

**Approval by Capacity Calculation Region Hansa
Regulatory Authorities**

of

**Capacity Calculation Region Hansa TSO request for
exemption of using a Flow-based Capacity Calculation
methodology in accordance with article 20(7) of
Commission Regulation (EU) 2015/1222 of 24 July 2015
establishing a guideline on capacity allocation and
congestion management**

and

**Capacity Calculation Region Hansa TSO Proposal for a
Capacity Calculation Methodology 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**

16 December 2018

I. Introduction and legal context

This document elaborates an agreement of all Capacity Calculation Region (“CCR”) Hansa Regulatory Authorities (Bundesnetzagentur, Energimarknadsinspektionen, Energy Regulatory Office, Danish Utility Regulator) and Norwegian Water Resources and Energy Directorate on 16 December 2018, on the Capacity Calculation Methodology (“CCM”) and exemption for using a flow based CCM. This is pursuant to Article 20(2) and 20(7) of Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a Guideline on Capacity Allocation and Congestion Management (“Regulation 2015/1222”).

This document is intended to constitute the basis on which all CCR Hansa Regulatory Authorities will each subsequently make national decisions pursuant to CACM GL Article 9(7)(a) and (b) to approve the proposal submitted by CCR Hansa TSOs. The CCR Hansa TSOs are: TenneT TSO GmbH, Svenska Kraftnät, Polskie Sieci Elektroenergetyczne, 50hertz and Energinet.

The legal provisions relevant to the submission and approval of the proposal, and this CCR Hansa Regulatory Authority agreed opinion, can be found in Articles 3, 8, 9, 12, 20, 21, 22, 23, 24, 25, 26, 27, 29 and 30 of Regulation 2015/1222. They are set out below for reference:

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 8 of Regulation 2015/1222:

- 1. In Member States electrically connected to another Member State all TSOs shall participate in the single day-ahead and intraday coupling.*
- 2. TSOs shall:*
 - (a) (...)*
 - (b) (...)*
 - (c) (...)*
 - (d) (...)*
 - (e) (...)*
 - (f) (...)*
 - (g) (...)*

- (h) (...)
- (i) *establish and operate fallback procedures as appropriate for capacity allocation in accordance with Article 44;*
- (j) (...)
- (k) (...)
- (l) (...)

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. *If TSOs or NEMOs fail to submit a proposal for terms and conditions or methodologies to the national regulatory authorities within the deadlines defined in this Regulation, they shall provide the competent regulatory authorities and the Agency with the relevant drafts of the terms and conditions or methodologies, and explain what has prevented an agreement. The Agency shall inform the Commission and shall, in cooperation with the competent regulatory authorities, at the Commission's request, investigate the reasons for the failure and inform the Commission thereof. The Commission shall take the appropriate steps to make possible the adoption of the required terms and conditions or methodologies within four months from the receipt of the Agency's information.*
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);*
 - (b) *Decisions on the introduction and postponement of flow-based calculation in accordance with Article 20(2) to (6) and on exemptions in accordance with Article 20(7);*
 - (c) (...)
 - (d) (...)
 - (e) (...)
 - (f) (...)
 - (g) (...)
 - (h) (...)

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. (...)
13. *TSOs or NEMOs responsible for developing a proposal for terms and conditions or methodologies or regulatory authorities responsible for their adoption in accordance with paragraphs 6, 7 and 8, may request amendments of these terms and conditions or methodologies. The proposals for amendment to the terms and conditions or methodologies shall be submitted to consultation in accordance with the procedure set out in Article 12 and approved in accordance with the procedure set out in this Article.*
14. *TSOs and NEMOs responsible for establishing the terms and conditions or methodologies in accordance with this Regulation shall publish them on the internet after approval by the competent regulatory authorities or, if no such approval is required, after their establishment, except where such information is considered as confidential in accordance with Article 13.*

Article 12 of Regulation 2015/1222:

1. *TSOs and NEMOs responsible for submitting proposals for terms and conditions or methodologies or their amendments in accordance with this Regulation shall consult stakeholders, including the relevant authorities of each Member State, on the draft proposals for terms and conditions or methodologies where explicitly set out in this Regulation. The consultation shall last for a period of not less than one month.*
2. *The proposals for terms and conditions or methodologies submitted by the TSOs and NEMOs at Union level shall be published and submitted to consultation at Union level. Proposals submitted by the TSOs and NEMOs at regional level shall be submitted to consultation at least at regional level. Parties submitting proposals at bilateral or at multilateral level shall consult at least the Member States concerned.*
3. *The entities responsible for the proposal for terms and conditions or methodologies shall duly consider the views of stakeholders resulting from the consultations undertaken in accordance with paragraph 1, prior to its submission for regulatory approval if required in accordance with Article 9 or prior to publication in all other cases. In all cases, a clear and robust justification for including or not the views resulting from the consultation shall be developed in the submission and published in a timely manner before or simultaneously with the publication of the proposal for terms and conditions or methodologies.*

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.*
 - (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.*
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 CCR Hansa TSO proposal

The CCR Hansa TSO proposal for CCM was consulted on by CCR Hansa TSOs through ENTSO-e from 15 June 2017 to 30 July 2017 in line with Article 20(2) and Article 12 of Regulation 2015/1222¹.

The proposal for CCM developed by all CCR Hansa TSOs, dated 15 September 2017, was received by the last CCR Hansa Regulatory Authority on 19 September 2017 together with the request for exemption from using a flow based CCM and a separate explanatory document.

The Hansa Regulatory Authorities got 4 months extension to their decision from ACER, and subsequently sent a Request for Amendment to the CCM. Following the request for amendment, all CCR Hansa TSOs sent an amended proposal for CCM, dated 21 September 2018. It was received by the last CCR Hansa Regulatory Authority on 16 October 2018. The proposal includes proposed timescales for its implementation and a description of its expected impact on the objectives of Regulation 2015/1222.

Article 9(10) of Regulation 2015/1222 requires Regulatory Authorities of the region, in this case CCR Hansa, to consult and closely cooperate and coordinate with each other in order to reach agreement. A decision is required by each Regulatory Authority by 16 December 2018, two months after receipt at the last Regulatory Authority.

The main elements of the capacity calculation methodologies are:

- *The CCM is proposed to be a Coordinated Net Transmission Capacity methodology, with the argument that it only has radial interconnectors, no meshed grid and no loop flows, it will perform just as well as a flow based approach.*
- *The Hansa Coordinated Capacity Calculator shall calculate available capacities for transmission between bidding zones to be used as inputs for the single day-ahead coupling and the single intraday market coupling. The capacities will be equal to the total transfer capacity of the interconnectors deducted the already allocated capacity and for AC-interconnectors deducted a reliability margin. The capacities calculated by the CCC can be adjusted by Hansa TSOs for reasons of operational security and with proper justification.*
- *No critical network elements (CNEs) inside the different bidding zones will affect the capacities calculated by the Hansa CCC. It is expected that neighbouring CCRs will use Advanced Hybrid Coupling towards CCR Hansa in the future.*
- *Allocation constraints to the single day-ahead and intraday market coupling, which cannot be reflected in the available capacities, can be applied by Hansa TSOs, where properly justified. These constraints include ramping restrictions, implicit loss factors, minimum generation in a bidding zone and maximum import/export from a bidding zone.*
- *The CCM will be implemented following a step-wise approach, where the first step is to appoint a CCC and the last step is to implement the CCM for the intraday market coupling.*

¹ <https://consultations.entsoe.eu/markets/fallback-procedures-cc-region-hansa/>

III. All Regulatory Authority position

The common capacity calculation methodology has to contain a long list of requirements, mentioned in Articles 21-30 of Regulation 2015/1222.

All Regulatory Authorities agree that given the nature of CCR Hansa and given the argumentation provided by the TSOs, the use of a CNTC methodology instead of flow-based, can be approved.

All Regulatory Authorities found initially that the original CCM proposal did not fulfil all of the requirements of Regulation 2015/1222. As a response to the request for amendment, all Hansa TSOs made several amendments to the original CCM proposal.

Following the amendments, all Regulatory Authorities of CCR Hansa find that the methodology meets the requirements of Article 21-30 of Regulation 2015/1222 and therefore is approvable.

IV. Conclusions

All CCR Hansa Regulatory Authorities have assessed, consulted and coordinated and closely cooperated to reach an agreement that the capacity calculation methodology for CCR Hansa and the exemption from using a flow based capacity calculation methodology meet the requirements of Regulation 2015/1222 and as such can be approved by All CCR Hansa Regulatory Authorities.

The amended proposal for capacity calculation methodology was received by the last CCR Hansa Regulatory Authority on 16 October 2018. All CCR Hansa Regulatory Authorities must therefore make their decisions latest 16 December 2018, on the basis of this agreement and in accordance with the two months deadline as set out in Regulation 2015/1222. Following national decisions taken by each Regulatory Authority, all CCR Hansa TSOs will be required to publish the regional CCM on the internet in line with Article 9(14) of Regulation 2015/1222.