

**REQUEST FOR AMENDMENT BY THE SOUTH-WEST
EUROPE REGULATORY AUTHORITIES AGREED AT
THE SOUTH-WEST EUROPE ENERGY REGULATORS'
REGIONAL FORUM**

ON

**South West Europe TSOs proposal of common
capacity calculation methodology for the day-ahead
and intraday market timeframe in accordance with
Article 21 of
Commission Regulation (EU) 2015/1222 of 24 July
2015 establishing a guideline on capacity allocation
and congestion management**

9 March 2018

I. Introduction and legal context

This document elaborates an agreement of the South-west Europe (SWE) Regulatory Authorities on the SWE TSOs proposal of common capacity calculation methodology for the day-ahead and intraday market timeframe in accordance with Article 21 of Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management

This agreement of the SWE Regulatory Authorities shall provide evidence that a decision does not need at this stage to be adopted by the Agency for Cooperation of Energy Regulators (ACER) pursuant to Article 9(11) of the Regulation 2015/1222. This agreement is intended to constitute the basis on which SWE Regulatory Authorities will request an amendment to the SWE Coordinated Capacity Calculation methodology (FPM) proposal pursuant to Article 9(12) of Regulation 2015/1222.

The Commission Regulation (EU) 2015/1222 aims to the coordination and harmonisation of capacity calculation and allocation in the day-ahead and intraday cross-border markets. This regulation requests a Coordinated Capacity Calculation Methodology (CCCM), at least at regional level, for the day-ahead and intraday market time frames, to ensure an optimal and reliable capacity available to the market.

Article 20 of CACM Regulation requires that no later than 10 months after the approval of the proposal of for a capacity calculation region (Article 15(1)), all TSOs in each capacity calculation region shall submit a proposal for a common coordinated capacity calculation methodology.

The above mentioned article, also requires a flow-based capacity calculation methodology in each capacity calculation region, unless the regional TSO are able to demonstrate that the application of flow-based approach would not yet be more efficient compared to the coordinated net transmission capacity approach assuming the same level of operational security in the region.

According to Article 21 of CACM Regulation, the CCCM should define methodologies for the inputs, calculation approach and validation requirements, intraday capacity calculation frequency, giving reasons for the chosen frequency, and fallback procedures.

Methodologies for the inputs will comprehend determination of reliability margins, operational security limits on critical elements, relevant contingencies, and allocation constraints that may be applied, determination of generation shift keys and determination of remedial actions that can be considered to allow for the optimal value of capacity. These inputs calculations should be harmonized between CCR the most possible.

Capacity calculation approach should include a mathematical description of the calculation; rules for determining power flows on critical elements taking into account previously allocated cross-zonal capacity and adjustment after remedial actions, and for net transfer capacity approach: calculation of available margins in critical network elements, and rules for sharing power flow capabilities among different bidding zone borders. In addition, rules to avoid discrimination between internal and cross-zonal exchanges. Harmonization of the calculation process is required by December 2020, to that end all TSOs shall submit to all regulatory authorities a proposal for a transition towards a CCCM harmonization, 12 months after two capacity calculation regions have implemented CCCM.

Detailed request for all these methodologies are included in Articles 22 to 27 of CACM Regulation.

In line with Article 20 of the CACM Regulation, all SWE TSOs launched a public consultation from June 15th to July 20th of 2017 on their proposal for a common capacity calculation methodology for the day-ahead and intraday market timeframe.

The CCCM proposal developed by the SWE TSOs, dated on 15 September 2017, was received by the last SWE NRA on the 15 September 2017. This proposal is subject now to a request for amendment by the SWE NRAs according to Article 9(12) of the Regulation 2015/1222, to be submitted before 15 March 2018.

II. The SWE TSOs' Proposal

The SWE TSOs proposal package dated September 2017 contains three documents:

- a) The "All SWE TSOs' proposal of common capacity calculation methodology for the day-ahead and intraday market timeframe" in accordance with Article 21 of Commission Regulation (EU) 2015/1222 of 24 July establishing a guideline on capacity allocation and congestion management, for consultation.
The CCCM proposal elaborates the methodologies required by article 21 of Regulation (EU) 2015/1222
- b) An explanatory note on common capacity calculation methodology for the day-ahead and intraday market timeframe, for information. The explanatory note incorporates further and more in-depth explanations of the calculation methodologies.
- c) A study that justifies why a Coordinated NTC methodology for the SWE CCR may provide the same efficiency than a flow base approach. The study aims to demonstrate the lack of influence of the two borders, by two ways:
 - In eight scenarios, it shows that elements that limit the capacity in one border is not influenced by the exchanges on the other border
 - The shape of the flow base domain is near to be rectangular, which means that both borders have no mutual dependency.

III. SWE Regulatory Authorities' position

It is the view of all Regulatory Authorities that the proposal common capacity calculation methodology for the day-ahead and intraday market should be consistent with:

- a) The requirements of Article 9, and the objectives of the CACM Regulation defined in Article 3;
- b) Requirements set out in Articles 20 to 27 of the CACM Regulation.

The SWE Regulatory Authorities are therefore elaborating this position on these sets of principles, laid out in the Regulation.

The SWE Regulatory Authorities request SWE TSOs to amend some parts of the proposal pursuant Article 9(12) of the Regulation 2015/1222. The details of the request for amendment is explained in this section.

1. General comments

As a general remark, in the light of article 21(1) of the CACM Regulation, SWE NRAs 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 CCM.

SWE NRAs 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 further information on the Reliability Margins methodology and the process for TSOs to validate the calculated capacity.

2. On the absence of influence between SWE CCR and other CCRs of France was not proved (Art 4)

The absence of influence between the two borders inside the SWE CCR is addressed in the study document provided by SWE TSO, and therefore there is no need to share the power flow capabilities of critical network elements among different bidding zone borders inside SWE CCR. Yet, SWE NRAs have some concerns regarding the need, according Art 21(1)(b)(vii), to prove (or at least to estimate) the lack of influence of other CCRs on the critical network elements in SWE CCR. This provision may justify that there is no need to define rules for sharing the power flow capabilities of critical network elements between SWE CCR and other different capacity calculation regions.

3. On the hourly resolution of cross-zonal capacities for the day-ahead and intraday market (Art 4 and 5)

Both articles indicate that the “*Coordinated net transmission capacities will be determined on an hourly resolution*”. They should refer to a more general market time unit as indicated in other part of the same paragraph: “*individual values for cross-zonal capacity for each day-ahead market time unit*”. Only such reference would be compliant with Articles 14(2) and 14(3) of the CACM Regulation.

4. On the definition of the reliability margin (Article 6)

In Art 6(4) of the proposed CCR methodology, the reliability margin is defined as the 95 percentile of the convolution of the probability distribution functions of the two variables representing the unintended deviations and the uncertainties.

SWE NRAs ask TSOs to provide further details on how the probability distribution will be calculated. Following the General comments of this paper, a precise description of what will be done (applicable CNECs, equations, input data, etc) should be provided.

Additionally, SWE NRA wonder about the possibility of implementing more challenging values for the reliability margin percentile smaller than 95% in order to provide a higher level of cross border capacity offered to the market. To that end SWE NRAs, ask SWE TSOs to introduce in the methodology provisions reflecting a clear commitment to explore these possibilities, making use of the parallel run process to provide information on the impact of more ambitious RM margin.

After one year of external parallel run TSOs should provide SWE NRAs with a study on the costs and benefits of implementing a smaller percentile for RM calculation, comparing the higher welfare obtained by the increased capacity offered to market against the higher countertrading costs that may appear. Such deadline for providing results of the study should be included in the methodology alongside with a commitment from SWE TSOs to take necessary actions and amend the methodology subject to the outcome of the study.

5. On the operational security limits to be taken into account (Article 7)

According to Article 7(2) operational security limits and contingencies on network elements significantly influenced by cross-zonal power exchanges are going to be monitored in the capacity calculation process.

As the explanatory note consider that the limits would refer to current or power flow on a branch, voltage level on a node of the network or a voltage phase angle difference in a tie-line, SWE NRAs ask SWE TSOs to specify the kind of parameters that are going to be considered as operational security limits.

6. On the selection process of the critical network elements to be included in the monitoring list (Article 7)

Article 7(3) disposes that TSOs should monitor critical network elements (CNE) with a sensitivity to cross-zonal power exchanges higher than 5%.

SWE NRAs wonder about the relevance of the proposed threshold at 5% and the opportunity to choose a higher value (e.g. 10%) when elaborating the list of critical network elements to be monitored, in order to provide a higher and more optimal level of cross border capacity to the market. To that end, SWE NRAs ask SWE TSOs to introduce in the methodology some provisions reflecting their commitment to explore these possibilities, making use of the parallel run process to provide information on the impact of a higher sensitivity threshold.

After one year of external parallel run TSOs should provide SWE NRAs with a study on the impact of implementing a higher sensitivity threshold. On the top of implementation impacts, such study should compare the higher welfare that would have been obtained by an increased capacity offered to the market against the higher countertrading costs that might have appeared. Such deadline for providing results of the study should be included in the methodology alongside with a commitment from SWE TSOs to take necessary actions and amend the methodology subject to the outcome of the study.

7. On the frequency of the revision of the list of critical network elements (Article 7)

While Art 7 (4) states clearly a yearly revision of the list of critical network elements (CNE): *“TSOs of SWE Region shall review the list of critical network elements to be monitored in the capacity calculation process at least once a year”*. Art7 (2) could be understood as if the methodology for the sensitivity analysis will be updated once a year, while it also refers to the revision frequency of the CNE list. This should be reworded to avoid any confusion.

8. On the definition of remedial actions (Article 9)

Art 9(1) disposes that each SWE TSO shall define the remedial actions in its responsibility area that it are available for the use of the Capacity calculator. Art 9(4) disposes that each TSO of SWE Region shall inform the coordinated capacity calculator on any change in the remedial actions available within the SWE Region. Regardless this provision, there may be a need to define a minimum frequency for the revision of the remedial action list.

SWE regulatory authorities understand that, according to CACM, curative remedial actions with costs can be used.

SWE regulatory authorities welcomes the reference to the future methodology for coordinated redispatching and countertrading pursuant to Article 35 of the CACM Regulation, introduced in the article 9(7) of the proposal. Yet it should be also mentioned that they will be used only where they are technically and economically efficient. It should also mention how TSOs will ensure such economic and technical efficiency.

9. On the validation process (Article 10)

Article 10 enables SWE TSOs to run a validation process of the cross zonal capacities calculated by the coordinated capacity calculator of the SWE Region, but it does not provide any methodology for the validation process. TSOs should include a detailed description of the validation process.

There is also no provision dealing with the quarterly report obligations as stated in Art 26(5) and 26(6) of Regulation (EU) 2015/1222. SWE NRAs would then require the introduction of this report, including statistics of:

- ✓ Hourly capacities offered to market
- ✓ Reductions and cause of reduction (unintended deviation or uncertainties)
- ✓ Limiting elements (CNE, GLSK, voltage, voltage phase angle, etc) in hours with and without reduction.

10. On the CGM to be used for validation (Article 10), Day-ahead and intraday capacity calculation (Articles 11 and 12)

Article 29(8)(a) of CACM Regulation states that the capacity calculator shall use the common grid model for the coordinated net transmission capacity calculation.

Art10 (2) of SWE methodology states that the coordinated capacity calculator shall make available the common grid model for SWE Region.

A similar reference to “individual grid model” is made in Art 11(4) and Art 12(4) of the CCM.

SWE NRAs ask SWE TSOs to clarify that they intend to use the Common Grid Model defined by the CACM regulation or to explicit that other grid models would be used only as a temporary disposition. In that case SWE NRAs ask SWE TSOs to precisely explain when this temporary disposition will end and when the Common Grid Model will be used for the SWE capacity calculation.

11. On the day ahead and intraday capacity calculation process: remedial action optimization (Articles 11 and 12)

Art 11(5), 11(6), 12(5) and 12(6) states that the capacity calculation process is based on a Remedial Action Optimization methodology, which aims to find the higher secure capacity based on the inputs provided by the TSOs, and applies dichotomy in order to find the maximum value of TTC compatible with security.

SWE regulatory authorities consider that a more elaborated description of the dichotomy methodology should be explicitly included in the methodology. In particular the next information should be included and explained in the methodology:

- ✓ Equations
- ✓ A precise description of what will be done
- ✓ The starting point of the calculation
- ✓ The timing for the calculation
- ✓ Inputs and outputs of the capacity calculator

Even information provided in point 2.2 and 3.2 of the explanatory document is still not enough detailed.

The description of the process should make reference to the steps provided by Art 29 (8) detailing the calculation of the total transfer capacity TTC (a), adjustment by RA (b), rules for avoiding undue discriminating (c), power flow sharing rules if needed (d) and adjustment by RM and previously allocated flow (e).

12. On the frequency of intraday capacity calculation process (Article 12)

Article 12(8) propose a review of the frequency of the capacity recalculation two years after the implementation of the capacity calculation for the intraday market timeframe by performing a cost-benefit analysis on the SWE region.

This article should also indicate that the results of this cost-benefit analysis will be submitted to SWE NRAs.

13. On some minor changes in Articles 11, 12 and 13

NRAs would like also to propose two minor changes in these articles:

- ✓ Art 11(7) and Art 13(2) indicates that the capacity calculator shall provide the Single Allocation Platform with the validated NTCs. It seems that 'Single Allocation Platform' should refer to 'NEMOs'.
- ✓ Art 12(2) and Art 12(8) refer to the TSO of the SWE TSOs. It seems that 'SWE TSOs' should be changed by 'SWE Region'

14. On the interim values for the reliability margin (Article 15)

Article 15 establishes an interim period for reliability margin calculation (between S1-2019 AND S2-2019) where the reliability margin will be calculated:

For the FR-ES border as the maximum value between 200 MW, covering the unintended deviation (UD) part 7,5% of the TTC value covering the uncertainties (UN) part.

For the PT-ES border as the maximum value between 100 MW, covering the UD part 10% of the TTC value covering the UN part.

SWE NRAs welcome the inclusion of the interim solution in the methodology, but still ask for a more detailed description in the explanatory note of how these values have been obtained (the "preliminary analysis"). In particular the percentiles values used in the FR-ES border when providing 200 MW for UD and 7,5% of TTC. And the percentiles values used in the PT-ES border when providing: 100 MW for UD, and 10% of TTC for UN

As a minor change, NRAs recommend a better rewording of Art 15(1)(e) in order to avoid expressions like 'not supposed to be' and 'likely to be'.

15. On the implementation planning of the day ahead and intraday capacity calculations (Article 14 and 15)

Article 14(4) and 15(4) provides that deadlines for the implementation for the intraday calculations may be changed after request "from TSOs of SWE Region to their national regulatory authorities". For sake of clarity, it should say 'to all NRAs of SWE Region'.

SWE NRAs consider that deadlines proposed for day ahead and first intraday calculation are quite reasonable, but there may room for implementing the second intraday capacity calculation at an earlier stage. To that end, it should also provide the possibility for a change in the second intraday deadline after request from all NRAs of SWE Region.

IV. Actions / conclusion

Based on the above rationale, SWE Regulatory Authorities agree to request an amendment to the SWE CCCM Proposal