

First amendment of the Day-Ahead Capacity Calculation Methodology of the Core Capacity Calculation Region

in accordance with article 20ff. of the Commission Regulation (EU)
2015/1222 of 24th July 2015 establishing a guideline on capacity allocation
and congestion management

xx xx 2020

Purpose:	<input type="checkbox"/> methodology draft	<input checked="" type="checkbox"/> for public consultation
	<input type="checkbox"/> for NRA approval	<input type="checkbox"/> for final publication
Status:	<input checked="" type="checkbox"/> draft	<input type="checkbox"/> final
TSO approval:	<input checked="" type="checkbox"/> for approval	<input type="checkbox"/> approved
NRA approval:	<input checked="" type="checkbox"/> outstanding	<input type="checkbox"/> approved

Whereas

TSOs of the Core CCR (“Core TSOs”), taking into account the following:

- (1) Based on further developments and alignments with Core NRAs after the decision by the Agency in 21st February 2019, Core TSOs deemed it necessary to introduce the following changes.
- (2) The following changes continue fulfil the objectives set out in Article 3 CACM.

For the purposes of this first amendment to the Core CCR TSOs’ Day-Ahead Capacity Calculation Methodology, terms used in this document shall have the meaning of the definitions included in Article 2 of the CACM Regulation, of Regulation (EC) 714/2009, Directive 2009/72/EC, Commission Regulation (EU) 2016/1719 and Commission Regulation (EU) 543/2013 and the definitions set out in Article 2 Annex I of the Decision No 02/2019 of the Agency for the Cooperation of the Energy Regulators of 21 February 2019 on the Core CCR TSOs’ proposal for the regional design of the day-ahead and intraday common capacity calculation methodologies.

Article 1
Post go-live study on CNEC selection

Article 5. Definition of critical network elements and contingencies shall be amended accordingly:

In Article 5.8. (c) the letters ii., iii. and iv. shall be removed and be read accordingly:

“(c) for each proposed internal CNEC, an analysis demonstrating that including the concerned internal network element in capacity calculation is economically the most efficient solution to address the congestions on the concerned internal network element, considering, for example, the following alternatives:

i. application of remedial actions;”

Article 2
FRM assessment

Article 8. Reliability margin methodology shall be amended accordingly:

1. A new paragraph 5a. shall be included and be read accordingly:

“5a. The Core TSOs may repeat steps one and two pursuant to paragraphs 3 to 5 with two different implementation approaches for paragraph 3, sentence 4, where one implementation leads to an upper estimate and the other implementation leads to a lower estimate of the true *FRM*.”

2. In Article 8.7 a 3rd sentence shall be included:

“If the Core TSOs have applied the approach pursuant to paragraph 5a. for the first *FRM* calculation, the proposal for amendment shall include an approach and justification for selecting the *FRM* from the range between the lower and upper bounds as well as next possible steps for improving the process to approach as much as possible the true *FRM*.”

Article 3
Extended LTA-Inclusion

1. Whereas shall be amended accordingly:

A new number (24) shall be included:

“(24) Cross-zonal capacities determined by the day-ahead capacity calculation shall ensure that all combinations of net positions that could result from previously-allocated

cross-zonal capacity – Long Term Allocations (LTA) – can be accommodated. For that purpose, the TSOs proceed to the LTA inclusion which consists in providing a single flow-based domain including LTAs for the single day-ahead coupling. The new extended LTA inclusion approach differs by providing the single day-ahead coupling with LTAs and the flow-based domain without LTA inclusion separately. The market coupling algorithm then chooses which combination of both domains creates most welfare.“

2. Article 2. Definitions and interpretation shall be amended accordingly:

a) A new number 73. shall be included and be read accordingly:

“73. ‘CZC’ means cross-zonal capacity whereas this capacity is to be understood as a combination of “flow-based parameters” (flow-based domain) and “LTA values” (LTA domain);“

b) A new number 74. shall be included and be read accordingly:

“74. ‘LTA domain’ means a set of bilateral exchange restrictions covering the previously allocated cross-zonal capacities;“

3. Article 18. Long-term allocated capacity (LTA) inclusion shall be amended accordingly:

a) In Article 18.1(a) the phrase “the RAM of each CNEC remains non-negative in” shall be replaced by the phrase “cross-zonal capacities can accommodate” and be read accordingly:

“(a) the rules ensure that cross-zonal capacities can accommodate all combinations of net positions that could result from previously-allocated cross-zonal capacity.”

b) A new paragraph 1a. shall be included and be read accordingly:

“1a. The Core TSOs shall implement the rules set out in paragraph 1 either by the LTAmargin approach or by extended LTA inclusion:

(a) The LTAmargin approach pursuant to paragraphs 2 to 5 ensures that the RAM of each CNEC remains non-negative in all combinations of net positions that could result from previously allocated cross-zonal capacity. The cross-zonal capacities consist of a flow-based domain.

(b) When applying extended LTA inclusion, the cross-

zonal capacities consist of a flow-based domain without LTA inclusion and a LTA domain.”

c) A new paragraph 5a. shall be included and be read accordingly:

“5a. In case the extended LTA approach is applied, Core TSOs may additionally carry out the steps described in paragraphs 2 to 5 with the sole purpose to make available a flow-based domain with LTA inclusion as input for the individual validation as described in Articles 19 and 20.”

4. Article 19. Calculation of flow-based parameters before validation shall be amended accordingly:

a) Letter (d) shall be amended accordingly:

aa) In Equation 19 the parameter “ $\overrightarrow{RAM}_{bv}$ ” shall be re-named to “ $\overrightarrow{RAM}_{bv,LTAmargin}$ ” and shall be read accordingly:

$$\overrightarrow{RAM}_{bv,LTAmargin} = \vec{F}_{max} - \overrightarrow{FRM} - \vec{F}_{0,Core} + \overrightarrow{AMR} + \overrightarrow{LTA}_{margin}$$

bb) The description of Equation 19 shall be extended by the letter “a” and shall be read accordingly:

“Equation 19a”

cc) The definition of “ $\overrightarrow{RAM}_{bv}$ ” shall be shall be re-named to “ $\overrightarrow{RAM}_{bv,LTAmargin}$ ” and shall be extended by the phrase “with application of the flow margin for LTA inclusion pursuant to Article 18” and shall be read accordingly:

“ $\overrightarrow{RAM}_{bv,LTAmargin}$ Remaining available margin before validation with application of the flow margin for LTA inclusion pursuant to Article 18”

b) A letter “(e)” shall be included and be read as follows:

“(e) in case the extended LTA approach pursuant to Article 18(1a)(b) is applied the calculation of RAM before validation as follows;

$$\overrightarrow{RAM}_{bv,noLTAmargin} = \vec{F}_{max} - \overrightarrow{FRM} - \vec{F}_{0,Core} + \overrightarrow{AMR}$$

Equation 19b

with

“ $\overrightarrow{RAM}_{bv,noLTAmargin}$ Remaining available margin before validation without application of the flow margin for LTA inclusion pursuant to Article 18”

5. Article 20. Validation of flow-based parameters shall be amended accordingly:

a) In Article 20.2 in the 2nd sentence “(i.e. the RAM_{bv})” shall be deleted and be read accordingly:

“Capacity validation shall consist of two steps. In the first step, the Core TSOs shall analyse in a coordinated manner whether the cross-zonal capacity could violate operational security limits, and whether they have sufficient RAs to avoid such violations. In the second step, each Core TSO shall individually analyse whether the cross-zonal capacity could violate operational security limits in its own control area.”

b) A new paragraph 2a. shall be added and be read accordingly:

“In case Core TSOs apply the LTA margin approach according to Article 18(1a)(a), the capacity validation shall be based on the flow-based domain with $RAM_{bv,LTAmargin}$. In case Core TSOs apply the extended LTA inclusion approach according to Article 18(1a)(b), the capacity validation shall be based on the convex hull of the flow-based domain with $RAM_{bv,noLTAmargin}$ and the LTA domain, but for individual validation according to paragraph 5 each Core TSO may decide to base it on $RAM_{bv,LTAmargin}$ instead.”

c) Article 20.3 shall be amended and be read accordingly:

aa) The 1st sentence shall be replaced by the following sentence:

“In the process of cross-zonal capacity validation the Core TSOs shall exchange information on all expected available (non-costly and costly) RAs in the Core CCR, defined in accordance with Article 22 of the SO Regulation.”

bb) In the 2nd sentence the phrase “ RAM_{bv} on individual CNECs” shall be replaced by the term “cross-zonal capacity” and be read accordingly:

“In case the cross-zonal capacity could lead to violation of operational security, all Core TSOs in coordination with the CCC shall verify whether such violation can be avoided with the application of RAs.”

cc) In the 4th sentence the parameter “ RAM_{bv} ” shall be re-named to “ $RAM_{bv,LTAmargin}$ ” and the phrase “or $RAM_{bv,noLTAmargin}$ ” shall be added and be read accordingly:

“For those CNECs where all available RAs are not sufficient to avoid the violation of operational security, the Core TSOs in coordination with the CCC may reduce the

$RAM_{bv,LTAmargin}$ or $RAM_{bv,noLTAmargin}$ to the maximum value which avoids the violation of operational security.”

dd) In the 5th sentence the phrase “of the RAM_{bv} ” shall be deleted and shall be read accordingly:

“This reduction is called ‘coordinated validation adjustment’ (*CVA*) and the adjusted RAM is called ‘ RAM after coordinated validation’.”

d) Article 20.10 shall be amended accordingly:

aa) In the 1st sentence the reference to “Equation 20” shall be replaced by a reference to “Equation 20a”. Additionally the 1st sentence shall be extended by the sentence “, if the LTA margin approach is applied, and according to Equation 20b if the extended LTA inclusion is applied” and shall be read accordingly:

“After coordinated and individual validation adjustments, the RAM_{bn} before adjustment for long-term nominations shall be calculated by the CCC for each CNEC and external constraint according to Equation 20a, if the LTA margin approach is applied, and according to Equation 20b if the extended LTA inclusion is applied:”

bb) In Equation 20 the parameter “ $\overrightarrow{RAM}_{bv}$ ” shall be re-named to “ $\overrightarrow{RAM}_{bv,LTAmargin}$ ” and shall be read accordingly:

$$\overrightarrow{RAM}_{bn} = \overrightarrow{RAM}_{bv,LTAmargin} - \overrightarrow{CVA} - \overrightarrow{IVA}$$

cc) The description of Equation 20 shall be extended by the letter “a” and read as follows:

“Equation 20a”

dd) A new equation 20b shall be included and read as follows:

$$\overrightarrow{RAM}_{bn} = \overrightarrow{RAM}_{bv,noLTAmargin} - \overrightarrow{CVA} - \overrightarrow{IVA}$$

Equation 10b

ee) The definition on “ $\overrightarrow{RAM}_{bv}$ ” shall be re-named to “ $\overrightarrow{RAM}_{bv,LTAmargin}$ ” and be extended by the phrase “pursuant to Article 19(d)” and shall be read accordingly:

“ $\overrightarrow{RAM}_{bv,LTAmargin}$ remaining available margin before validation pursuant to Article 19(d)”

ff) A new definition on “ $\overrightarrow{RAM}_{bv,noLTAmargin}$ ” shall be included and be read accordingly:

“ $\overline{RAM}_{bv,noLTAmargin}$ remaining available margin before validation pursuant to Article 19(e)”

e) Article 20.12 shall be amended accordingly:

In the 1st sentence the phrase “Pursuant to Article 18(1)(a)” shall be replaced by “Only when Core TSOs apply the LTAmargin approach pursuant to Article 18(1a)(a),” and be extended by “,in order to fulfil the requirement pursuant to Article 18(1)(a)” and shall be read accordingly:

“Only when Core TSOs apply the LTAmargin approach pursuant to Article 18(1a)(a), capacity reductions through CVA and IVA shall ensure that the RAM_{bn} remains non-negative in all combinations of nominations resulting from LTA, in order to fulfil the requirement pursuant to Article 18(1)(a).”

6. Article 21. Calculation and publication of final flow-based parameters shall be amended accordingly:

a) In Article 21.1 a 5th sentence shall be added:

“In addition the CCC shall publish the LTA domain.”

b) A new paragraph 3a. shall be included and be read accordingly:

“3a. After the CCC receives all nominations of allocated long-term cross-zonal capacity (long-term nominations), it shall also adjust the LTA domain for long-term nominations.”

c) In Article 21.4 in the 2nd sentence in between the words “flow-based parameters” and “be provided” the phrase “and the LTA domain adjusted for long-term nominations” shall be added and be read accordingly:

“In accordance with Article 46 of the CACM Regulation, the CCC shall ensure that, for each DA CC MTU, the final flow-based parameters and the LTA domain adjusted for long-term nominations be provided to the relevant NEMOs as soon as they are available and no later than 10:30 market time day-ahead.”

7. Article 22. Day-ahead capacity calculation fallback procedures shall be amended accordingly:

In letter (a) a 5th sentence shall be included and be read as follows:

“In case the extended LTA inclusion approach is applied, the LTA domain for missing hours contains for each Core

border the minimum of the long-term allocated capacities values of the hours for which the previous and subsequent flow-based parameters are available.”

8. Article 23. Calculation of ATCs for SDAC fallback procedure shall be amended accordingly:

A new paragraph 5a. shall be included and be read as following:

“5a. In case extended LTA inclusion approach is applied the ATCs for SDAC fallback procedure are set equal to the LTAs for each Core oriented bidding zone border, i.e.:

$$\overrightarrow{ATC} = \overrightarrow{LTA}$$

with

\overrightarrow{ATC} the ATC for SDAC fallback procedure

\overrightarrow{LTA} the LTA on Core oriented bidding zone borders”

9. Article 25. Publication of data shall be amended accordingly:

In Article 25.2.(d) vii. between the terms “ LTA_{margin} ” and “ CVA ” the phrase “(not applicable in case extended LTA inclusion approach is applied)” shall be included and shall be read accordingly:

“detailed breakdown of RAM for each CNEC of the final flow-based parameters before pre-solving: I_{max} , U , F_{max} , FRM , $F_{ref,init}$, F_{nrao} , F_{ref} , $F_{0,core}$, $F_{0,all}$, F_{uaf} , AMR , LTA_{margin} (not applicable in case extended LTA inclusion approach is applied), CVA , IVA , F_{LTN} ;

Article 4

Third Country Integration

1. Article 2. Definitions and interpretation shall be amended accordingly:

a) A new number 75. shall be included and be read accordingly:

“75. ‘technical agreement’ means an agreement among Core TSOs and a third party TSO on the technical consideration of the third party TSO’s network in Core DA capacity calculation; “

b) A new number 76. shall be included and be read accordingly:

“ 76. ‘technical counterparty’ means a TSO who is not a Core TSO and who has signed a technical agreement with all Core TSOs.”

2. Article 4. Day-ahead capacity calculation process shall be amended accordingly:

A new paragraph 8a. shall be included and be read accordingly:

“8a. The provisions on the technical counterparty to provide input data insofar as required for executing the right pursuant to Article 20(6a) shall be regulated separately. The steps in Article 4(7) shall be complemented with the IGMs of technical counterparties.”

3. Article 11. Calculation of power transfer distribution factors and reference flows shall be amended accordingly:

A new paragraph 7a. shall be included and be read accordingly:

“7a. For network elements with contingencies from technical counterparties pursuant to Article 20(6a), the steps referred to in paragraphs 3 to 7 above shall be performed by the CCC in analogy to Core CNECs with the additional inclusion of the bidding zone of the technical counterparty in Equation 5. For the sake of computing PTDFs and flow components for such network elements with contingencies, the CCC shall use the GSK provided by the technical counterparty.”

4. Article 14. Initial flow-based calculation shall be amended accordingly:

A new paragraph 3a. shall be included and be read accordingly:

“3a. For network elements with contingencies from technical counterparties pursuant to Article 20(6a), the steps described in paragraphs 1 to 3 shall be carried out in analogy by the CCC.”

5. Article 20. Validation of flow-based parameters shall be amended accordingly:

A new paragraph 6a. shall be included and be read accordingly:

“6a. A technical counterparty may add a network element with a specific contingency for which the maximum zone-to-zone PTDF is above the PTDF threshold referred to in Article 15(1) in conjunction with Article 11(7a) to the final list of CNECs. The provisions on the conditions that allow a technical counterparty to add a network element with contingency to the final list of CNECs shall be regulated separately.”

Article 5

Validation of flow-based parameters

Article 20. Validation of flow-based parameters shall be amended accordingly:

a) Article 20.6 shall be amended accordingly:

In paragraph 6 a 3rd and 4th sentence shall be added and be read accordingly:

“PTDF_{init} according to Article 13(3) shall be used to determine if the PTDF of the additional CNEC is above the PTDF threshold. When applying the additional CNEC during the computation of the final flow-based parameters, the *PTDF_f* value from the NRAO according to Article 16 shall be considered.”

b) Article 20.13 shall be read accordingly:

aa) Letter (e) shall be removed.

bb) The reference in letter (f) to letter (e) shall be removed and be read accordingly:

“(f) if an internal network elements with a specific contingency was exceptionally added to the final list of CNECs during validation: a justification why adding the network elements with a specific contingency to the list was the only way to ensure operational security, the name or the identifier of the internal network elements with a specific contingency, the DA CC MTUs for which the internal network elements with a specific contingency was added to the list and the information referred to in points (b) and (c) above;”

cc) In letter (h) the word “and” shall be removed and be read accordingly:

“(h) in case of reduction due to individual validation, the TSO invoking the reduction.”

dd) Letter (i) shall be removed.

Article 6 Fallback procedures

Article 22. Day-ahead capacity calculation fallback procedures shall be amended accordingly:

a) In the 1st paragraph between the words “by using” and “one of” the sentence “the results of the initial flow-based calculation to directly run the computation of the final flow-based parameters according to Article 21. In case this does not lead to the final flow-based parameters either, the Core TSOs and the CCC shall calculate the remaining missing results by using” shall be included and be read accordingly:

“According to Article 21(3) of the CACM Regulation, when the day-ahead capacity calculation for specific DA

CC MTUs does not lead to the final flow-based parameters due to, *inter alia*, a technical failure in the tools, an error in the communication infrastructure, or corrupted or missing input data, the Core TSOs and the CCC shall calculate the missing results by using the results of the initial flow-based calculation to directly run the computation of the final flow-based parameters according to Article 21. In case this does not lead to the final flow-based parameters either, the Core TSOs and the CCC shall calculate the remaining missing results by using one of the following two capacity calculation fallback procedures:”

b) In letter (b) the 4th sentence shall be replaced by the following sentence:

“An exchange restriction on the bilateral Core bidding zones’ exchanges shall be defined based on the LTA capacity for each Core oriented bidding zone border.”

c) In letter (b) the 5th sentence shall be replaced by the following sentence:

“The bilateral exchange restriction shall be the LTA value, possibly increased by the minimum of the two adjustments provided by the TSO(s) on each side of the bidding zone border, pursuant to Article 4 (4)(b).”

d) In letter (b) the 6th sentence shall be replaced by the following sentence:

“These bilateral exchange restrictions are then adjusted for long-term nominations pursuant to Article 21, to obtain the final parameters.“

Article 7 **Publication of data**

1. Article 25. Publication of data shall be amended accordingly:

a) In Article 25.2 (d) xiii. 3rd bullet point, the phrase “and each TSO” shall be removed and be read accordingly:

“Core net position for each Core bidding zone;”

b) In Article 25.2 (e) ii. shall be removed.

c) A new letter (g) shall be included and read accordingly:

“(g) The CCC shall include in its quarterly report as defined in Article 27 (5) the information pursuant to paragraph 2(d)(vii) complemented by 14:00 market time of D-1 for each CNEC and external constraint of the final flow-

based parameters containing the information on flows resulting from net positions resulting from the SDAC.”

2. Article 27 shall be amended accordingly:

In Article 27.5 a new letter (d) shall be included:

“(d) according to Article 25(2) (g), Core TSOs shall report on flows resulting from net positions resulting from the SDAC for information pursuant to paragraph 2(d)(vii) complemented by 14:00 market time of D-1 for each CNEC and external constraint of the final flow-based parameters containing the information.”

Article 8 Timescale of implementation

Article 28. Timescale for implementation shall be amended accordingly:

In Article 28.3 the phrase “1 December 2020” shall be replaced by the phrase “30 September 2021” and shall be read accordingly:

“3. The TSOs of the Core CCR shall implement this methodology no later than 30 September 2021. The implementation process, which shall start with the entry into forces of this methodology and finish by 30 September 2021, shall consist of the following steps:”