European Network of
Transmission System Operators
for Electricity

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All TSOs' of CCR Nordic proposal for a methodology for a market-based allocation process of cross-zonal capacity for the exchange of balancing capacity in accordance with Article 41(1) of Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing

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All TSOs of the Nordic Capacity Calculation Region, taking into account the following,

Whereas

(1) This document is a common proposal developed in accordance with Article 41(1) of Commission Regulation (EU) 2017/2195 of 23 November establishing a guideline on electricity balancing (hereafter referred to as the "EB Regulation") by all Transmission System Operators (hereafter referred to as the "TSOs") in the geographic area covering the Nordic capacity calculation region (hereafter referred to as the "CCR Nordic") as defined in accordance with Article 15 of 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") regarding a proposal for the methodology for a market-based allocation process of cross-zonal capacity (hereafter referred to as "CZC") for the exchange of balancing capacity in the CCR Nordic. 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 Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation (hereafter referred to as the "SO Regulation"), 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 "Electricity Market 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 CZC for balancing purposes. Such rules will increase the liquidity of short-term markets by allowing for more cross-zonal trade and for the more efficient use of the existing grid for the purposes of balancing energy.

(4) The TSOs intend to exchange balancing capacity and have for that reason developed common and harmonised rules and processes for this exchange and procurement. To secure this exchange of balancing capacity, the TSOs will allocate CZC using a market-based allocation process. The Proposal shall define the details of a market-based allocation methodology.

(5) The Proposal shall include the following elements: (i) the notification process for the use of the market-based allocation process; (ii) a detailed description of how to determine the actual market value of CZC for the exchange of balancing capacity, and the forecasted market value of CZC for the exchange of energy; (iii) a detailed description of the pricing method, the firmness regime and the sharing of congestion income for the CZC that has been allocated to bids for the exchange of balancing capacity via the market-based allocation process; and (iv) the process to define the maximum volume of allocated CZC for the exchange of balancing capacity.

(6) CZC allocated shall be limited to 10% of the available capacity between the respective bidding zones, based on the latest available CZC calculated for the day-ahead timeframe. For new interconnectors this will be 10% of the total installed technical capacity of these new

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interconnectors. The CZC allocated for the exchange of balancing capacity will be used only for the exchange of balancing capacity and the associated exchange of balancing energy.

(7) The methodology for market-based allocation is based on an optimisation process that seeks to minimise the socioeconomic costs of procuring balancing capacity, taking account of the implied cost of reserving CZC for the exchange of balancing capacity. Consistent with Article 58(3) of the EB GL and the EB GL's aims as stated its Article 3, this optimisation process minimises the overall procurement costs of all jointly procured balancing capacity so as to enhance the efficiency of balancing and of European and national balancing markets. This process takes the forecasted market value of CZC capacity for the exchange of energy as a cost input. The pricing method, the firmness regime and the sharing of congestion income for CZC that has been allocated for the exchange of balancing capacity ensures fair treatment with CZC allocated for the exchange of energy.

(8) The optimisation process used to allocate CZC effectively trades-off the use of CZC for the exchange of balancing capacity with this CZC's potential alternative use for the exchange of energy. This process also, simultaneously, selects the balancing capacity bids that will be accepted. The forecasted value of CZC for the exchange of energy that is used in this process is calculated based on the latest available day-ahead energy prices in the connecting bidding zones as described in detail in Article 5. The value of CZC for the exchange of balancing capacity is handled within the optimisation process itself and informed by the actual balancing capacity bids submitted by balancing service providers (BSPs). The TSOs have reviewed the accuracy and efficiency of the proposed approach used to forecast the value of CZC for the exchange of energy in preparing this proposal and will, as part of the allocation processes' implementation, collect information on and review the efficiency of the forecasting methodology used. This review will include a comparison of the forecasted and actual market values of CZC for the exchange of energy.

(9) The TSOs shall publish, as soon as it becomes available, information on CZC allocation for the exchange of balancing capacity as well as information on the use of CZC for the exchange of balancing capacity.

(10) Article 5(5) of the EB Regulation requires that the expected impact of the Proposal on the objectives of the EB Regulation is described. The impact is presented below (points (11) to (15) of this Whereas Section).

(11) The Proposal contributes and does not in any way hamper the achievement of the objectives of Article 3 of the EB Regulation. In particular, the Proposal serves the following objectives:

(12) The Proposal fosters effective competition, non-discrimination and transparency in balancing markets (Article 3(1)(a) of the EB Regulation) by creating the regional Nordic capacity market with common and harmonised rules and processes for the procurement and exchange of balancing capacity and by applying a market-based CZC allocation process for exchanging balancing capacity. This Proposal together with the common and harmonised rules and processes for the exchange and procurement of balancing capacity developed in accordance with Article 33 of the EB Regulation creates a common Nordic system for the procurement and exchange of balancing capacity. The market is based on common, transparent and non-discriminatory rules

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for submitting bids and selecting bids to cover demand in each bidding zone efficiently. The balancing capacity is settled to a clearing price for each bidding zone that signals the competitive bid price level in each market time unit and incentivises market players to bid according to their actual reservation cost.

(13) The Proposal enhances the efficiency of balancing as well as the efficiency of European and national balancing markets (Article 3(1)(b) of the EB Regulation) and contributes to the objective of integrating balancing markets and promoting the possibilities for exchanges of balancing services while contributing to operational security (Article 3(1)(c) of the EB Regulation). The bid selection of the Nordic market is based on an optimisation that seeks to cover demand in each bidding zone by minimising total social costs including, where relevant, the foregone value of CZC to the energy market. This contributes to efficient balancing by making possible an efficient utilisation of balancing capacity resources across bidding zone borders in order to secure the volume of balancing capacity needed to maintain operational security. When a European balancing energy market is established, BSPs with balancing capacity contracts will be committed to submit bids into the balancing energy market on equal terms with BSPs without balancing capacity contracts, thereby contributing to the efficiency and integration of European markets. Simulations of the aFRR market with realistic assumptions and based on historic bid data from 2018 that take account of the impact of allocating CZC for the exchange of aFRR capacity on the day-ahead energy market show that the increase in socio-economic surplus created by the proposed aFRR capacity market dominates the negative impact on socio-economic surplus in day-ahead market by a large margin, and thereby enhances overall efficiency.

(14) The Proposal contributes to the efficient long-term operation and development of the electricity transmission system and electricity sector in the Union while facilitating the efficient and consistent functioning of the day-ahead, intraday and balancing markets (Article 3(1)(d)) of the EB Regulation) since it establishes a Nordic market for balancing capacity and implements a market-based CZC allocation process. The Nordic balancing capacity market provides price signals that reflect the scarcity of balancing capacity in different bidding zones and the cost of allocating CZC for the exchange of balancing capacity to these bidding zones. It thereby contributes to efficient investment in new capability for providing balancing capacity.

(15) The Proposal ensures that the procurement of balancing services is fair, objective, transparent and market-based, avoids undue barriers to entry for new entrants, fosters the liquidity of balancing markets while preventing undue distortions within the internal market in electricity (Article 3(1)(e) of the EB Balancing) since the TSOs propose the establishment of a common balancing capacity market for the entire Nordic region in which there is a market-based allocation process for CZC.

(16) In conclusion, the Proposal contributes to the general objectives of the EB Regulation to the benefit of all market participants and electricity end consumers.

SUBMIT THE FOLLOWING PROPOSAL TO ALL REGULATORY AUTHORITIES OF THE CCR NORDIC:

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TITLE 1
General provisions

Article 1
Subject matter and scope

1. The Proposal shall be considered as the common proposal from the TSOs for the application of a market-based allocation process for the exchange of balancing capacity in accordance with Article 41(1) of the EB Regulation taking into account the calculation of the market value of CZC in accordance with Article 39 of the EB Regulation.
2. The Proposal covers the bidding zones and bidding zone borders of the CCR Nordic as defined in accordance with Article 15 of the CACM Regulation.
3. The Proposal shall apply only for the exchange of balancing capacity.
4. The scope of the Proposal does not extend to the assignment of roles and responsibilities to specific parties. The governance framework for specific roles or responsibilities and TSO-TSO settlement rules are out of scope of the Proposal. These aspects shall be defined by the TSOs where required in accordance with Article 33 and Article 38 of the EB Regulation.
5. The implementation of the allocation of CZC using a market-based allocation methodology is a voluntary initiative by two or more TSOs or done at the request of their relevant regulatory authorities in accordance with Article 59 of Directive (EU) 2019/944 and is therefore not mandatory.

Article 2
Definitions and interpretation

1. For the purposes of the Proposal, terms used in this Proposal shall have the meaning of the definitions included in Article 2 of the EB Regulation, Article 3 of the SO Regulation and Article 2 of the CACM Regulation, Regulation (EU) 2019/943, 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 (EU) 2019/944.

2. In addition, in the Proposal, unless the context requires otherwise, the following terms shall have the meaning below:
    1. "market time unit (MTU)" means the market time unit for the Nordic balancing capacity market, which equals the MTU applied in the day-ahead market timeframe;
    2. "reference day" means the day which is used to define the forecasted value of CZC; and
    3. "mark-up" means addition to the forecasted market value of CZC calculated in order to take into account the uncertainty in the forecasted market value of CZC during the application of the capacity procurement optimisation function.

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; and
    c) any reference to legislation, regulation, directive, order, instrument, code or any other enactment shall include any modification, extension or re-enactment of it then in force.

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TITLE 2
Proposal for a market-based allocation process of CZC for the exchange of balancing capacity

Article 3
Notification process for the use of a market-based allocation process

1. The TSOs shall notify Transmission System Operator(s) located in the Nordic synchronous area about the establishment of a Nordic balancing capacity market in accordance with Article 150 of the SO Regulation. This notification shall include the:
    a) transmission system operators involved;
    b) expected date for the balancing capacity market pursuant to Article 33(1) of the EB Regulation with the CZC allocation to enter into operation;
    c) expected amount of power interchange due to the cross-zonal balancing capacity activation process;
    d) reserve type and maximum volume of exchange of balancing capacity; and
    e) timeframe of the exchange of balancing capacity.
2. The TSOs shall make the notification at least 3 months before the CZC allocation process enters into operation.

Article 4
Maximum volume of allocated CZC for the exchange of balancing capacity

1. A maximum of 10 % of the forecasted CZC for each bidding zone border for the day-ahead timeframe shall be allocated for the exchange of balancing capacity. The TSOs shall use the latest available CZC calculated for the day-ahead timeframe when setting the maximum volume of CZC for CZC allocation.
2. CZC allocated for the exchange of balancing capacity shall be used only for the exchange of balancing capacity and the associated exchange of balancing energy.

Article 5
Determination of the market value of CZC for the exchange of energy

1. The process used to determine the volume of CZC reserved for the exchange of balancing capacity, described further in Article 6, makes use of forecasted market values for CZC when used for the exchange of energy.
2. A forecasted market value of CZC used for the exchange of energy is defined for each direction on each bidding zone border for each MTU, as follows.

    For CZC from bidding zone a to bidding zone b:

    If $p_{at} < p_{bt}$, then $FMV_{abt} = p_{bt} - p_{at}$

    If $p_{at} \geq p_{bt}$, $FMV_{abt} = 0$

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Where:

p_{at} is the day-ahead energy market price for bidding zone a and MTU t on the reference day, and

FMV_{abt} is the forecasted market value of CZC used for the exchange of energy from bidding zone a to bidding zone b for MTU t.

3. The reference day shall be the most recent day for which the clearing prices for each day-ahead market timeframe are available for each bidding zone.

4. The TSOs shall monitor the efficiency of the forecasting methodology, including a comparison of the forecasted and actual market values of CZC for the exchange of energy, and take appropriate action to ensure the accuracy of the forecast values.

Article 6
Determination of the allocated volume of CZC for the exchange of balancing capacity

1. The balancing capacity market procurement optimisation function shall allocate CZC for the exchange of balancing capacity simultaneously with the selection of balancing capacity bids.

2. The objective of the balancing capacity market procurement optimisation function is to make sure that CZC is allocated to a market, i.e. the day-ahead or balancing market, so as to minimise the socioeconomic costs of procurement.

3. In the capacity procurement optimisation process, bid selection together with the CZC allocation are optimised to minimise the socioeconomic costs of procurement given the constraints defined in Article 12 of the TSO's proposal for the establishment of common and harmonised rules and processes for the exchange and procurement of balancing capacity and for the application of a market-based allocation process in accordance with Article 33(1) and Article 38(1) of the EB Regulation. The socioeconomic costs of procurement include the cost of accepted balancing capacity bids and the cost of reserving CZC for the exchange of balancing capacity.

4. A mark-up will be added to the forecasted market value of CZC calculated in accordance with Article 5(3), in order to take into account the uncertainty of the forecasted market value of CZC. These mark-ups are defined as follows:

    a) if there is no forecasted price difference between two bidding zones when calculating the forecasted market value of CZC in accordance with Article 5(3), the added mark-up on the forecasted market value of CZC will be 0.1 EUR/MWh; and
    b) if there is a forecasted price difference between two bidding zones when calculating the forecasted market value of CZC in accordance with Article 5(3), the added mark-up on the forecasted market value of CZC will be 1 EUR/MWh.

5. The mark-up shall be added to the forecasted market value of CZC to be applied in the capacity procurement optimisation function.

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Article 7
Firmness regime

1. Allocated CZC for the exchange of balancing capacity shall be firm after the selection of upward balancing capacity bids or downward balancing capacity bids by the capacity procurement optimisation function in accordance with Article 33(3) of the EB Regulation.
2. CZC for allocation shall be firm as soon as submitted to the balancing capacity procurement optimisation function.
3. If allocated CZC capacity is curtailed because of a force majeure situation, an emergency situation or an unplanned outage invoked by one or more TSOs, the TSO or TSOs within whose area of responsibility the situation has occurred or which has or have invoked a force majeure situation or an emergency situation shall reimburse or provide compensation for the period of force majeure, emergency situation or unplanned outage, in accordance with the following requirements:
   a) BSPs with accepted balancing capacity bids will not be subject to financial damage or financial benefit arising from an inability to supply balancing capacity as a result of the CZC capacity curtailment. This compensation will not reflect any changes in payments for the activation of balancing energy.
   b) Other TSOs that are required to procure additional balancing capacity in order to compensate for the curtailment of CZC will be entitled to the reimbursement of these additional costs unless this is not acceptable to all regulatory authorities of all compensated and compensating TSOs.

   In the event that reimbursement or compensation is to be provided by two or more TSOs, the TSOs shall share these costs jointly, unless another agreement is reached.
4. TSOs shall not increase the reliability margin calculated pursuant to Article 20 (2) of the CACM Regulation due to the exchange of balancing capacity for frequency restoration reserves.

Article 8
The price of CZC and the sharing of congestion income

1. The price of CZC for the exchange of balancing capacity and the sharing of congestion income associated with the use of CZC for the exchange of balancing capacity is entailed within the pricing and TSO-TSO settlement arrangements described in Articles 9 and 13 of the TSO's proposal for the establishment of common and harmonised rules and processes for the exchange and procurement of balancing capacity and for the application of a market-based allocation process in accordance with Article 33(1) and Article 38(1) of the EB Regulation.
2. The implication of these arrangements is that the price of CZC for the exchange of balancing capacity is based on the nature of the exchange of balancing capacity enabled by the reservation of this CZC. Where the reservation of CZC enables the exchange of balancing capacity between bidding zones, the price of this CZC is equal to the difference in the balancing capacity market clearing price between the connected bidding zones for the balancing capacity product exchanged.
3. The pricing and TSO-TSO settlement arrangements described above also imply that the congestion income arising from the use of CZC for the exchange of balancing capacity is equal to the volume of CZC reserved for the exchange of balancing capacity multiplied by the difference in the balancing capacity market clearing price in the connected bidding zones. These arrangements also imply that the relevant congestion income is shared equally among the TSOs on the relevant border.

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Article 9
Publication of information

1. The TSOs applying a market-based allocation process in the CCR Nordic shall publish information on offered volumes as well as the 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 bidders, pursuant to Article 12(3)(e) of the EB Regulation.

2. The TSOs applying a market-based allocation process in the CCR Nordic shall publish the following information on the allocation of CZC for the exchange of balancing capacity pursuant to Article 38 of the EB Regulation at the latest one hour before the single day-ahead coupling gate closure time, as defined in accordance with Article 47(2) of the CACM Regulation, pursuant to Article 12(3)(h) of the EB Regulation:

    a) date and time when the decision on allocation was made;
    b) period of the allocation;
    c) volumes allocated; and
    d) the market values used as a basis for the allocation process in accordance with Article 39 of the EB Regulation.

3. The TSOs applying a market-based allocation process in the CCR Nordic shall publish the following information on the use of allocated CZC for the exchange of balancing capacity pursuant to Article 38 of the EB Regulation at the latest one week after the use of allocated CZC, pursuant to Article 12(3)(i) of the EB Regulation:

    a) volume of allocated and used CZC per MTU,
    b) volume of released CZC for subsequent timeframes per MTU;
    c) estimated realised costs and benefits of the allocation process.

4. The TSOs applying a market-based allocation process in the CCR Nordic shall publish the approved methodologies at least one month before their application pursuant to Article 12(3)(j) of the EB Regulation.

5. 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 or balancing energy bids if both justified for reasons of market abuse concerns and 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 and pursuant to Article 12(4) of the EB Regulation.

TITLE 3
Final provisions

Article 10
Publication and implementation of the Proposal

1. The TSOs shall publish the Proposal without undue delay after all the regulatory authorities of the CCR Nordic have approved the Proposal or a decision has been taken by the Agency for the Cooperation of

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Energy Regulators in accordance with Article 5(6), Article 5(7), Article 6(1) and Article 6(2) of the EB Regulation.

2. The TSOs shall implement the Proposal at the same time as the common and harmonised rules and processes for the exchange and procurement of balancing capacity in accordance with Article 33(1) and the application of a market-based allocation process in accordance with Article 38(1) of the EB Regulation.

Article 11
Language

The reference language for the Proposal shall be English. For the avoidance of doubt, where TSOs need to translate the Proposal into their national language(s), in the event of inconsistencies between the English version published by TSOs in accordance with Article 7 of the EB Regulation and any version in another language, the relevant TSOs shall, in accordance with national legislation, provide the relevant national regulatory authorities with an updated translation of the Proposal.

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