

**Augstsprieguma tīkls, Elering and Litgrid proposal for the
Baltic balancing capacity market in accordance with
Article 33(1) and Article 38(1) of the Commission
Regulation (EU) 2017/2195 of 23 November 2017
establishing a guideline on electricity balancing**

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AS Augstsprieguma tīkls, Elering AS and Litgrid AB Transmission System Operators taking into account the following:

Whereas

1. This document is a common proposal developed by the Transmission System Operators AS Augstsprieguma tīkls, Elering AS and Litgrid AB (hereinafter referred to as “Baltic TSOs”) regarding a proposal for the common and harmonised rules and processes for the sharing of reserves, exchange and procurement of FCR, mFRR and aFRR balancing capacity in the Baltic states in accordance with Article 33(1) of Commission Regulation (EU) 2017/2195 of 23 November establishing a guideline on electricity balancing (hereafter referred to as the “EB Regulation”) and regarding a proposal for the application of a market-based allocation process in accordance with Article 38(1). This proposal is hereinafter referred to as the “Proposal”.
2. The Proposal takes into account the general principles and goals set out in the EB Regulation as well as 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”), 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), and Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity (hereafter referred to as the “IME Regulation”).
3. The goal of the EB Regulation is to establish an EU-wide set of technical, operational and market rules to govern the functioning of electricity balancing markets. It sets out rules for the procurement of balancing capacity, the activation of balancing energy and the financial settlement of balance responsible parties. It also requires the development of harmonised methodologies for the allocation of cross-zonal transmission capacity (hereafter referred to as “CZC”) for balancing purposes. Such rules will increase the liquidity of short-term markets by allowing for more cross-border trade and for the more efficient use of the existing grid for the purposes of balancing energy.
4. The Baltic TSOs are mutually willing to exchange FCR capacities and exchange and share aFRR, mFRR capacities within the 3 Baltic bidding zones and have developed common and harmonised rules and processes for the exchange, sharing, and procurement of aFRR, mFRR and FCR capacity, which are determined based on dimensioning rules in accordance with Articles 153 and 157 of the SO Regulation.
5. Pursuant to Article 33(1) and 32(2) of EB Regulation the exchange of balancing capacity shall be performed based on a TSO-TSO model.
6. Article 33(2) of EB Regulation provides that Baltic TSOs should take into account the available cross zonal capacity. Pursuant to Article 38(4) of EB Regulation FCR shall not use cross zonal capacity allocation.
7. The Baltic TSOs will set the capacity procurement process and aFRR, mFRR and FCR capacity bids will be submitted to the system implementing the capacity procurement optimisation function consistent with Article 58(3) of the EB Regulation and the EB Regulation aims as stated its Article 3, this optimisation function shall maximize sum of welfare of the balancing capacity market and the forecast welfare of the day-ahead market. The procurement of upward and downward aFRR, mFRR and FCR capacities are carried out separately. To secure the exchange of aFRR, mFRR capacities, the Baltic TSOs will allocate CZC using a market-based allocation process.

8. The Baltic TSOs will ensure both the availability of CZC and that the operational security requirements set out in the SO Regulation are met. This is ensured by market-based allocation of CZC for the exchange and sharing of aFRR, mFRR capacities and described in a separate proposal developed in accordance with Article 41(1) of the EB Regulation. In addition, the Baltic TSOs are not allowed to increase the reliability margin due to the exchange of aFRR, mFRR and FCR capacities.
9. After synchronisation with the Continental Europe Synchronous Area (hereinafter - CESA), the Baltic TSOs shall procure balancing capacity based on the required volume which is determined in accordance with the Baltic load frequency control (hereinafter - LFC) block operational agreement. The required volume is determined based on dimensioning rules in accordance with Articles 153 and 157 of the SO Regulation.
10. To ensure a level playing field for the balancing capacity market participants, the Baltic TSOs need to harmonise the main technical requirements and prequalification principles. In the Harmonised principles for Baltic LFC reserve prequalification, Baltic TSOs describe the technical requirements for all LFC reserve types and the prequalification procedures, in accordance with Articles 155 and 159 of the SO Regulation, which will still be applicable after synchronisation with CESA. The final obligation of developing prequalification rules lies on each Baltic TSO, then Baltic TSOs agree to follow the requirements and principles in the national prequalification procedures.

SUBMIT THE FOLLOWING PROPOSAL TO RELEVANT REGULATORY AUTHORITIES:

Article 1 Subject matter and scope

1. This Proposal shall be considered as the common proposal of Baltic TSOs for the establishment of a regional FCR, mFRR and aFRR capacity markets with common rules and processes for the procurement, sharing and exchange of balancing capacities in accordance with Article 33(1) of EB Regulation.
2. This Proposal defines the proposal for the application of market-based allocation process pursuant to Article 38(1) of EB Regulation.

Article 2 Definitions

1. For the purposes of the Proposal, terms used in this document shall have the meaning of the definitions included in Article 2 of the EB Regulation, Article 2 and 3 of the SO Regulation and of Regulation (EC) 714/2009, Directive 2009/72/EC, Commission Regulation (EU) 543/2013.
2. The following definitions shall also apply:
 - a. Methodology for market-based capacity allocation – Approved Methodology for the market-based allocation process of cross-zonal capacity for the exchange of balancing capacity for the Baltic CCR in accordance with Article 41(1) of the Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing.
 - b. Demand reduction resources - resources provided by the Baltic TSOs or other service providers for the reduction of the demand, to be procured from primary and back-up resources, according to Article 32(1) of the EB Regulation.
 - c. Primary resources – resources provided by the BSPs for the balancing capacity market auctions.
 - d. Back-up resources - additional resources provided for balancing market auctions in case of unsatisfactory balancing capacity market optimisation results.
 - e. Optimisation function - capacity procurement optimisation function meant for operating the algorithm applied for the optimisation of the procurement of balancing capacity.
 - f. Reserve providing unit (RPU) - a single power generating module, demand unit or an aggregation of technical entities connected to a common connection point fulfilling the requirements to provide FCR or FRR.
 - g. Reserve providing group (RPG) - an aggregation of technical entities and/or reserve providing units connected to more than one connection point fulfilling the requirements to provide FCR or FRR.
 - h. Mandatory energy bids – FRR energy bids corresponding to the procured balancing capacity amounts.
 - i. Connecting TSO - the TSO that operates the scheduling area in which balancing service providers and balance responsible parties shall be compliant with the terms and conditions related to balancing, in accordance with Article 2(22) of the EB Regulation.
 - j. TSO-TSO model - a model for the exchange of balancing services where the balancing service provider provides balancing services to its connecting TSO, which then provides these balancing services to the requesting TSO, in accordance with Article 2(21) of the EB Regulation.
3. In the Proposal, unless the context requires otherwise:
 - a. the singular indicates the plural and vice versa;

- b. the table of contents and headings are inserted for convenience only and do not affect the interpretation of the Proposal;
- c. any reference to legislation, regulations, directive, order, instrument, code, or any other enactment shall include any modification, extension, or re-enactment of it then in force.

Article 3 High level design of the Baltic balancing capacity market

1. The market area equals to all bidding zones in Estonia, Latvia and Lithuania. The Baltic TSOs shall allocate cross-zonal capacity for the exchange and sharing of aFRR and mFRR balancing capacity in accordance with the Methodology for market-based capacity allocation on each bidding zone border between the bidding zones in Estonia, Latvia and Lithuania.
2. The procurement is organized with a TSO-TSO model, in which balancing capacity is procured through a common auction where Baltic TSOs pool the offers they have received from the Balancing Service Providers (BSPs) connected to their respective grids. Every BSP needs to establish a contract with its Connecting TSO in accordance with EB Regulation.
3. The Baltic TSOs procure balancing capacity based on the required volume which is determined based on dimensioning rules in accordance with Articles 153 and 157 of the SO Regulation.
4. The Baltic balancing capacity market includes the following balancing capacity auctions:
 - a. FCR auction with optimisation function for symmetrical balancing capacity.
 - b. FRR auctions with single optimisation function with allocation of cross zonal capacities for exchange and sharing of FRR within the 3 Baltic bidding zones:
 - i. aFRR auction for upward balancing capacity;
 - ii. aFRR auction for downward balancing capacity;
 - iii. mFRR auction for upward balancing capacity;
 - iv. mFRR auction for downward balancing capacity.
5. The auctions will be organized for the day-ahead timeframe pursuant to Article 6 point 9 of IME Regulation.
6. The market time unit (hereinafter - MTU) for all auctions of the Baltic balancing capacity market shall be equal to the market time unit of single day-ahead coupling.
7. Procurement of balancing capacities and allocation of cross-zonal capacities for exchange and sharing of FRR shall be performed for the day-ahead timeframe for the day (from hour 0 to hour 24) according to Central European Time zone.
8. Baltic TSOs apply the optimisation function for each balancing capacity auction as described in Article 8.
9. Optimisation function of each balancing capacity auction determines the results which are used by Connecting TSOs to contract the balancing capacity services from BSPs connected to their respective grids in the form of standard balancing capacity products.

10. For each contracted standard mFRR balancing capacity product bid, each BSP shall provide corresponding capacity in the form of standard mFRR balancing energy product bid(s), defined in the national standard terms and conditions for BSP. Such bids shall be direct activatable bids.
11. For each contracted standard aFRR balancing capacity product bid, each BSP shall provide corresponding capacity in the form of standard aFRR balancing energy product bid(s), defined in the national standard terms and conditions for BSP.
12. The Methodology for market-based capacity allocation is applied to ensure the exchange and sharing of aFRR and mFRR capacities in accordance with exchange and sharing limits agreed among the Baltic TSOs.

Article 4 Prequalification

1. Each Connecting TSO is responsible for the prequalification for the provision of the standard balancing capacity product of the reserve providing units and/or reserve providing groups of the BSPs connected to their respective grids, in accordance with the Harmonised principles for Baltic LFC reserve prequalification, which is published on Baltic TSOs' websites.
2. Each BSP intending to provide standard balancing capacity product bids shall have successfully passed a prequalification process defined by the Connecting TSO pursuant to national standard terms and conditions for BSPs. The prequalification process is derived from the Harmonised principles for Baltic LFC reserve prequalification, which is published on Baltic TSOs' websites. BSPs shall be eligible to submit balancing capacity bids of prequalified reserve providing units and/or reserve providing groups to the Baltic balancing capacity market.
3. Each BSP shall provide capacity bids in amounts not higher than resources eligible to participate in the Baltic balancing market.

Article 5 Product and bid characteristics

1. The following FCR product shall be used in FCR auction:

	FCR product
Direction	Symmetric product.
Minimum bid quantity	1 MW.
Bid granularity	1 MW.
Bid divisibility	BSPs are allowed to submit divisible, indivisible, or partly divisible bids, based on BSP prequalification.
Maximum bid quantity	As defined in prequalification of BSP units or groups.
Location	Bidding zone and identification of the reserve provider, reserve providing unit or reserve providing group.
Price resolution	0,01 EUR/MW/h.

Price	In EUR/MW/h. Positive or zero, maximum price cap is equal to the maximum possible bid price in the day-ahead market EUR/MW/h.
Validity	Single MTU.
Linking	Block bids: Bids with the same volume and prices of consecutive MTUs can be linked, meaning that all these bids must either be rejected or accepted in the same amount.
Availability	FCR capacity bids shall be fully available for FCR service provision during the delivery period.

2. Following mFRR and aFRR products shall be used in FRR auction:

	aFRR and mFRR products
Direction	Upward or downward.
Minimum bid quantity	1 MW.
Bid granularity	1 MW.
Bid divisibility	BSPs are allowed to submit divisible, indivisible, or partly divisible bids, based on BSP prequalification.
Maximum bid quantity	As defined in prequalification of BSP reserve providing units or reserve providing groups.
Price resolution	0,01 EUR/MW/h.
Price	In EUR/MW/h. Positive or zero, maximum price cap is equal to the maximum possible bid price in the day-ahead market EUR/MW/h.
Validity	Single MTU.
Links between bids	Block bids: Bids with same volume, direction, and prices of consecutive MTUs can be linked, meaning that all these bids must either be rejected or accepted in the same amount. Joint linked bids: a bid can be linked with another bid of the same MTU. Both linked bids must be either rejected or accepted in the same amount. Joint linked bids can be used to link aFRR or mFRR bids of the opposite direction. Exclusive bids: It will be possible to present a single bid as a bid curve, where only one bid of the group of bids constituting the bid curve can be selected within the same MTU. Exclusive bid linking between aFRR and mFRR bids is not allowed.

	<p>Exclusive groups may contain block bids and joint linked bids. A total of 10 groups of bids can be submitted in a single exclusive group.</p> <p>Bids with the same technical limitations: maximum duration and minimum resting time, can be linked together. This can be combined with joint linked bids and exclusive bids.</p>
Location	Bidding zone and identification of the reserve providing unit or reserve providing group.
Availability	Accepted FRR capacity bids shall be fully available for FRR energy activation during the delivery period. The linking of FRR energy bids must ensure that the amount of the procured FRR capacity would always be available regardless of the activations in previous MTUs.
Technical granularity	<p>Indivisible FRR bids shall be submitted on RPU level only, unless permission by the connecting TSO is given to submit indivisible, or indivisible bids limited in size on the RPG level on the basis of:</p> <p>a) the BSP resource that constitutes a single generation unit is connected to several connection points;</p> <p>b) the BSP is aggregating FRR bids from several assets which would be unable to participate in the market individually due to their size.</p>

Article 6 Bid submission, capacity order and Mandatory FRR energy bid submission and process timing

1. Balancing capacity bids are provided by BSPs (primary resources) to Connecting TSOs.
2. The Baltic TSOs may apply demand reduction resources aimed at limiting the risk of insufficient supply in the capacity market, according to Article 32(1)(c) of the EB Regulation and according to national legislation. In the optimisation function, these resources shall be used to reduce the amount of balancing capacity to be procured from primary and backup resources to cover the Baltic TSO demand. Baltic TSOs with demand reduction resources shall not be remunerated for the capacity applied to the optimisation result.
3. The Baltic TSOs may use their own resources or other available resources as back-up resources according to national legislation. Back-up resources shall only be used during Step 1.c of optimisation, where they will have lower priority than primary and demand reduction resources and shall not further increase the marginal price of their corresponding bidding zone.
4. The balancing capacity bid opening time for the submission of balancing capacity bids by BSPs to the Connecting TSO shall be no later than 00:00 (EET) 14 calendar days prior to the delivery day.

5. The balancing capacity bid closure time for the submission of FCR capacity bids by BSPs to the Connecting TSO shall be no later than 7:30 (EET) calendar day prior to the delivery day.
6. BSP shall provide the following information in FCR capacity bid:
 - a. maximum capacity bid quantity in MW;
 - b. minimum capacity bid quantity in MW in accordance with prequalification, in case it is provided in the bid;
 - c. price in EUR/MW/h;
 - d. the MTU for which the bid is valid;
 - e. bidding zone for which the bid is provided;
 - f. bid linking information;
 - g. reserve provider;
 - h. reserve providing unit or reserve providing group in accordance with prequalification.
7. Each Baltic TSO shall publish the FCR procurement results and submit to respective BSPs the FCR capacity order no later than 8:00 (EET).
8. The connecting TSO shall at least provide the following information in the FCR capacity order:
 - a. ordered quantity in MW;
 - b. order price in EUR/MW/h;
 - c. the MTU for which the order is valid;
 - d. reserve provider;
 - e. reserve providing unit or reserve providing group in accordance with prequalification.
9. The balancing capacity bid closure time for the submission of mFRR and aFRR capacity bids by BSPs to the Connecting TSO shall be no later than 9:00 (EET) calendar day prior to the delivery day.
10. BSP shall provide the following information in aFRR or mFRR capacity bid:
 - a. maximum capacity bid quantity in MW;
 - b. minimum capacity bid quantity in MW in accordance with prequalification, in case it is provided in the bid;
 - c. price in EUR/MW/h;
 - d. the MTU for which the bid is valid;
 - e. bidding zone for which the bid is provided;
 - f. bid linking information;
 - g. optionally, the minimum resting time;
 - h. optionally, the maximum duration;
 - i. reserve provider;

- j. reserve providing unit or reserve providing group in accordance with prequalification.
11. Each Baltic TSO shall publish the FRR procurement results and submit to respective BSPs the aFRR and mFRR capacity order no later than 10:00 (EET).
 12. Connecting TSO shall at least provide the following information in the FRR capacity order:
 - a. ordered quantity in MW;
 - b. order price in EUR/MW/h;
 - c. the MTU for which the order is valid;
 - d. reserve provider;
 - e. reserve providing unit or reserve providing group in accordance with prequalification;
 13. BSP is allowed to update FCR and FRR capacity order information before the gate closure time for transfer of obligation of each MTU. The order can be split into several orders, but the total volume of the initial order shall be respected. Information which can be updated:
 - a. ordered quantity in MW;
 - b. reserve provider;
 - c. reserve providing unit or reserve providing group in accordance with the prequalification.
 14. BSP submits the preliminary Mandatory energy bids to the FRR energy market for the next day no later than 16:30 EET in accordance with the national standard terms and conditions for BSPs.
 15. BSP submits final Mandatory energy bid to the FRR energy market until the energy bid submission gate closure time in accordance with the national standard terms and conditions for BSPs.

Article 7 Allocation of cross-zonal capacity for balancing capacity market

1. The Baltic TSOs shall ensure both the availability of cross-zonal capacity and that the operational requirements set out in the SO Regulation are met by applying market-based allocation process for allocating cross-zonal capacity to the balancing timeframe. The Baltic TSOs shall allocate the cross-zonal capacity to the Baltic FRR capacity market in accordance with the Methodology for market-based capacity allocation.
2. The Baltic TSOs shall respect the default and increased percentage limits of maximum volume of cross-zonal capacity allocated for the exchange of balancing capacity defined in the Methodology for market-based capacity allocation.
3. The cross-zonal capacity that is calculated in accordance with the capacity calculation methodology developed pursuant to the CACM Regulation shall be used by Baltic TSOs in the allocation process of cross-zonal capacity for the exchange and sharing of balancing capacity.
4. The allocated cross-zonal capacity for exchange and sharing of FRR capacity shall be taken into account in day-ahead and intraday capacity calculation timeframe as previously allocated cross-zonal capacity in accordance with the methodology pursuant to Article 20(2) of the CACM Regulation.
5. For covering of the required accessible volume of FRR capacities Baltic TSOs only use the capacity procured within the particular bidding zone together with exchanged and shared capacities outside the bidding zone for which the cross-zonal capacity was allocated for. Balancing capacity outside the bidding zone for which no cross-zonal capacity was allocated for, cannot be taken into account for ensuring the accessible volume for FRR capacities.

Article 8 Procurement optimisation function

1. Pursuant to Articles 33 and 58(3) of the EB regulation, the algorithm for the FCR balancing capacity optimisation function shall be based on the following principles:
 - a. The input to the optimisation algorithm is:
 - i. all FCR balancing capacity bids received from primary and back-up resources submitted by each Connecting TSO;
 - ii. reserve requirement of FCR balancing capacity for each bidding zone submitted by each Connecting TSO;
 - iii. volume of demand reduction resources for FCR per bidding zone.
 - b. The FCR optimisation algorithm concludes on the solution of the Baltic balancing capacity market in 2 major steps, while the first step can contain one smaller step which is triggered only if certain conditions are met. Step 1 of the optimisation algorithm aims to select the successful BSP bids to fulfil the Baltic LFC block reserve requirement. Step 2 of the optimisation algorithm determines the clearing price according to the decisions made in Step 1. The steps of the optimisation algorithm in detail are as follows:

- i. **Step 1.a** of the optimisation is performed with all capacity bids provided by primary resources and demand reduction resources. If all Baltic TSOs' reserve requirements are satisfied the results of this run are considered as final results of the optimisation algorithm;
 - ii. in case in result of Step 1.a of the optimisation reserve requirement of one or more Connecting TSO is not satisfied, **Step 1.b** of the optimisation is performed with all capacity bids provided by primary, demand reduction and back-up resources. Bids provided by primary resources shall always have priority over bids provided by back-up resources. Back-up resource bids shall all be treated as being with a price equal to the highest accepted bid price for primary and/or demand reduction resources and will not increase the marginal price of any area. The decisions made regarding the chosen bids of Step 1.b are considered as final.
 - iii. **Step 2** takes as input from Step 1 (depending on which substeps of Step 1 were executed) the decision on the chosen bids. In this step, the balancing capacity price is determined according to the principles defined in Article 10.
- c. The objective function of the optimisation algorithm for FCR run during Step 1 is the maximization of socio-economic welfare. Welfare shall be maximized by the optimization algorithm by changing the values of the relevant optimization variables. The welfare is expressed by provision cost of FCR capacity and the following expression is used:

$$\sum_i (bidcost_i \times bidvolume_i \times selected_i)$$

Where:

bidcost_i – cost of bid *i*;

bidvolume_i – volume of bid *i*;

selected_i – Boolean determining whether bid *i* is accepted or not.

- d. The constraints of the optimisation algorithm in Step 1 are to:
- i. apply the import and export limit for a country pursuant to Article 33(2) EB Regulation providing that Baltic TSOs take into account in their proposal the "operational limits defined in Chapters 1 and 2 Part IV Title VIII of Commission Regulation (EU) 2017/1485";
 - ii. respect linking of the bids;
 - iii. respect indivisibility of bids.
- e. A process shall be in place to choose a single algorithm solution according to pre-determined criteria, in case several algorithm solutions exist with equal welfare outcomes. The relevant criteria shall be communicated to the market participants by the time of the go-live of the Baltic LFC block balancing capacity market.
- f. The outputs for each MTU from the optimisation algorithm are:
- i. procured volume of each selected bids;

- ii. marginal price for FCR balancing capacity.
2. Pursuant to Articles 33 and 58(3) and Title IV of the EB Regulation, the algorithm for the FRR balancing capacity optimisation function shall be based on the following principles:
- a. The inputs to the optimisation algorithm are:
 - i. all FRR balancing capacity bids received from primary and back-up resources submitted by each Connecting TSO;
 - ii. total reserve requirement of FRR balancing capacity for each bidding zone submitted by each Connecting TSO;
 - iii. minimum reserve requirement on aFRR balancing capacity for each bidding zone submitted by each Connecting TSO;
 - iv. minimum reserve requirement on aFRR balancing capacity for the 3 Baltic bidding zones;
 - v. total reserve requirement on FRR balancing capacity for the 3 Baltic bidding zones;
 - vi. volume of demand reduction resources for FRR per bidding zone;
 - vii. cross-zonal capacities available for allocation for FRR exchange and sharing in accordance with default and increased percentage limits defined in Article 5(1) of the Methodology for market-based capacity allocation;
 - viii. the total CZC capacity available for each bidding zone borders to FRR exchange and sharing and the exchange of energy;
 - ix. the forecasted market value of cross-zonal capacity for each bidding zone border in the day-ahead market timeframe defined in accordance with Methodology for market-based capacity allocation.
 - b. The optimisation algorithm concludes on the solution of the Baltic balancing capacity market in 2 major steps, while the first step can contain several smaller steps which are triggered only if certain conditions are met. Step 1 of the optimisation algorithm aims to allocate CZC for balancing capacity and select the successful BSP bids to fulfil the Baltic LFC block reserve requirement. Step 2 of the optimisation algorithm determines the clearing price according to the decisions made in Step 1. The steps of the optimisation algorithm in detail are as follows:
 - i. **Step 1.a** of the optimisation is performed with all capacity bids provided by primary resources and demand reduction resources. If all Baltic TSOs' reserve requirements are satisfied the results of this run are considered as final;
 - ii. in case in result of Step 1.a of the optimisation reserve requirement of one or more Connecting TSO is not satisfied, **Step 1.b** of the optimisation is performed with all capacity bids provided by primary resources and demand reduction resources and with increased cross border capacity limits up to second level pursuant to the Methodology for market-based capacity allocation. If all Baltic TSOs' reserve requirements are satisfied the results of this run are considered as final;

- iii. In case in result of Step 1.b of the optimisation reserve requirement of one or more Connecting TSO is not satisfied, **Step 1.c** of the optimisation is performed with all capacity bids provided by primary, demand reduction, and back-up resources and with increased cross border capacity limits up to second level pursuant to the Methodology for market-based capacity allocation. Bids provided by primary resources shall always have priority over bids provided by back-up resources. Back-up resource bids shall all be treated as being with a price equal to the highest accepted bid price for primary and/or demand reduction resources and will not increase the marginal price of any area. The decisions made regarding CZC allocated for balancing capacity and the chosen bids of Step 1.c are considered as final.
- iv. **Step 2** takes as input from Step 1 (depending on which substeps of Step 1 were executed) the decision on the CZC allocation for balancing capacity as well as the chosen bids. In this step, the balancing capacity price is determined according to the principles defined in Article 10.
- c. The objective function of the optimisation algorithm in Step 1 is the maximisation of the sum of forecast economic surplus for single day-ahead coupling and the economic surplus from the exchange of balancing capacity or sharing of balancing capacity per trading day. Welfare shall be maximized by the optimization algorithm by changing the values of the relevant optimization variables, where the following expression is used:

$$\sum_{i,c} \left(bidcost_i \times bidvolume_i \times selected_i + V_{da,c} (MCP_c + \alpha_c \times V_{da,c}) \times \frac{1}{2} \right)$$

Where:

$bidcost_i$ - the cost of bid i ;

$bidvolume_i$ - the volume of bid i ;

$selected_i$ - a Boolean determining whether bid i is accepted or not;

$V_{da,c}$ - the deviation of the forecast net position of bidding zone c ;

MCP_c - the forecasted day-ahead market price in bidding zone c ;

α_c - the price/volume sensitivity of day-ahead bidding zone c .

- d. The constraints of the optimisation algorithm in Step 1 are to:
 - i. apply the import and export limit for a country pursuant to Article 33(2) EB Regulation providing that Baltic TSOs take into account in their proposal the "operational limits defined in Chapters 1 and 2 Part IV Title VIII of Commission Regulation (EU) 2017/1485";
 - ii. apply the estimated value of CZC in day-ahead market and restrictions on CZC allocation pursuant to the Methodology for market-based capacity allocation;
 - iii. ensure that for the second and third optimisation run value of CZC is increased to the point the Connecting TSOs reserve requirements are satisfied or maximum limit of CZC is reached;

- iv. ensure that the accessible volume of procured balancing capacity for each bidding zone must be equal or greater than the reserve requirement of that bidding zone;
 - v. ensure that the total amount of procured balancing capacity must be equal or greater than the total amount of FRR reserve requirement;
 - vi. respects indivisibility of bids for both aFRR and mFRR;
 - vii. respect linking of the bids.
- e. A process shall be in place to choose a single algorithm solution according to pre-determined criteria, in case several algorithm solutions exist with equal welfare outcomes. The relevant criteria shall be communicated to the market participants by the time of the go-live of the Baltic LFC block balancing capacity market.
- f. The outputs for each MTU from the optimisation algorithm are:
- i. allocated CZC (MW) for exchange and sharing of FRR capacity per bidding zone border and the maximum allocated CZC (MW) for the day ahead electricity market;
 - ii. procured volume of each selected bids;
 - iii. the marginal price of each balancing capacity product in each of the bidding zones.

Article 9 Fallback procedures

1. Fallback conditions for FCR or FRR procurement apply in the following cases:
 - a. the algorithm is unavailable during the procurement process;
 - b. one or more Baltic TSOs is unable to provide validated input data to the algorithm;
 - c. the algorithm delivers no output data in accordance with Article 8(1)(f) or Article 8(2)(f);
2. Baltic TSOs shall publish information about fallback conditions and application of fallback procedure without undue delay.
3. In case the Baltic TSOs identify any of the fallback conditions listed in section 1 more than 24 hours before the gate closure time of the FCR auction of the relevant day, either of the fallback procedures detailed in sections 4 and 5 can be applied for all balancing capacity auctions of that day. In case when any of the fallback conditions listed in section 1 is identified less than 24 hours before the gate closure time of the balancing capacity auction, the fallback procedure detailed in section 5 shall apply for all balancing capacity auctions of that day.
4. Under fallback conditions which apply when any of the fallback conditions listed in section 1 is identified more than 24 hours before the gate closure time of the relevant balancing capacity auction, the Baltic balancing capacity market auctions for FCR, aFRR, mFRR balancing capacity are to be conducted jointly by the Baltic TSOs via a prepared simplified procurement algorithm.
 - a. The cross-zonal capacity shall be allocated according to the Methodology for market-based capacity allocation.

- b. Simplifications can be made based on a common Baltic TSOs' decision in the balancing capacity procurement rule aspects listed below. Each simplification shall be communicated to stakeholders at least 24 hours before the gate closure time of the relevant balancing capacity auction. Simplifications can be made in regards of:
 - i. Linking of bids, except block bids;
 - ii. Publications deadlines for data listed in Articles 12(2) and 12(3) of the Methodology for market-based capacity allocation.
5. Under fallback conditions which apply when any of the fallback conditions listed in section 1 is identified less than 24 hours before the gate closure time of the FCR auction of the relevant day, the Baltic balancing capacity market auctions for FCR, aFRR, mFRR balancing capacity are to be conducted at the national level in each Baltic bidding zone according to the national standard terms and conditions.
 - a. The FCR balancing capacities in fallback condition shall be procured in volume in each bidding zone as dimensioned for each bidding zone respectively.
 - b. The allocated volume of cross-zonal capacity for the exchange of balancing capacity or sharing of reserves shall be calculated based on the accessible volume of a bidding zone and the distributed FRR balancing capacity determined from the calculated distribution key. Calculated value of cross-zonal capacity shall not be higher than limits of maximum volume of cross-zonal capacity allocated for the exchange of balancing capacity defined in Article 5(1) of the Methodology for market-based capacity allocation.
 - c. The aFRR and mFRR balancing capacities in fallback conditions shall be procured in each area based on the required accessible volume and allocated volume of cross-zonal capacity for the exchange balancing capacity or sharing of reserves. These capacities shall be shared and distributed within the Baltic bidding zones in accordance with the common Baltic LFC block dimensioning methodology and the distribution of the capacities shall be based on the distribution keys derived from the reserve volumes of the bidding zones.

Article 10 TSO-BSP Settlement

1. The balancing capacity price shall be based on the marginal pricing (pay-as-cleared) principle in accordance with Article 8. In a set of uncongested bidding zones, the balancing capacity price shall be equal. If a bidding zone is importing through a congestion, the price in that area shall be the maximum value of the two following quantities: the price of the most expensive accepted balancing capacity bid in that bidding zone and the balancing capacity price in the exporting bidding zone.
2. The TSO-BSP volume shall be set by the volume of the procured BSP bids.
3. The TSO-BSP settlement shall be equal to the procured amount of the balancing capacity product multiplied by the respective balancing capacity price of that product as defined in paragraph 1.

4. In the case of block bids described in Article 5, such bids shall not necessarily set the marginal price of balancing capacity. However, these bids may lead to an increase of the marginal price in order to cover the total cost of the bid.

Article 11 TSO-TSO Settlement

1. The Baltic TSOs shall share the costs of procured balancing capacity according to the predetermined cost sharing keys which have been calculated according to the accessible volumes and the dimensioned amounts for each Baltic bidding zone.

Article 12 Transfer of obligations

1. Each BSP shall be allowed to transfer their obligations to provide balancing capacities only within the same bidding zone pursuant to the following conditions:
 - a. the receiving BSP has passed the qualification process for the balancing capacity for which the transfer is performed, and total capacity provided by receiving BSP is not higher than resources eligible to participate in the Baltic balancing market;
 - b. BSP that transfers the obligation and BSP that receives the obligation provides the information to Connecting TSO before gate closure time for transfer of obligation of each MTU.
2. Gate closure time for transfer of obligation is set to 60 minutes before each MTU.
3. BSP shall not be allowed to transfer their obligations to provide aFRR and mFRR balancing capacities to BSPs operating in other bidding zones pursuant to the Baltic NRAs' decision on the Exemption to the obligation to allow transfer of aFRR and mFRR balancing capacity for all bidding zones in the Baltic countries (hereinafter – Exemption) in accordance with Article 34(1) of Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing. Such restriction shall only apply until the Exemption is no longer in force.
4. In the event that a BSP transfers its balancing capacity obligation, the receiving BSP obtains the obligation to be fully available for FRR energy activation or FCR capacity provision during the delivery period.
5. Information about transfer of obligations shall be submitted by BSPs in the form of a capacity order update described in paragraph 14 in Article 6. For any errors or discrepancies in the updated orders, the BSP, which has received the initial order, is responsible.

Article 13 Monitoring of quality (energy and capacity service)

1. The Baltic TSOs shall monitor the compliance of BSPs with the rules of the Baltic balancing capacity market proposal.
2. Connecting TSOs shall, on a case-by-case basis, apply sanctions, in accordance with national standard terms and conditions for BSPs pursuant to Article 18(1)(a) of the EB Regulation, in case the contracted

BSPs do not comply with provisions of the Baltic balancing capacity market proposal, which can include, but not limited to:

- a. penalty fee in order to remediate the noncompliance of the contracted BSP. The penalty fee shall be equal to the product of the unavailable aFRR and mFRR capacity and the price of balancing capacity product multiplied by two, but not less than the product of the unavailable aFRR and mFRR capacity and the day-ahead market price for the relevant MTU;
 - b. suspension of qualification.
3. Baltic TSOs shall monitor at least:
- a. total amount of capacity provided in bids by single BSP in accordance with the amount eligible for participation in the capacity market;
 - b. total amount of capacity provided in orders by single BSP in accordance with the amount eligible for participation in the capacity market;
 - c. availability of resources identified for provision of the capacity for the periods during which resources are utilized for;
 - d. provision of energy bids in the energy market in accordance with the capacity orders.

Article 14 Publication of information

1. Baltic TSOs ensure that all information regarding balancing capacity market operations is complete and publicly available as required by the EB Regulation, national legislations and other legislations related to the transparency of the data. The Baltic TSOs shall publish the following information in accordance with Article 12(3) of the EB Regulation:
 - a. offered volumes as well as offered prices of procured balancing capacity, anonymised where necessary, no later than one hour after the results of the procurement have been notified to the BSPs. This information shall be published on a publicly accessible website once the outputs of the optimisation function are available and no later than one hour after the accepted balancing capacity bids have been notified to the relevant BSPs;
 - b. description of the algorithm for optimisation function, balancing capacity bid selection and pricing of procured balancing capacity in accordance with Article 8. This document shall be published and kept updated with every new version of the optimisation function and balancing capacity bid selection and pricing at least one month before the application of this algorithm. The document shall be publicly available on the Baltic TSOs' webpage;
 - c. subject to approval pursuant to Article 18 of the EB Regulation, a TSO may withhold the publication of information on offered prices and volumes of balancing capacity pursuant to paragraph 1(a) bids if justified for reasons of market abuse concerns and if not detrimental to the effective functioning of the electricity markets. The 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 and pursuant to Article 12(4) of the EB Regulation.

2. Baltic TSOs, by six months after the go-live of the Baltic balancing capacity market and subsequently at least once a year, shall publish and submit information to the relevant regulatory authorities about the volumes and usage of demand reduction resources and back-up resources. If necessary, Baltic TSOs shall change the volume used for demand reduction resources and back-up resources. Such changes shall be publicly communicated without undue delay.

Article 15 Publication and implementation of the proposal

1. The Baltic TSOs shall publish the Proposal without undue delay after concerned regulatory authorities have approved this methodology or a decision has been made by the European Union Agency for the Cooperation of Energy Regulators. Baltic TSOs shall publish information about the launch of procurement of FCR, aFRR, mFRR in accordance with this proposal no later than 3 months in advance.

Article 16 Language

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