

# **REQUEST FOR AMENDMENT BY THE REGULATORY AUTHORITIES IN CAPACITY CALCULATION REGION HANSA**

**ON**

**The Hansa TSOs' proposal for the common coordinated  
capacity calculation methodology for Capacity  
Calculation Region Hansa in accordance with Article  
20(2) of the Commission Regulation (EU) 2015/1222**

**19 July 2018**

## **I. Introduction and legal context**

This document elaborates an agreement of the Regulatory Authorities in Capacity Calculation Region Hansa ("Hansa CCR"): Bundesnetzagentur, Danish Utility Regulator (DUR), Energimarknadsinspektionen (EI) and Energy Regulatory Office (URE) on the Hansa TSOs' (TenneT, 50Hertz, Svenska Kraftnät, PSE and Energinet) proposal for the common coordinated capacity calculation methodology ("CCM") for Hansa CCR in accordance with Article 20(2) of Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management ("Regulation 2015/1222") (hereafter referred to as: the "CCM proposal").

Norges vassdrags- og energidirektorat (NVE) and Autoriteit Consument & Markt (ACM) have been included in the process of assessing the proposal, as it is expected they will be part of Hansa CCR in the future.

This agreement of the Regulatory Authorities in Hansa CCR shall provide evidence that a decision on the CCM proposal does not, at this stage, need to be adopted by ACER pursuant to Article 9(11) of Regulation 2015/1222. This agreement is intended to constitute the basis on which the Regulatory Authorities in Hansa CCR will each subsequently request an amendment to the CCM proposal to their respective TSOs pursuant to Article 9(12) of Regulation 2015/1222.

The legal provisions relevant to the submission and approval of the CCM Proposal and this Regulatory Authority agreement in Hansa CCR on the CCM Proposal, can be found in Articles 3, 9, 14, 20, 21, 22, 23, 24, 25, 26, 27, 29 and 30 of Regulation 2015/1222.

### **Article 3 of Regulation 2015/1222**

*This Regulation aims at:*

- (a) Promoting effective competition in the generation, trading and supply of electricity;*
- (b) Ensuring optimal use of the transmission infrastructure;*
- (c) Ensuring operational security;*
- (d) Optimising the calculation and allocation of cross-zonal capacity;*
- (e) Ensuring fair and non-discriminatory treatment of TSOs, NEMOs, the Agency, regulatory authorities and market participants;*
- (f) Ensuring and enhancing the transparency and reliability of information;*
- (g) Contributing to the efficient long-term operation and development of the electricity transmission system and electricity sector in the Union;*
- (h) Respecting the need for a fair and orderly market and fair and orderly price formation;*
- (i) Creating a level playing field for NEMOs;*
- (j) Providing non-discriminatory access to cross-zonal capacity*

### **Article 9 of Regulation 2015/1222**

- 1. TSOs and NEMOs shall develop the terms and conditions or methodologies required by this Regulation and submit them for approval to the competent regulatory authorities within the respective deadlines set out in this Regulation. Where a proposal for terms and conditions or methodologies pursuant to this Regulation needs to be developed and agreed by more than one TSO or NEMO, the participating TSOs and NEMOs shall closely cooperate. TSOs, with the assistance of ENTSO for Electricity, and all NEMOs shall regularly inform the competent regulatory authorities and the Agency about the progress of developing these terms and conditions or methodologies.*

2. (...)
3. (...)
4. (...)
5. *Each regulatory authority shall approve the terms and conditions or methodologies used to calculate or set out the single day-ahead and intraday coupling developed by TSOs and NEMOs. They shall be responsible for approving the terms and conditions or methodologies referred to in paragraphs 6, 7 and 8.*
6. (...)
7. *The proposals for the following terms and conditions or methodologies shall be subject to approval by all regulatory authorities of the concerned region:*
  - (a) *the common capacity calculation methodology in accordance with Article 20(2);*
8. (...)
9. *The proposal for terms and conditions or methodologies shall include a proposed timescale for their implementation and a description of their expected impact on the objectives of this Regulation. Proposals on terms and conditions or methodologies subject to the approval by several or all regulatory authorities shall be submitted to the Agency at the same time that they are submitted to regulatory authorities. Upon request by the competent regulatory authorities, the Agency shall issue an opinion within three months on the proposals for terms and conditions or methodologies.*
10. *Where the approval of the terms and conditions or methodologies requires a decision by more than one regulatory authority, the competent regulatory authorities shall consult and closely cooperate and coordinate with each other in order reach an agreement. Where applicable, the competent regulatory authorities shall take into account the opinion of the Agency. Regulatory authorities shall take decisions concerning the submitted terms and conditions or methodologies in accordance with paragraphs 6, 7 and 8, within six months following the receipt of the terms and conditions or methodologies by the regulatory authority or, where applicable, by the last regulatory authority concerned.*
11. (...)
12. *In the event that one or several regulatory authorities request an amendment to approve the terms and conditions or methodologies submitted in accordance with paragraphs 6, 7 and 8, the relevant TSOs or NEMOs shall submit a proposal for amended terms and conditions or methodologies for approval within two months following the requirement from the regulatory authorities. The competent regulatory authorities shall decide on the amended terms and conditions or methodologies within two months following their submission. Where the competent regulatory authorities have not been able to reach an agreement on terms and conditions or methodologies pursuant to paragraphs (6) and (7) within the two-month deadline, or upon their joint request, the Agency shall adopt a decision concerning the amended terms and conditions or methodologies within six months, in accordance with Article 8(1) of Regulation (EC) No 719/2009. If the relevant TSOs or NEMOs fail to submit a proposal for amended terms and conditions or methodologies, the procedure provided for in paragraph 4 of this Article shall apply.*

#### **Article 20 of Regulation 2015/1222**

1. *For the day-ahead market time-frame and intraday market time-frame the approach used in the common capacity calculation methodologies shall be a flow-based approach, except where the requirement under paragraph 7 is met.*
2. *No later than 10 months after the approval of the proposal for a capacity calculation region in accordance with Article 15(1), all TSOs in each capacity calculation region shall submit a*

*proposal for a common coordinated capacity calculation methodology within the respective region. The proposal shall be subject to consultation in accordance with Article 12. The proposal for the capacity calculation methodology within regions pursuant to this paragraph in capacity calculation regions based on the 'North-West Europe' ('NWE') and 'Central Eastern Europe' ('CEE') as defined in points (b), and (d) of point 3.2 of Annex I to Regulation (EC) No 714/2009 as well as in regions referred to in paragraph 3 and 4, shall be complemented with a common framework for coordination and compatibility of flow-based methodologies across regions to be developed in accordance with paragraph 5.*

3. (...)
4. (...)
5. *At the time when two or more adjacent capacity calculation regions in the same synchronous area implement a capacity calculation methodology using the flow-based approach for the day-ahead or the intraday market time-frame, they shall be considered as one region for this purpose and the TSOs from this region shall submit within six months a proposal for applying a common capacity calculation methodology using the flow-based approach for the day-ahead or intraday market time-frame. The proposal shall provide for an implementation date of the common cross regional capacity calculation methodology of no longer than 12 months after the implementation of the flow-based approach in these regions for the methodology for the day-ahead market time-frame, and 18 months for the methodology for the intraday time-frame. The timelines indicated in this paragraph may be adapted in accordance with paragraph 6. The methodology in the two capacity calculation regions which have initiated developing a common capacity calculation methodology may be implemented first before developing a common capacity calculation methodology with any further capacity calculation region.*
6. *If the TSOs concerned are able to demonstrate that the application of common flow-based methodologies in accordance with paragraphs 4 and 5 would not yet be more efficient assuming the same level of operational security, they may jointly request the competent regulatory authorities to postpone the deadlines.*
7. *TSOs may jointly request the competent regulatory authorities to apply the coordinated net transmission capacity approach in regions and bidding zone borders other than those referred to in paragraphs 2 to 4, if the TSOs concerned are able to demonstrate that the application of the capacity calculation methodology using the flow-based approach would not yet be more efficient compared to the coordinated net transmission capacity approach and assuming the same level of operational security in the concerned region.*
8. *To enable market participants to adapt to any change in the capacity calculation approach, the TSOs concerned shall test the new approach alongside the existing approach and involve market participants for at least six months before implementing a proposal for changing their capacity calculation approach.*
9. *The TSOs of each capacity calculation region applying the flow-based approach shall establish and make available a tool which enables market participants to evaluate the interaction between cross-zonal capacities and cross-zonal exchanges between bidding zones.*

## **Article 21 of Regulation 2015/1222**

1. *The proposal for a common capacity calculation methodology for a capacity calculation region determined in accordance with Article 20(2) shall include at least the following items for each capacity calculation time-frame:*  
*(a) methodologies for the calculation of the inputs to capacity calculation, which shall include the following parameters:*

- (i) a methodology for determining the reliability margin in accordance with Article 22; (ii) the methodologies for determining operational security limits, contingencies relevant to capacity calculation and allocation constraints that may be applied in accordance with Article 23; (iii) the methodology for determining the generation shift keys in accordance with Article 24; (iv) the methodology for determining remedial actions to be considered in capacity calculation in accordance with Article 25.
2. (b) a detailed description of the capacity calculation approach which shall include the following: (i) a mathematical description of the applied capacity calculation approach with different capacity calculation inputs; (ii) rules for avoiding undue discrimination between internal and cross-zonal exchanges to ensure compliance with point 1.7 of Annex I to Regulation (EC) No 714/2009; (iii) rules for taking into account, where appropriate, previously allocated cross-zonal capacity; (iv) rules on the adjustment of power flows on critical network elements or of cross-zonal capacity due to remedial actions in accordance with Article 25; (v) for the flow-based approach, a mathematical description of the calculation of power transfer distribution factors and of the calculation of available margins on critical network elements; (vi) for the coordinated net transmission capacity approach, the rules for calculating cross-zonal capacity, including the rules for efficiently sharing the power flow capabilities of critical network elements among different bidding zone borders; (vii) where the power flows on critical network elements are influenced by cross-zonal power exchanges in different capacity calculation regions, the rules for sharing the power flow capabilities of critical network elements among different capacity calculation regions in order to accommodate these flows. (c) a methodology for the validation of cross-zonal capacity in accordance with Article 26. 25.7.2015 L 197/44 Official Journal of the European Union EN 2. For the intraday capacity calculation time-frame, the capacity calculation methodology shall also state the frequency at which capacity will be reassessed in accordance with Article 14(4), giving reasons for the chosen frequency.
  3. The capacity calculation methodology shall include a fallback procedure for the case where the initial capacity calculation does not lead to any results.
  4. All TSOs in each capacity calculation region shall, as far as possible, use harmonised capacity calculation inputs. By 31 December 2020, all regions shall use a harmonised capacity calculation methodology which shall in particular provide for a harmonised capacity calculation methodology for the flow-based and for the coordinated net transmission capacity approach. The harmonisation of capacity calculation methodology shall be subject to an efficiency assessment concerning the harmonisation of the flow-based methodologies and the coordinated net transmission capacity methodologies that provide for the same level of operational security. All TSOs shall submit the assessment with a proposal for the transition towards a harmonised capacity calculation methodology to all regulatory authorities within 12 months after at least two capacity calculation regions have implemented common capacity calculation methodology in accordance with Article 20(5).

## II. The CCM proposal for Hansa CCR

The CCM proposal consists of three documents, one legal proposal, one supporting document and a request for Hansa CCR to be allowed to apply the Coordinated Net Transmission Capacity (“CNTC”) approach as CCM.

The Hansa NRAs would like to point out that we will only approve the legal document and the request to apply CNTC, thus the legal document should be a stand-alone product with no references to the supporting document.

## III. Hansa CCR Regulatory Authority position

### a) On the overall CCM proposal

- Hansa NRAs have concerns regarding the justification of using CNTC instead of flow-based according to Art. 20(7) of Regulation 2015/1222. Hansa NRAs would prefer the justification of using CNTC instead of flow-based CCM to include calculations on how flow-based is not yet more efficient for Hansa CCR. This could for example be done by taking the mathematical parameters in the flow-based approach (PTDF matrices and RAMs for each CNE), and prove that it will not give a different result than CNTC, when there are no internal CNEs included and all the cross-zonal CNEs are radial.
- The description of required methodologies and parameters should be improved and completed. In general, Hansa TSOs should include all required methodologies and parameters from Art. 21(1)(a), 21(1)(b), 21(1)(c), 21(2) and 21(3) of Regulation 2015/1222. Some of the methodologies and parameters have been included, but not all. There should be a precise description of all in the legal proposal. The sole description of methods in the supporting document is not sufficient. NRAs’ comments to each individual requirement follow below.
- Furthermore it has to be stated explicitly in the Whereas of the CCM proposal –which implications Advanced Hybrid Coupling (“AHC”) in neighboring CCRs will have for Hansa CCR, in order to be approved by Hansa NRAs. The implications for Hansa CCR, if neighboring CCRs will use Standard Hybrid Coupling for a limited time-period, would also have to be stated. CCRs cannot legally in their methodologies apply possible restrictions on other CCRs; without it being explicitly approved in the concerned CCR.
- In several occasions the document uses the word “proposal” instead of methodology, e.g. in articles 2, 13 and 14.

### b) On Article 2 of the CCM proposal “Definitions”

- The definition of Advanced Hybrid Coupling explains only the influence of HVDC lines on the AC network flows. It is not explained how AHC takes AC lines (e.g. DK1-DE/LU) into account. Hansa NRAs request Hansa TSOs to specify this further.

### c) On Article 4 of the CCM proposal, and Article 22 of Regulation 2015/1222 “Methodology for determining the reliability margin”

- The methodology for determining the reliability margin would benefit from moving some of the explanation from the explanatory document to the legal document, in order to make it more clear what the methodology is about.
- The methodology is lacking *the percentile* to be applied for derivation of the reliability margin value from the convoluted probability distribution.

d) On Article 3, 5(1-4) and 8 of the CCM proposal “Mathematical description” and “operational security limits” and Article 23(1-2) of Regulation 2015/1222

- Operational security limits are mentioned, but no such limits are included in the mathematical description on how to calculate the capacities. Furthermore it is mentioned that “Thermal limits of the CCR Hansa interconnectors are considered in the TTC calculation process”. The proposal should be amended, so that it is clear how the TTC is set for both DC- and AC-borders, and how it takes into account the operational security limits.
- If the CCM is going to use different operational security limits than the ones used in system operation, the methodology for calculating the operational security limits has to be included in the CCM. Otherwise a reference to the relevant articles in SOGL should be made.

e) On Article 5(5-7) of the CCM proposal “allocation constraints” and Article 23(3) of Regulation 2015/1222

- The allocation constraints (“ALCs”) that TSOs want to apply according to CACM GL article 23(3) of Regulation 2015/1222 need to be explained and justified within the methodology itself. The list of possible ALCs to be applied in the methodology should be exhaustive, i.e. ALCs which are not in the methodology cannot be applied. NRAs have no legal way of approving or rejecting the use of ALCs on the basis of a justification which TSOs communicate to the market individually and outside of the CCM proposal.
- TSOs applying ALCs should regularly submit information to NRAs showing to what extent these allocation constraints have limited the market, including the shadow prices of the ALCs.

f) On Article 6 of the CCM proposal “Methodology for determining generation shift keys” and Article 24 of Regulation 2015/1222

- From the CCM proposal it is not clear whether any generation shift key (“GSK”) is applied on the AC connection. In case a GSK is applied, it is not stated how this GSK is determined, modelled and used. GSKs are based on the input and output from nodes inside the bidding zones, and all these nodes are included in the CCM proposals of Nordic and Core CCRs. If no GSKs are to be applied in Hansa CCR, this should be stated explicitly in the legal document.

g) On Article 7 of the CCM proposal and Articles 25 “Methodology for remedial actions in capacity calculation” and 21(1)(b)(iv) “rules on the adjustment of power flows of cross-zonal capacity due to remedial actions” of Regulation 2015/1222

- The legal proposal is lacking an applicable methodology for remedial actions (“RAs”). Article 7 of the CCM proposal mentioning of “RAs such as phase shifters” does not give any clear picture of which RAs will be applied. The mentioning of “if available, be considered in the determination of the TTC value” does not give a clear picture on which criteria and/or analyses will be made in order to determine whether RAs will be used or not in order to increase the available capacities. Furthermore the methodology has to, but does not currently mention, how the use of RAs will be coordinated between the TSOs in Hansa CCR (Art. 25(2-3) of Regulation 2015/1222)



- Hansa NRAs understand that the RAs available in Hansa CCR are limited, as most RAs are situated in and connected to the AC-networks, which are included in the flow-based methodologies of Nordic and Core CCR. If this is the case; it is necessary to write and justify this explicitly in the CCM proposal.
- Furthermore it remains unclear from the CCM proposal, how it will be managed if simultaneous remedial actions on both sides of the Hansa bidding-zone borders are beneficial for the capacity and economically efficient. As Nordic and Core CCRs, to NRAs' understanding, have not planned any coordination between each other on remedial actions, Hansa CCR will need to facilitate this.

#### h) On Article 8 of the CCM proposal "Mathematical description of the applied approach"

- Krieger's Flak DC-line does not seem to be covered by the current mathematical description. Any deviances for Krieger's Flak from the other DC-lines will have to be included and justified in the proposal.

#### i) On Article 11 of the CCM proposal "Methodology for the validation of cross-zonal capacity"

- Hansa NRAs find it valuable to be added, that if the cross-zonal capacity on a border is regularly changed in the same direction during the validation (cf. Art. 26 of Regulation 2015/1222), the capacity calculation process would have to be revised. As this would imply that something important is not captured.
- TSOs should include a rule for splitting the correction of cross-zone capacity between the different bidding zone borders according to Art. 26 (2) of Regulation 2015/1222.
- Each TSO should include explanation/justification in the capacity validation result, when sending this to the CCC and to the other TSOs of CCR Hansa. As this information would be necessary, should the revision of the capacity calculation process be needed.

#### j) On Article 21(1)(b)(ii) of Regulation 2015/1222 "rules for avoiding undue discrimination between internal and cross-zonal exchanges to ensure compliance with point 1.7 of Annex I to Regulation (EC) No 714/2009"

- The legal proposal is missing the rules for avoiding undue discrimination. These should be included directly in the legal proposal. The text included in point 4.1.4 of the explanatory document, does not constitute sufficient rules on how to avoid undue discrimination, as it is very implicitly explained. It is also unclear to Hansa NRAs which rule makes certain that there will not be any undue discrimination against the cross-zonal exchanges in Hansa CCR coming from Nordic and Core.

#### k) On Article 21(1)(b)(iii) of Regulation 2015/1222 "rules for taking into account, where appropriate, previously allocated cross-zonal capacity"

- The legal proposal is missing the rules for taking into account previously allocated cross-zonal capacity. These rules should be included in the legal proposal. They could include which previously allocated capacity will be taken into account (e.g. PTRs, Krieger's Flak).



**l) On Article 21(1)(b)(vi-vii) ) of Regulation 2015/1222 “rules for efficiently sharing power flow capabilities of critical network elements”**

- The legal proposal is missing the rules for efficiently sharing of power flow capabilities of critical network elements. These rules have to be included, even if the CCM proposal implies that no internal critical network elements are to be considered, as this would also be a rule.

**m) On Article 13 of the CCM proposal “Implementation”**

- The implementation timeline should be expanded to better explain the different steps of the stepwise implementation of CCM in Hansa.
- The expected time that the different implementation steps of the Hansa CCM will be reached should be stated. The timeline should not focus on the adjacent CCR’s implementation of CCM, this can be included in the explanatory document.

**n) On the release time of capacity for the intraday market**

- Hansa NRAs find that it has to be stated in the CCM proposal that Hansa TSOs commit to make a publication to the market about what time above-zero intraday capacities will be released.
- If the release time deviates from the ACER decision of 15.00 D-1 CET, the TSO publication has to include a thorough justification, as capacities nevertheless have to be released to the market as early as possible and without undue delay. The objectives of Art. 3 of Regulation 2015/1222 have to be fulfilled.

## **IV. Actions**

Based on the above rationale, Hansa CCR Regulatory Authorities agree to request an amendment to the CCM proposal in Hansa CCR. This amendment should contain the following elements:

- (i) Justification for using CNTC needs to be amended to include calculations.
- (ii) The methodology needs to include all requirements of Art. 21 of Regulation 2015/1222.
- (iii) The implications of using AHC need to be explicitly addressed.
- (iv) The definition of AHC needs to be improved to include AC-interconnectors.
- (v) The methodology for reliability margin needs to be amended and include the percentage.
- (vi) The article on operational security limits has to be coherent with the calculation of TTC and exhaustive.
- (vii) The allocation constraints have to be justified and the list needs to be exhaustive.
- (viii) Information about the impact on the market of the allocation constraints needs to be submitted to NRAs.
- (ix) Methodology for GSK needs to be improved.
- (x) Methodology for remedial actions needs to be improved.
- (xi) Mathematical description needs to cover Krieger’s Flak interconnector.
- (xii) Methodology for validation of cross-zonal capacity needs to be improved.
- (xiii) Rules for avoiding undue discrimination between internal and cross-zonal exchanges need to be included in the methodology.

- (xiv) Rules for taking into account previously allocated capacity need to be included in the methodology.
- (xv) Rules for efficiently sharing of power flow capabilities of critical network elements need to be included in the methodology.
- (xvi) Explanation of the different steps in the timeline needs to be improved.
- (xvii) The methodology needs to include a commitment to publish information on release time of intraday capacities.