

**REQUEST FOR AMENDMENT BY THE CHANNEL
REGULATORY AUTHORITIES**

OF

**THE CHANNEL TSO PROPOSAL FOR THE
COMMON CAPACITY CALCULATION METHODOLOGY**

20th March 2018

I. Introduction and legal context

This document elaborates an opinion of the Channel Regulatory Authorities, agreed on 20th March 2018, on the Channel TSO Proposal of common capacity calculation methodology for the day-ahead and intraday market timeframe in accordance with Article 20 of Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a Guideline on Capacity Allocation and Congestion Management (Regulation 2015/1222).

This agreed opinion of the Channel Regulatory Authorities shall provide evidence that a decision on the common capacity calculation methodology for the day-ahead and intraday market timeframe does not, at this stage, need to be adopted by ACER pursuant to Article 9(11) of the Regulation 2015/1222. It is intended to constitute the basis on which the Channel Regulatory Authorities will each subsequently make national decisions pursuant to Article 9(12) to request an amendment to the common capacity calculation methodology, submitted by TSOs in line with Article 9(7)(a) of Regulation 2015/1222.

The legal provisions that lie at the basis of the common capacity calculation methodology, and this Channel Regulatory Authority agreed opinion of the common capacity calculation methodology, can be found in Article 3, 9, 20 and 21. These Articles 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 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.*

[...]

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. *The proposals for the following terms and conditions or methodologies shall be subject to approval by all regulatory authorities:*
 - e. *the proposal for a harmonised capacity methodology in accordance with Article 21(4)*
7. *The proposals for the following terms and conditions or methodologies shall be subject to approval by all regulatory authorities:*
 - a. *the common capacity 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);*

(...)
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. (...)
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 20 of Regulation 2015/1222:

Introduction of flow-based capacity calculation methodologies

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.*

[...]

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.*

Article 21 of Regulation 2015/1222:

Capacity calculation methodology:

1. *The proposal for a common capacity methodology for a capacity 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 capacity 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 (EX) No 714/20017*
 - (iii) *rules for taking in to 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;*

[...]

- (vi) *for the coordinated net transmission capacity approach, the rules for calculating cross-zonal capacity, including the rules for efficiently sharing the power of flow capabilities of critical network elements among different bidding zone borders;*
 - (vii) *where the power of 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 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 Channel TSO proposal

The common capacity calculation methodology for the day-ahead and intraday market timeframe proposal was consulted on by the Channel TSOs through ENTSO-E for over one month from 23 June 2017 to 31 July 2017, in line with Article 20 and Article 12 of Regulation 2015/1222.¹

The final Channel TSO common capacity calculation methodology (hereinafter referred to as the “CCM”), proposal, dated 15 September 2017, was received by the last Regulatory Authority on 20 September 2017. The proposal includes proposed timescales for its implementation and a description of its expected impact on the objectives of Regulation 2015/1222, in line with Article 9(9) of Regulation 2015/1222.

Article 9(10) of the Regulation 2015/1222, requires Channel Regulatory Authorities to consult and closely cooperate and coordinate with each other in order to reach an agreement, and make decisions within six months following receipt of submissions of the last Regulatory Authority concerned. A decision is therefore required by each Regulatory Authority by 20 March 2018.

The proposal contains the methodologies outlined in Article 21(1)(a) of Regulation 2015/1222. It is inclusive of the inputs for the Day-ahead and Intraday Capacity Calculations, a description of the capacity calculation approach required by Article 21(1)(b), a methodology for the validation of cross-zonal capacity in line with Article 21(1)(c) and a fallback methodology, required in line with Article 21(3).

Further, Regulatory Authorities understand that a request from Channel TSOs to apply the coordinated net transmission capacity (CNTC) approach within the Channel Region, rather than a flow based approach in accordance with Article 20(7), is included within the CCM proposal.

Channel TSOs assert that the CNTC approach is the preferred approach on the basis that:

- a) The Channel Region consists of independently controllable radial HVDC interconnectors, whereas flow-based mechanisms mainly prove to be more efficient than a CNTC approach in highly meshed AC grids;
- b) The proposed CNTC methodology provides the full maximum permanent technical capacity (MPTC) of the interconnector (i.e. maximum possible amount) to the market unless in the specific case of a planned or unplanned outage with significant impact on the interconnector exists in one of the bidding zones to which that interconnector is connected or an alternative lower firm capacity value is stated in a connection agreement between an interconnector owner and a connecting TSO, in which case a more detailed calculation is triggered for operational security purposes. A flow-based methodology would not yet be more efficient than the proposed CNTC methodology in this perspective (and can only result in equal or lower cross-zonal capacities);

¹ The public consultation held 23 June 2017 to 31 July 2017 is available on the ENTSO-e website: <https://consultations.entsoe.eu/markets/capacity-calculation-methodology-channel-ccr/>.

III. Channel Regulatory Authority position

Channel Regulatory Authorities request Channel TSOs amend a number of areas of the proposal pursuant to Article 9(12) of Regulation 2015/1222. The details of the request for amendment are explained in this section, followed by the requested actions.

As a general remark, in the light of Article 21(1) of the CACM Regulation, Channel Regulatory Authorities consider that the capacity calculation process is insufficiently described and does not provide a satisfying level of clarity and precision on the different steps it is composed of. Each of these steps should be clearly described and should, when applicable, be accompanied by the mathematical equations, the inputs of the calculation as well as the values of the relevant parameter of the calculation. Only then Regulatory Authorities would be able to consider that the necessary level of understanding for market participants is provided in the capacity calculation methodology.

The CCM refers at several occasions to the Core Region. While Channel Regulatory Authorities understand the relevance of the consistency between both regions on the concerned items, such references are not acceptable and should be taken out of the Channel methodology.

Article 4 of the proposal includes a request by TSOs to apply the CNTC approach in the Channel Region, however, the expectation is that such a request would be submitted as a separate proposal as it requires a separate decision from the Regulatory Authorities, in accordance with Articles 9(7)(b) and 20(7) of Regulation 2015/1222.

Channel Regulatory Authorities are of the view that there are elements of the methodology that allow for too much discretion to TSOs in defining the input, definition or parameter of a number of key areas of the methodology. This should be amended by having more precise and clearer methods within the proposal. These areas include the justification for initiating a calculation of the day ahead calculation process, further information on the Reliability Margins methodology, process for TSOs to apply operational adjustments and definitions of external constraints.

Specifically in Article 5, the principle that sets that the cross-zonal capacity calculation process will be triggered when there is *“a specific planned or unplanned outage with significant impact on the interconnector”* appears too vague, and could leave too much discretion to the TSOs in deciding what is significant. Regulatory Authorities agree with the intention of this principle, and request that it is further clarified in an objective and transparent manner.

In relation to Article 8 of the methodology, which sets out the Reliability Margin methodology, All Regulatory Authorities do not consider that sufficient information has been included in the formal documentation. In particular, Article 21(1)(b) of the CACM Regulation requires that the CCM includes a detailed description of the capacity calculation approach and a precise mathematical description of the different steps of the capacity calculation, providing a list of all needed inputs. Finally, TSOs did not include the risk level covered by the Reliability Margin in the methodology. Channel Regulatory Authorities ask TSOs to include the value provided on page 15 of the explanatory note in the methodology and to duly justify the value as well as to detail how a more ambitious target, providing more capacity to the markets, could be reached.

Article 10 of the methodology sets out the process for External Constraints to be defined by TSOs. Regulatory Authorities do not consider that sufficient description of the External Constraints methodologies has been set out, and it appears at the TSOs discretion to define an external constraint. In addition, Regulatory Authorities do not understand why TSOs distinguished external constraints from allocation constraints. Such distinction does not seem in line with the CACM Regulation, which only mentions the possibility for TSOs to use allocation constraints. Regulatory authorities do not consider the details provided sufficiently transparent; and therefore request the inclusion of a precise description of how external constraints shall be determined. If the Channel TSOs wish to apply so called external constraints, they shall justify that they comply with Article 23 of CACM. In particular, according to Article 23(2), Channel TSOs have to demonstrate that the constraints cannot be transformed efficiently into maximum flows on critical network elements.

Regulatory Authorities are of the opinion that the methodology as proposed may lead to undue discrimination between internal and cross-zonal exchanges of capacity; and that there is not an appropriate framework that satisfies the requirements of Regulation 714/2009, its annex and the CACM Guideline. In order to satisfy the requirements of the regulation, any constraining of cross zonal capacity in favour of internal exchanges should only be taken if it is for maintaining operational security, and the most economically efficient action to take. Regulatory Authorities do not consider that the second of these conditions is met by the processes described in Articles 12, 18 and 21 in the methodology. Regulatory Authorities request that TSOs propose a robust framework to appropriately assess whether the constraining of cross border capacity is the most economically efficient action to take, compared to all other actions available to TSOs. Such framework should:

- be in line with European Regulations²;
- send adequate economic signals to all market parties;
- consist in a comparison based on an objective and reliable assessment of
 - costs of the available remedial actions;
 - costs of reducing the cross zonal capacity;
 - costs of firmness incurred in case Long Term Allocated capacity is not assured.
- Include a monitoring and improvement structure assessing the reliability and, if needed, proposing remedial steps to improve the capacity calculation methodology.

Regulatory Authorities acknowledge that some TSOs of the Channel Region have raised concerns with the inclusion of costly remedial actions within the methodology, and that their inclusion is not a prerequisite of the regulation. We request that if this aspect is not included, TSOs provide sufficient justification for its omission, including an explanation as to how the methodology satisfied the requirement of no discrimination between internal and cross-zonal exchanges of energy.

With respect to Article 20 of the methodology, Regulatory Authorities request for a more detailed description of the “technical limitations” that may constrain the coordinated capacity calculator from being able to perform security assessment of the 24 time stamps as well as a proposition on how they will be relieved in the future to allow compliance with Article 14(2) of the CACM Regulation.

For the validation process outlined in Articles 22 to 24 of the methodology, the term of “*unforeseen changes in grid conditions*” which could lead to the reassessment of the capacities is not clearly defined. Regulatory Authorities are concerned that this could allow for too much TSO discretion in identifying what an “*unforeseen change*” could be.

Regarding the Article 25 of the methodology, Regulatory Authorities are of the opinion that the description of the ramping limitations and the loss factor applied is insufficient. It should be clear in the methodology how such allocation constraints will be defined by the TSOs. As stated earlier in this paper, if the Channel TSOs wish to apply allocation constraints, they shall justify that they comply with Article 23 of the CACM. In particular, according to Article 23(3), Channel TSOs have to demonstrate that the constraints cannot be transformed efficiently into maximum flows on critical network elements.

With regards to Article 27, Regulatory Authorities consider that Channel TSOs should provide details of the publication process of the inputs and outputs; this information should include details such as the frequency and format of the publication. The format of this would ideally be developed in consultation with market participants.

Finally, Article 28 establishes that Firm Reliability Margins values will be computed “no later than 18 months after the end of the implementation of the Channel capacity calculation methodology”. Regulatory Authorities ask TSOs to explain in detail, within the methodology, the intermediary situation that will apply.

² Regulation 714, CACM, REMIT and EBGL regulations.

IV. Actions

Channel Regulatory Authorities agree to request an amendment to the CCM proposal. This amendment should contain the following elements:

1. Remove references to the Core capacity calculation methodology.
2. To more precisely define what constitutes “*a specific planned or unplanned outage with significant impact on the interconnector*” as set out in Article 5.
3. To amend Article 8 of the proposal providing further explanation of the Reliability Margin methodology, including a mathematical description and including the risk level covered by the Reliability Margin.
4. To amend Article 10 of the proposal to more precisely define the types of External Constraints that TSOs can apply.
5. To amend relevant Articles (12 and 21) to introduce a framework to the proposal that assesses if constraining cross border capacity is the most economically efficient action to take.
6. To amend Article 20 of the proposal to include greater description of the technical limitations that may constrain the coordinated capacity calculator to be able to perform security assessment of the 24 time stamps.
7. To more precisely define what could constitute an “*unforeseen change in grid conditions*” within Article 22 to 24 of the methodology.
8. To amend Article 25 of the proposal to more precisely define “*ramping limitations*” which shall be provided to the NEMOs as an allocation constraint.
9. To amend Article 27 of the proposal to include further information on the format and frequency of the publication of data to the market.
10. To amend Article 28 of the proposal to include a detailed description of the intermediary situation that will apply in the period between the implementation of the Channel CCM and the implementation of the methodology of the Reliability Margin.

In addition to the requested amendments to the CCM methodology, TSOs are asked to submit a separate proposal for the request to apply a CNTC approach. This is asked for as a request to implement a CNTC approach requires a separate decision from the Regulatory Authorities, in accordance with Articles 9(7)(b) and 20(7) of Regulation 2015/1222.