation limitations per bidding zone and bidding zone border pursuant to Article 18(2) shall be chosen such that a positive forecast error 3 over the last 30 days shall not exceed 5 percent.
 9. As a default, the previous working day shall be applied as the reference day in case an application uses the approach of a default reference day.

10. The day-ahead market forecast processes of market-based allocation shall monitor, demonstrate and publish on the ENTSO-E website the efficiency of the forecasting and the appropriateness of the applied reference days, and application of forecast adjustment and volume limitations on at least a quarterly basis, including a comparison of the forecasted and actual market values of cross-zonal capacity for the exchange of energy and take appropriate actions, where needed.

Article 21

Determination of the actual market value of cross-zonal capacity for the exchange of balancing capacity and sharing of reserves for the timeframes of market-based allocation

1. The actual market value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves between all bidding zones where the market-based allocation process is applied shall be:
 - a. the change of economic surplus per MW of cross-zonal capacity in case allocated for the exchange of balancing capacity or sharing of reserves;
 - b. defined per day-ahead market time unit;
 - c. calculated per product and per direction, separately;
 - d. calculated based on bids for SBCP in both directions; and
 - e. calculated based on TSOs' BC demand.
2. In accordance with Article 19(1)(a), the actual market value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves between bidding zones where the timeframes of market-based allocation are applied shall be calculated based on the change of economic surplus from the exchange of balancing capacity or sharing of reserves, resulting from the change of available cross-zonal capacities allocated for the exchange of balancing capacity or sharing of reserves.
3. For a TSO applying the central dispatching model and using integrated scheduling process bids for the exchange of balancing services or sharing of reserves for the timeframes of market-based allocation according to Article 27 of the EB Regulation, the bids submitted by the TSO after application of conversion rules will be used to determine the market value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves for the timeframes of market-based allocation.
4. TSOs may increase their BC demand for a certain SBCP in case:
 - a. an indivisible bid is procured, if such an increase of procurement volume would decrease the overall procurement costs for the respective standard balancing capacity product; or
 - b. for volume shortages of a balancing capacity product with lower quality; or
 - c. if the procurement costs of a balancing capacity product with lower quality would include higher overall procurement costs with a parallel increase of the BC demand for the higher quality SBCP for the purpose of substitution of reserves for cost minimisation.
5. The actual market value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves shall be calculated, if relevant, on TSO balancing capacity elastic demand applying a tolerance band for sharing of reserves.

Article 22

Determination of the allocated volume of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves for the timeframes of market-based allocation

1. The determination of the volumes of cross-zonal capacity to be allocated for the exchange of balancing capacity or sharing of reserves for the timeframes of market-based allocation shall be performed by the CZCAOF using all inputs received from the data aggregating interface as listed in Article 18(2)(g).
2. The cross-zonal capacity allocation optimisation function shall maximise social welfare resulting from the sum of expected economic surplus for SDAC and the economic surplus from the exchange of balancing capacity or sharing of reserves for the timeframes of market-based allocation per trading day.
3. The cross-zonal capacity allocation optimisation function shall include the capacity procurement optimisation function of the application respecting its requirements pursuant to Article 58(3) of EB Regulation.
4. For each application entirely or partly part of an capacity calculation region applying flow-based, the respective cross-zonal capacity allocation optimisation shall take into account all bidding zone borders of the capacity calculation region applying flow-based to determine the forecasted market value for the exchange of energy for the respective application.
5. The outputs from the cross-zonal capacity allocation optimisation function, per standard balancing capacity product and for each day-ahead market time unit are listed in Article 18(2)(h) and Article 18(2)(i).
6. The optimisation resolution of the allocation of cross-zonal capacity for the exchange of balancing capacity and sharing of reserves for the timeframes of market-based allocation shall be equal to the optimisation resolution of the optimisation function of the SDAC.
7. Each marginal volume of cross-zonal capacity shall be allocated to the exchange of balancing capacity and sharing of reserves for the timeframes of market-based allocation in case the actual market value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves for the timeframes of market-based allocation is higher than the forecasted market value of cross-zonal capacity for the exchange of energy, within the limitations of Article 18 of this methodology for the timeframes of market-based allocation.
8. Each marginal volume of cross-zonal capacity shall be allocated to the higher quality product in case the actual market value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves of a certain balancing capacity product is equal or higher to the actual market value of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves of another balancing capacity product exchanged on the same border.
- (9) Netting of cross-zonal capacity allocated to the exchange of balancing capacity or sharing of reserves shall not be possible between:
 - (e) bids of SBCP in positive and or negative direction;
 - (f) SBCP bids from different products;
 - (g) a SBCP bid and a day-ahead market bid; and
 - (h) bidding zone border directions in case of sharing of reserves.
9. In case two TSOs exchange balancing capacity and perform sharing of reserves with the same SBCP in the same direction, netting of cross-zonal capacity shall be possible. The allocated CZC shall however at least correspond to

the difference between the original TSO demand (before sharing of reserves) and the actually procured volume in the TSOs LFC area that is importing the sharing of reserves.

TITLE 5

Provisions on cross-zonal capacity

Article 23

Firmness regime for the allocation of cross-zonal capacity

- (1) The allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves must be firm:
 - a. in the co-optimised allocation and the inverted market-based allocation process when SDAC results are published; and
 - b. in market-based allocation process after the optimisation by the cross-zonal capacity allocation optimisation function.
- (2) In the event of force majeure or emergency situations, curtailment of cross-zonal capacities which were allocated using the cross-zonal capacity allocation optimisation function shall be proportionally distributed between the affected cross-zonal capacities allocated for the exchange of energy and for the exchange of balancing capacity or sharing of reserves in accordance with Articles 40(3) and 41(4) of the EB Regulation. TSOs can deviate from this principle by proposing a more cost-efficient, non-discriminatory solution in the proposal pursuant to Article 33(1) of the EB Regulation.
- (3) Costs of ensuring firmness of cross-zonal capacity allocated for the exchange of balancing capacity or sharing of reserves shall include follow up costs, which are caused by the curtailment of firm cross-zonal capacity in the event of force majeure or emergency situations. These costs also include the additional costs from the procurement of balancing capacity due to the non-availability of the balancing capacity, given the curtailment of cross-zonal capacity.
- (4) The costs of ensuring firmness shall be shared in accordance with the regional methodologies developed in accordance with Article 74 of CACM Regulation and Article 76 of the SO Regulation for cases which are within the scope of these methodologies.
- (5) Any costs of ensuring firmness that are outside the scope of the methodologies referred to in paragraph 4, shall be borne by the TSO requesting the curtailment.

Article 24

Pricing of cross-zonal capacity

- (1) TSOs allocating cross-zonal capacity for the exchange of balancing capacity or sharing of reserves by applying this methodology for a harmonised allocation process per relevant timeframe shall calculate the cross-zonal capacity price for the volume of cross-zonal capacity that is allocated for the exchange of

balancing capacity or sharing of reserves. This price shall be calculated separately for each applied market time unit, balancing capacity product, i.e., up and downward balancing capacity product, in accordance with Article 38(5) of the EB Regulation.

- (2) For the market-based allocation process and the co-optimised allocation process, the prices in EUR per MW (hereafter referred to as the 'EUR/MW') of cross-zonal capacity allocated to the exchange of balancing capacity per day ahead market time unit in each direction shall be equivalent to the difference in the marginal clearing prices of the SBCP of the two bidding zones belonging to the bidding zone border.
- (3) For the inverted market-based allocation, the prices in EUR/MW of cross-zonal capacity allocated to the exchange of balancing capacity per day ahead market time unit in each direction shall be equivalent to the expected difference in the marginal clearing prices of the SBCP of the two bidding zones belonging to the bidding zone border.
- (4) For sharing of reserves, the prices in EUR/MW of cross-zonal capacity allocated to sharing of reserves per day ahead market time unit in each direction shall be equivalent to the actual difference in the marginal clearing prices of the exchange of energy for the inverted market-based allocation and the co-optimised allocation, and shall be equivalent to the expected difference in the marginal clearing prices of the exchange of energy for the market-based allocation.
- (5) As an exemption to paragraph (4), in case the direction of allocation of cross-zonal capacity for sharing of reserves is in the same direction as the exchange of balancing capacity for the same SBCP, the price of cross-zonal capacity for the volume of cross-zonal capacity allocated to sharing of reserves up to the maximum volume of cross-zonal capacity allocated to the exchange of balancing capacity shall be equal to the to the actual difference in marginal clearing prices of the SBCP in bidding zones.

Article 25

Sharing of congestion income from cross-zonal capacity

- (1) The congestion income coming from any application using an allocation process as defined in this methodology will be considered as day-ahead congestion income and as such shall be shared in accordance with the methodology of Article 73 of the CACM Regulation and in accordance with Article 40(3) and Article 41(4) of the EB Regulation.

TITLE 6

Final provisions

Article 26

Publication of Information

- (1) TSOs of each application of this methodology of any timeframe shall publish information on offered volumes as well as offered prices of procured balancing capacity, anonymised where necessary, as soon as possible but no later than one (1) hour after the results of the procurement have been notified to the bidders, pursuant to Article 12(3)(e) and Article 12(3)(f) of the EB Regulation.
- (2) TSOs of each application of this methodology of any timeframe shall publish information in accordance with Article 12(3)(h) of the EB Regulation on the allocation of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves pursuant to Article 38(1)(a) of the EB Regulation, as defined in Article 5(1)(a) without undue delay and no later than six (6) hours before the use of the allocated cross-zonal capacity, including the:
 - (a) date and time when the decision on allocation was made;
 - (b) period of the allocation;
 - (c) volumes allocated; and
 - (d) market values used as a basis for the allocation process, in accordance with Article 39 of the EB Regulation.
- (3) TSOs of each application of this methodology of any timeframe shall publish on the use of allocated cross-zonal capacity for the exchange of balancing capacity or sharing of reserves pursuant to Article 38 of the EB Regulation without undue delay and at the latest one (1) week after the use of allocated cross-zonal capacity, pursuant to Article 12(3)(i) of the EB Regulation, including the:
 - (a) volume of allocated and used cross-zonal capacity per market time unit and bidding zone border;
 - (b) volume of released cross-zonal capacity for subsequent timeframes per market time unit; and
 - (c) estimated realised costs and benefits of the allocation process.
- (4) Each TSO intending to apply this methodology for a harmonised allocation process per timeframe shall publish the approved methodology in accordance with Article 38(1) and Article 12(3)(j) of the EB Regulation at least three (3) months before its application.

- (5) Each TSO intending to apply this methodology for a harmonised allocation process per timeframe shall publish the description of the requirements of any algorithm developed and amendments to it referred to in Article 58 of the EB Regulation at least one (1) month before their application pursuant to Article 12(3)(k) of the EB Regulation. The document shall be publicly available on the TSOs' webpage.
- (6) The TSO operating the day-ahead market forecast processes shall publish of each application of the timeframes market-based allocation of this methodology for a harmonised allocation process per timeframe:
 - a. The forecasted market value of cross-zonal capacity for the exchange of energy at the latest one (1) day after the allocation of cross-zonal capacity.
 - b. The efficiency of the forecasted market value for the exchange of energy to the respective regulatory authorities and market participants to analyse the forecast efficiency.
 - c. All relevant and required information on the transparency website of ENTSO-E according to article 12(5) of the EB Regulation.
- (7) Each TSO applying the timeframes of inverted market-based allocation of the methodology for a harmonised allocation process per timeframe shall publish:
 - a. The forecasted market value of cross-zonal capacity for the exchange of balancing capacity at the latest one (1) day after the allocation of cross-zonal capacity.
 - b. The efficiency of the forecasted market value for the exchange of balancing capacity to their respective regulatory authorities and market participants to analyse the forecast efficiency.
 - c. All relevant and required information on the transparency website of ENTSO-E according to article 12(5) of the EB Regulation.
- (8) The forecast processes shall monitor the efficiency of the forecasting methodology and shall, by three (3) months after the application of the timeframes of market-based allocation of this methodology for a harmonised allocation process per timeframe and subsequently at least once a year, submit a report to the relevant regulatory authorities. For the timeframes of inverted market-based allocation, each TSO applying the inverted market-based allocation shall monitor the efficiency. This report shall include at least:
 - a. a comparison of the forecasted and actual market values of cross-zonal capacity for the exchange of energy or the exchange of balancing capacity;
 - b. assessment of occurred increases of the limits for the maximum volume of cross-zonal capacity allocated for the exchange of balancing capacity, including statistics on the amount of incidents, increased volumes and percentages, reasons for the incidents and an analysis of the economic surplus effects on the SDAC;
 - c. assessment of impacts on the economic surplus of the SDAC and economic surplus from the exchange of balancing capacity from the application of the market-based or inverted market-based allocation process and the specific impact following an increase of a default limit for the maximum volume of cross-zonal capacity allocated for the exchange of balancing capacity; and
 - d. where necessary, proposals to improve the accuracy of the forecasted market values, including a different limit for the maximum volume of cross-zonal capacity.

- (9) Subject to the approval of relevant regulatory authorities, pursuant to Article 18 of the EB Regulation, a TSO may withhold the publication of information on offered prices and volumes of balancing capacity bids, if justified for concerns of market abuse and if not detrimental to the effective functioning of the electricity markets. A TSO shall report such withholdings at least once a year to the relevant regulatory authority, in accordance with Article 59 of Directive (EU) 2019/944 of the European Parliament and of Council of 5 June 2019 on common rules for the internal market for electricity and amending Directive 2012/27/EU (recast) and pursuant to Article 12(4) of the EB Regulation.

Article 27

Implementation timeline

- (1) By twelve (12) months after approval of this methodology for a harmonised allocation process per timeframe by the European Union Agency for the Cooperation of Energy Regulators in accordance with Article 5(2) of Regulation (EU) 2019/942 of the European Parliament and of the Council of 5 June 2019 establishing a European Union Agency for the Cooperation of Energy Regulators (hereafter referred to as the ‘ACER Regulation’), all TSOs shall prepare the following deliverables for the implementation of the market-based allocation process according to Title 4 of this methodology:
- a. development of business requirements, functional requirements and non-functional requirements which serve as a basis for procuring a cross-zonal capacity allocation optimisation function for the market-based process;
 - b. development of business requirements, functional requirements and non-functional requirements which serve as a basis for procuring the day-ahead market forecast validation process;
 - c. development of business requirements, functional requirements and non-functional requirements which serve as a basis for procuring the day-ahead market forecast process;
 - d. submission of an amendment of a manual of procedures as well as detailed data descriptions which will serve as the basis for fulfilling the publication requirements pursuant to Article 28 of this methodology;
 - e. submission of an amendment of the congestion income distribution methodology for all timeframes of each CCR;
 - f. submission of an amendment of the day-ahead capacity calculation methodology for all timeframes of each CCR;
 - g. submission of an amendment of the intra-day capacity calculation methodology for all timeframes of each CCR;
 - h. submission of an amendment of the balancing timeframe capacity calculation methodology for all timeframes of each CCR; and
 - i. submission of an amendment of the Regional Operational Security Coordination (ROSC) calculation methodology for all timeframes of each CCR and each TSO.

- (2) By twenty-four (24) months after approval of this methodology for a harmonised allocation process per timeframe by the European Union Agency for the Cooperation of Energy Regulators in accordance with Article 5(2) of ACER Regulation, all TSOs shall take the following steps for the technical implementation of the market-based allocation process according to Title 4 of this methodology:
 - a. procurement of a cross-zonal capacity allocation optimisation function for the market-based allocation process based on the requirements of paragraph (1)(a) to be concluded with a Factory Acceptance Test and ready to be installed and tested on site at the final entity responsible for operating the cross-zonal capacity allocation optimisation function for all the relevant applications of the market-based allocation process;
 - b. implementation of the requirements set forth in the amended manual of procedures as well as in the amended detailed data descriptions pursuant to paragraph (1)(d);
 - c. implementation of the amended congestion income distribution methodology for all timeframes of each CCR;
 - d. implementation of the amended day-ahead capacity calculation methodology for all timeframes of each CCR;
 - e. implementation of the amended intra-day capacity calculation methodology for all timeframes of each CCR;
 - f. implementation of the amended balancing timeframe capacity calculation methodology for all timeframes of each CCR; and
 - g. implementation of the amended Regional Operational Security Coordination (ROSC) calculation methodology for all timeframes of each CCR and each TSO.
- (3) After twenty-four (24) months after approval of this methodology for a harmonised allocation process per timeframe by the European Union Agency for the Cooperation of Energy Regulators in accordance with Article 5(2) of ACER Regulation, one or more TSO(s) who voluntarily intend to apply a market-based allocation process according to Title 4 of this methodology shall take the following steps before application:
 - a. requesting the relevant RCC(s) for the procurement of a day-ahead market forecast validation process based on the requirements of paragraph (1)(b) to be concluded with a Factory Acceptance Test and ready to be installed and tested on site at the final RCC(s) responsible for operating the forecast validation process for all the relevant applications of the market-based allocation process;
 - b. procurement of a day-ahead market forecast process based on the requirements of paragraph (1)(c) to be concluded with a Factory Acceptance Test and ready to be installed and tested on site at the final TSO(s) responsible for operating the forecast process for all the relevant applications of the market-based allocation process;
 - c. installing the cross-zonal capacity allocation optimisation function for the market-based allocation process into the processes of said TSO(s), as procured and concluded with a Factory Acceptance Test according to paragraph (2)(a), concluding with a Site Acceptance Test on site at the final TSO(s) responsible for operating the cross-zonal capacity allocation optimisation

- function for the market-based allocation process for all the relevant applications of the market-based allocation process;
- d. installing a day-ahead market forecast validation process into the processes of said TSO(s), as procured and concluded with a Factory Acceptance Test according to paragraph (3)(a), concluding with a Site Acceptance Test on site at the RCCs operating the day-ahead forecast validation process for all the relevant applications of the market-based allocation process;
 - e. installing a day-ahead market forecast process into the processes of TSO(s) as procured and concluded with a Factory Acceptance Test according to paragraph (3)(b) concluding with a Site Acceptance Test on site at the TSO(s) operating the day-ahead market forecast process for all the relevant applications of the market-based allocation process.
- (4) For existing applications of the market-based allocation process pursuant to the methodology of Article 41(1) of the EB Regulation, in which two or more TSOs that have in place an approved methodology pursuant to Article 38(1) before the implementation of the timeframes of market-based allocation of this methodology, which intend to continue their application, all rules of the timeframes of market-based allocation defined in this methodology shall be applied at the latest six (6) months after successful implementation of paragraph (2).
- (5) The allocation of cross-zonal capacity for the exchange of balancing capacity and/or sharing of reserves by existing applications according to paragraph (4) shall be an input as already allocated cross-zonal capacity for the relevant cross-zonal capacity allocation optimisation function of market-based allocation of this methodology.

Article 28

Publication

All TSOs shall publish the methodology for a harmonised allocation process per timeframe without undue delay after a decision has been adopted by the ACER in accordance with Article 5(2) of Regulation (EU) 2019/942 of the European Parliament and of Council of 5 June 2019 establishing a European Union Agency for the Cooperation of Energy Regulators (recast).

Article 29

Language

The reference language for this methodology for a harmonised allocation process per timeframe shall be English. For the avoidance of doubt, where TSOs need to translate this methodology for a harmonised allocation process per timeframe into their national language(s), in the event of inconsistencies between the English version published by TSOs in accordance with Article 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 methodology for a harmonised allocation process per timeframe.

