

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

OF

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

16th March 2018

I. Introduction and legal context

This document elaborates an opinion of the Irish-UK (IU) Regulatory Authorities, agreed on 16th March 2018, on the IU 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 IU 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 IU 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 IU 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:

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:

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 IU TSO proposal

The common capacity calculation methodology for the day-ahead and intraday market timeframe proposal was consulted on by the IU TSOs through ENTSO-E for over one month from 26 July 2017 to 31 August 2017, in line with Article 20 and Article 12 of Regulation 2015/1222.¹

The final IU TSO common capacity calculation methodology proposal (hereinafter referred to as the “CCM”), dated 15 September 2017, was received by the last Regulatory Authority on 18 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 IU 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 18 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 IU TSOs to apply the coordinated net transmission capacity (CNTC) approach within the IU Region, rather than a flow based approach in accordance with Article 20(7), is included within the CCM proposal.

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

- a) The IU 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);
- c) The IU Region contains a single bidding zone border, GB-SEM, therefore regional coordination cannot be increased through the application of a flow based methodology.

¹ The public consultation held 26 July 2017 to 31 August 2017 is available on the ENTSO-e website: <https://consultations.entsoe.eu/markets/capacity-calculation-methodology-iu-ccr/>

III. IU Regulatory Authority position

IU Regulatory Authorities request IU TSOs to 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 Regulation 2015/1222, IU Regulatory Authorities consider that the CCM is insufficiently described and does not provide a satisfying level of clarity and precision on the different steps it is composed of. Regulatory Authorities request the proposal provides further detail in each of the Articles specified in this chapter. 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.

Article 4 of the proposal includes a request by TSOs to apply the CNTC approach in the IU 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 Regulation 2015/1222.

IU 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, process for TSOs to apply operational adjustments and definitions of external constraints.

Specifically in Article 5(2), 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 specifically request that the methodology sets out how an outage will be defined as significant. It should be noted that we agree with the intention of this principle, and simply request that it is further clarified in an objective and transparent manner.

Further, Article 5(3) states that where the firm capacity value stated in a connection agreement between an interconnector owner and a connecting TSO is lower than MPTC, *“a daily cross-zonal capacity calculation may be triggered by a TSO”*. Regulatory Authorities understand that a daily cross-zonal capacity calculation will only be required in circumstances in which the MPTC is not available to the market. As such, we request that the wording within the Article is amended to reflect this.

Article 5(5) states that *“Each TSO shall provide transparency on the conditions under which Article 4(2) would apply by providing a public ex-post explanation.”* No such Article exists within the methodology. Regulatory Authorities ask that this Article is updated.

Article 6(3) of the methodology, states that *“The TSOs of the IU Region shall perform at minimum one intraday capacity calculation one day before the day of delivery based on the latest CGMs developed according to the common grid model methodology in accordance with Article 17 of the [Regulation 2015/1222]”*. TSOs are requested to elaborate on the circumstances in which TSOs will perform more than one calculation, specifically when additional calculation or calculations would occur and why they would occur.

In regards to Article 7, IU Regulatory Authorities request the following amendments. Firstly, Critical Network Elements and Contingencies (CNECs) are not defined in the methodology. CNECs should be clearly defined. Secondly, the methodology should include an explanation as to how the cross-zonal threshold of 5% in the GB and SEM Day-ahead and Intraday markets has been determined. Thirdly, in respect of Article 7(8), Regulatory Authorities ask that the methodology specifies how regularly TSOs will challenge the threshold and clearly defines how it will be challenged. We share a concern that the omission of clarity on these issues may result in the reduction of interconnector capacity in order to resolve congestion issues on internal network elements. IU Regulatory Authorities refer to the 2016 ACER recommendation on the Common Capacity Calculation and Redispatching and Countertrading Cost Sharing methodologies² that stipulates that, as a general principal, limitations on internal network elements should not be considered in the cross-zonal capacity calculation methods. Accordingly, Regulatory Authorities request that TSOs revisit this Article to ensure there is no scope for undue reduction of cross border capacity.

We welcome the fact that reliability margins shall not be considered within the IU Region, as specified in Article 8 of the methodology.

Regulatory Authorities do not understand why, in Article 10, TSOs distinguished external constraints from allocation constraints. Such distinction does not seem in line with the Regulation 2015/1222, which only mentions the possibility for TSOs to use allocation constraints. If the IU TSOs wish to apply external constraints, they shall justify that they comply with Article 23 of the Regulation 2015/1222. In particular, according to Article 23(2), IU TSOs have to demonstrate that the constraints cannot be transformed efficiently into maximum flows on critical network elements.

IU Regulatory Authorities very much welcome Article 12 of the proposed methodology which stipulates that each TSO shall make costly remedial actions available to the capacity calculator. The methodology includes the requirement to consider the cost of remedial actions against the cost of compensation for the reduction of cross-zonal capacity. The cost of this compensation will be reflective of the value of the capacity to the market. We share the opinion that this approach is consistent with the aforementioned ACER recommendation. IU Regulatory Authorities, however, do request the methodology clearly sets a strict definition of costly and non-costly remedial actions. For example, will a remedial action that incurs any cost, no matter how small, be defined as a costly remedial action?

TSOs are requested to provide greater clarity in relation to the following terms within Article 17 of the methodology. Firstly, Article 17(1) states that “... *If there is any external constraint, it will be the starting point.*” We request that the term ‘starting point’ is clearly defined as this is unclear to what this “starting point” refers. Secondly, Article 17(3) states that “*If remedial actions can mitigate the CNE, the interconnector maximum import/export capacity can be made available for that base case.*” IU Regulatory Authorities request that the term ‘base case’ defined within the methodology. Thirdly, we request that the methodology includes an indicative, if not exhaustive, list of remedial actions.

Regarding Article 19(1), the proposed methodology states that “*When computing the capacity, the coordinated capacity calculator shall implement any shift of the power transfer between 2 bidding zones by adjusting the generation in each of the bidding zones using the GSK of the bidding zones.*” IU Regulatory Authorities are unsure what is meant by the term ‘computing’, especially if used in the context of the CNTC approach. TSOs are asked to clarify this term. In addition to this, we request clarification of the term ‘adjustment’. We ask for clarity of what the primary aim(s) of the adjustment are and the means by which any adjustment will be made.

With respect to Article 20 of the methodology, Regulatory Authorities request for greater 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 Regulation 2015/1222.

² ACER recommendation: http://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Recommendations/ACER%20Recommendation%2002-2016.pdf

Further, we ask that the term “*time stamp*” is clearly explained. For example, please clarify whether a time stamp will be a particular hour within a day. Additionally, TSOs are requested to define within the methodology the term “*business day*”.

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 direction in identifying what an “*unforeseen change*” could be.

Article 22(4) states that “*TSOs shall report to NRAs any NTC reduction resulting from the validation phase and the related CNEC.*” TSOs are asked to clarify the process by which any reduction will be reported, the associated time frame for reporting to NRAs and whether the information will be published. We ask that this information is added to the methodology.

Regarding Article 25 of the methodology, IU 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 IU TSOs wish to apply allocation constraints, they shall justify that they comply with Article 23 of the Regulation 2015/1222. In particular, according to Article 23(3), IU TSOs have to demonstrate that the constraints cannot be transformed efficiently into maximum flows on critical network elements.

Article 26(2) states that if “*relevant TSO fails to receive capacities values from the coordinated capacity calculator, due to a communication system failure or other unforeseen circumstance, the TSO will agree on an alternative way of communication*”. IU Regulatory Authorities share the opinion that this statement is too vague and request that alternative ways of communicating are listed within the methodology.

With regards to Article 27, IU Regulatory Authorities consider that IU 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, in relation to Article 28, IU Regulatory Authorities consider that IU TSOs should provide details on when they plan to publish the indicative list of planned or unplanned outages.

IV. Actions

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

1. To precisely define what constitutes “*a specific planned or unplanned outage with significant impact on the interconnector*” as set out in Article 5.
2. To amend wording in Article 5(3) as suggested in Chapter 3 of this paper to provide clarity on the default position which will not require a calculation (when the MPTC is available to the market) and the instances in which a calculation shall be required.
3. To amend Article 5(5) as appropriate. This Article currently makes reference to an Article which does not exist within the methodology.
4. In regards to Article 6(3), TSOs are requested to elaborate, on the circumstances in which TSOs will perform more than one calculation, specifically when additional calculation or calculations would occur and why they would occur.
5. Include greater detail in Article 7, to clearly define CNECs, how the cross-zonal threshold of 5% in the GB and SEM Day-ahead and Intraday markets has been determined and how this threshold will be challenged including how regularly it will be challenged and the process by which it will be challenged.
6. To clearly set out what defined costly and non-costly remedial actions in Article 12.
7. To define or, where appropriate, list the follow the terms included in Article 17: i. “*starting point*”, ii. “*base case*” and iii. “*remedial actions*”.
8. To include in Article 19, further detail regarding the terms “*computing*” when used in the context of the CNTS approach and ‘adjustment’, specifically what the primary aim(s) of the adjustment and the means by which any adjustment will be made.
9. To amend Article 20 of the proposal to include greater description of: i. “*technical limitations*” that may constrain the coordinated capacity calculator to be able to perform security assessment of the 24 time stamps. ii. The term “*time stamps*” and; iii. The term “*business day*”.
10. To more precisely define what could constitute an “*unforeseen change in grid conditions*” within Article 22-24 of the methodology.
11. To specify in Article 22, the process by which any reduction will be reported, the associated time frame for reporting to NRAs and whether the information will be published.
12. To amend Article 25 of the proposal to more precisely define “*ramping limitations*” which shall be provided to the NEMOs as an allocation constraint.
13. To specify in Article 26, the alternative ways in which TSOs will communicate values from the coordinated capacity calculator should there be a communication system failure or any other unforeseen circumstance.
14. To amend Article 27 of the proposal to include further information on the format and frequency of the publication of data to the market.
15. To include in Article 28 the timeline for publication of the indicative list of planned or unplanned outage.

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 Article 20(7) of Regulation 2015/1222.