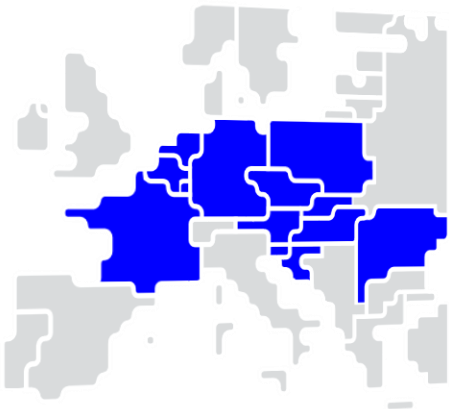
Core TSOs common coordinated long-term capacity calculation methodology in accordance with article 10 of Commission Regulation (EU) 2016/1719 of 26 September 2016 establishing a guideline on forward capacity allocation

June 2019



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ALL TSOS OF THE CORE CCR TAKING INTO ACCOUNT THE FOLLOWING,

Whereas

1. This document sets out the common coordinated capacity calculation methodology in accordance with article 10 seq. of Commission Regulation (EU) 2016/1719 of 26 September 2016 establishing a guideline on Forward Capacity Allocation (hereafter referred to as the “FCA Regulation”). This methodology is hereafter referred to as the "Long-Term Capacity Calculation Methodology" (LT CCM).
2. The LT CCM takes into account the general principles and goals set in the FCA Regulation as well as Regulation (EC) No 714/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity (hereafter referred to as “Regulation (EC) No 714/2009”).
3. According to article 4(8) of the FCA Regulation, the expected impact of the LT CCM on the objectives of the FCA Regulation has to be described and is presented below.
4. The LT CCM serves the objective of promoting effective long-term cross-zonal trade with long-term cross-zonal hedging opportunities for market participants (article 3(a) of the FCA Regulation) by taking into account the hedging needs of market participants by calculating reliable capacities at an early stage and making them available to market participants, which makes long-term planning possible since it ensures that the cross-zonal capacity is calculated in such a way that the same LT CCM will apply to all market participants on all respective bidding zone borders in the Core CCR, thereby ensuring a level playing field amongst market participants.
5. The LT CCM contributes to the optimal calculation of long-term capacity (article 3(b) of the FCA Regulation) since it takes into account all critical network elements, coordinates the timings of delivery of inputs, provides a calculation approach and coordinates validation requirements of the capacity calculation between Core TSOs and the Coordinated Capacity Calculator of Core (Core CCC).
6. The LT CCM contributes to the objective of providing non-discriminatory access to long-term cross-zonal capacity (article 3(c) of the FCA Regulation) by adhering to the rules of JAO and by publication of the results, hence ensuring nondiscrimination between market participants.
7. The LT CCM is designed to ensure a fair and non-discriminatory treatment of Core TSOs, the Agency, regulatory authorities and market participants (article 3(d) of the FCA Regulation) since it has been developed and adopted within a process that ensures the involvement of all relevant stakeholders and independence of the approving process. During the drafting process, several meetings with the Core Implementation Group (Core IG, participants are Core NRAs and ACER) and the Core Consultative Group (Core CG, participants are interested market parties) took place to present and discuss the current drafting status of the LT CCM.
8. This LT CCM also contributes to the objective of respecting the need for a fair and orderly forward capacity allocation and orderly price formation (article 3(e) of the FCA Regulation) by making available in due time the information about cross-zonal capacities to be released in the market, and by ensuring a backup solution when capacity calculation fails to provide results.
9. The LT CCM determines the main principles and main processes for the long-term timeframe. It requires that the Core TSOs provide market participants with reliable information on cross-zonal capacities and import/export limits for year and month ahead allocation in a transparent way and at the same time. This includes regular reporting on specific processes within capacity calculation. The LT CCM therefore contributes to the objective of transparency and reliability of information (article 3(f) of the FCA Regulation).
10. Finally, the LT CCM provides requirements for efficient use of existing electricity infrastructure and facilitates competitive access to transmission infrastructure in particular in case of congestions in the long-term timeframe. This provides a long-term signal for efficient investments in transmission,

generation and consumption, and thereby contributes to the efficient long-term operation and development of the electricity transmission system and electricity sector in the Union (article 3 (g) of the FCA Regulation).

11. In conclusion, the LT CCM contributes to the general objectives of the FCA Regulation to the benefit of all market participants and electricity end consumers.
12. The LT CCM covers the annual and monthly long-term time frames (pursuant to article 9 of the FCA Regulation).
13. The LT CCM is structured in three consecutive stages: (i) the definition and provision of capacity calculation inputs by the Core TSOs, (ii) the capacity calculation process by the Core CCC in coordination with the Core TSOs, and (iii) the capacity validation by the Core TSOs in coordination with the Core CCC.
14. Core TSOs determine the final capacity values to meet the form of product regulated in the Core Design of Long Term Transmission Rights (in accordance with article 31.3 of the FCA Regulation). Those capacity values are subject to the Core Methodology for splitting long-term cross-zonal capacity (in accordance with article 16 of the FCA regulation).
15. The LT CCM is based on forecast models of the transmission system. The inputs of the LT CCM are determined more than a year, respectively more than a month, before the electricity delivery date taking into account the available knowledge at that time. Therefore, the outcomes are subject to inaccuracies and uncertainties that are higher than the inaccuracies and uncertainties of the day-ahead capacity calculation methodology. The aim of the reliability margin is to cover the risk induced by these forecast errors.
16. The LT CCM shall be compatible with the day-ahead and intraday capacity calculation methodologies (article 10 (3) of the FCA Regulation). This compatibility is achieved by considering input parameters from the day-ahead capacity calculation methodology. Using features from the flow-based approach (PTDF and RAM) from which coordinated NTCs (cNTCs) are extracted also ensures compatibility.
17. Core TSOs remain responsible for maintaining operational security regardless of whether there is a coordinated application of capacity calculation or not. For this reason they need to validate the calculated cross-zonal capacities to ensure that they do not violate operational security limits. This validation is performed in a coordinated way to verify wether a coordinated application of remedial actions can address possible operational security issues.This step may lead to reductions of cross-zonal capacities below the values needed to avoid undue discrimination. Thus transparency, monitoring and reporting are needed in case of reductions of cross-zonal capacities.
18. Transparency and monitoring of capacity calculation are essential for ensuring its efficiency and understanding. This methodology establishes significant requirements for Core TSOs to publish the information required by market participants, to report the information to regulatory authorities and to analyse the impact of capacity calculation on the market functioning.

SUBMIT THE FOLLOWING LT CCM TO THE NATIONAL REGULATORY AUTHORITIES OF THE CORE CCR:

TITLE 1:
GENERAL PROVISIONS

Article 1 Subject, matter and scope

1. The long-term common capacity calculation methodology as determined in this LT CCM is the common proposal of all Core TSOs in accordance with article 10 seq. of the FCA Regulation and shall cover the Core CCR bidding zone borders.
2. This document is a common Methodology of the Core Transmission System Operators (hereafter referred to as "Core TSOs") of the Capacity Calculation Region Core (hereafter referred to as "Core CCR") as described in the ACER decision of the agency for the cooperation of energy regulators no 06/2016 of 17 November 2016 on the electricity transmission system operators proposal for the determination of capacity calculation regions.

Article 2 Definitions and interpretation

1. For the purposes of the LT CCM, the terms used shall have the meaning given to them in article 2 of Regulation (EC) 714/2009, article 2 of Regulation (EC) 2013/543, article 2 of Commission Regulation (EC) 2015/1222 establishing a guideline on Capacity Calculation and Congestion Management (hereafter referred to as the "CACM Regulation") and article 2 of the FCA Regulation.
2. List of Acronyms

AC	Alternating Current
ACER	Agency for the Cooperation of Energy Regulators
BE	Bilateral exchanges
BZB	Bidding Zone Border standing also for set of BZB (i.e. technical profiles) where applicable
CACM	Capacity Allocation and Congestion Management
CB	Critical Branch
CC	Capacity Calculation
CCC	Coordinated Capacity Calculator
CCM	Capacity Calculation Methodology
CCR	Capacity Calculation Region
CGM	Common Grid Model
CGMES	Common Grid Model Exchange Specification
CGMM	Common Grid Model Methodology
CNE	Critical Network Element
CNEC	Critical Network Element and Contingency

cNTC	Coordinated Net Transfer Capacity
CO	Critical Outage
Corner	A corner represents a specific combination of bilateral exchanges of all Core bidding zone borders. For a system with x borders, the number of possible corners is 2^x
D-2	Two Days Ahead
DA	Day-Ahead
DA CCM	Day-Ahead Capacity Calculation Methodology
DACF	Day Ahead Congestion Forecast
DC	Direct Current
EC	European Commission
EIC	Energy Identification Code
ENTSO-E	European Network of Transmission System Operators for Electricity
EU	European Union
FCA	Forward Capacity Allocation
FRM	Flow Reliability Margin
GSK	Generation Shift Key
HAR	Harmonized Allocation Rules
HVDC	High-Voltage Direct Current
IGM	Individual Grid Model
JAO	Joint Allocation Office
Likely Corner	A likely corner is a subset of corners that cover a certain percentage of the occurences of all possible corners
LT	Long-Term
LTCC	Long-Term Capacity Calculation
LT CCM	Common Coordinated Long-Term Capacity Calculation Methodology
LTTR	Long-Term Tranmission Rights
kA	Kilo Ampère
MC	Market Coupling
MF	Maximum Flow

minRAM	Minimum Remaining Available Margin
MPTC	The Maximum Permanent Technical Capacity represents the maximum continuous active power an HVDC element is capable of transmitting, taking into account potential reduced availability due to planned outages of the interconnector asset. This parameter is defined by the interconnector's asset operators.
MW	Megawatt
NEMO	Nominated Electricity Market Operator
NRA	National Regulatory Authority
NP	Net Position
NTC	Net Transfer Capacity
NUb	Number of Undefined Borders
OPC	Outage Planning Coordination
OPDE	Operational Data Environment
PTDF	Power Transfer Distribution Factor
PST	Phase Shifter Transformer
RA	Remedial Action
RAM	Remaining Available Margin
RSC	Regional Security Coordinator
SAP	Single Allocation Platform
SO GL	System Operation Guideline
TRM	Transmission Reliability Margin
TSO	Transmission System Operator
TTC	Total Transfer Capacity (of the Core Region)

3. In this LT CCM, unless the context requires otherwise:
   a. the singular indicates the plural and vice versa;
   b. headings are inserted for convenience only and do not affect the interpretation of this LT CCM; and
   c. any reference to legislation, regulations, directives, orders, instruments, codes or any other enactment shall include any modification, extension or re-enactment of it when in force.

Article 3 Application of this methodology

This LT CCM applies solely to the LT CCM that is based on the coordinated net transmission capacity approach within the Core CCR. Common capacity calculation methodologies within others Capacity Calculation Regions are not in scope of this LT CCM.

Article 4 Cross-Zonal capacities for the long-term market

1. For the LT time frames, individual values for cross-zonal capacity for at least annual and monthly time frames shall be calculated using the LT CCM.
2. The TSOs of the Core CCR shall provide the Core CCC, sufficiently in advance in time, with the following initial inputs: GSK, CNEC files.
3. As accordance with article 24.2 of the FCA Regulation, each Core TSOs shall validate the results before the methodology for splitting long-term cross-zonal capacities in accordance with article 16 of the FCA Regulation is applied.

TITLE 2:
TREATMENT OF INPUT

Article 5 Reliability margin methodology

1. The Core TSOs shall use the latest available FRM from the DA timeframe.
2. The Core TSOs shall transfer the FRMs to TRMs according to article 22 (5) of the CACM Regulation.
3. The Core TSOs shall regularly review the FRMs and if needed change the FRMs in order to ensure at least the consistency with their neighbouring CCRs.

Article 6 Methodologies for operational security limits

1. In accordance with article 12 of the FCA Regulation, referring to article 23(1) of the CACM Regulation, Core TSOs shall respect the operational security limits used in operational security analysis carried out in line with article 72 of the Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation (hereafter referred to as the “SO GL”). The operational security limits used in the LT CCM are the same as those used in operational security analysis. In particular:
    a. Core TSOs shall respect the maximum admissible current (I_{max}) which is the seasonal limit on a CNE according to the operational security policy in line with article 25 of the SO GL. The maximum admissible current can be defined by:
        i. fixed limits for all market time units in the case of transformers and certain types of conductors which are not sensitive to ambient conditions;
        ii. fixed limits for all market time units of a specific season.
    b. When applicable, I_{max} shall be defined as a temporary current limit of the CNE in accordance with article 25 of the SO GL. A temporary current limit means that an overload is only allowed for a certain finite duration.
    c. I_{max} is not reduced by any security margin, as all uncertainties in the LT CCM are covered on each CNEC by the reliability margin in accordance with Article 5.
    d. The value F_{max} in MW, describes the maximum admissible power flow on a CNE. F_{max} is calculated by the Core CCC from I_{max} by the given formula:

$$F_{max} = \sqrt{3} \cdot I_{max} \cdot U \cdot cos(\varphi)$$

where I_{max} is the maximum admissible current in kA of a CNE, U is a fixed reference voltage in kV for each CNE, and $\cos(\varphi)$ the power factor. Core TSOs shall assume that the share of the CNE loading by reactive power is negligible (i.e. the angle $\varphi = 0$). Thus, factor $\cos(\varphi)$ equals 1, which means that the element is assumed to be loaded only by active power.

2. In accordance with article 12 of the FCA Regulation, in combination with the articles 23(1) and 23(2) of the CACM Regulation, Core TSOs may use operational security limits and contingencies for capacity calculation. These are not the same as those used in operational security analysis, but takes into account the needs of operational security analysis on how to deal with uncertainties of generation and load. Such operational security limits shall be modelled as a constraint on bidding zone import/export limits (the sum of all cross-zonal exchanges for a certain bidding zone), thus limiting the net position of the respective bidding zone.
3. Core TSOs applying the constraint on the bidding zone import/export limits shall provide this information to the Core CCC as an input data for the respective capacity calculation processes.
4. Core TSOs shall aim towards determining the maximum admissible current using seasonal limits pursuant to Article 6(1)(a)(ii). If a Core TSO uses the seasonal limits of Imax, this Core TSO has to insert this information into the list of CNECs where I_{max} of CNE is defined.
5. The Core TSOs shall review and update the methodology for operational security limits in accordance with Article 17.

Article 7 Methodology for critical network elements and contingencies selection

1. Each Core TSO shall provide a list of critical network elements (CNEs) and a list of associated contingencies (Cs) of its own control area based on operational experience. The result of the process will be an initial pool of CNECs in all subsequent steps of the common long-term capacity calculation.
2. Only those CNECs of the initial pool are to be considered by each Core TSO for the common long-term capacity calculation that are marked by the CCC to be significantly influenced by the changes in bidding zone net positions in accordance with article 29(3) of the CACM Regulation. A cross-zonal network element is always considered as significantly influenced. The CNECs shall have a maximum zone-to-zone PTDF higher than a common threshold. The CNECs of this category will be taken into account by the Core TSOs in all subsequent steps of the common capacity calculation and will determine the cross-zonal capacity.
3. The list of CNEs and the associated contingencies can be updated monthly by the respective Core TSOs.

Article 8 Generation shift keys methodology

In accordance with article 13 of the FCA Regulation, Core TSOs developed the following methodology to determine the common GSK:

a. Core TSOs shall take into account the available information on generation or load available in the common grid model for each scenario developed in accordance with article 19 of the FCA Regulation;

b. each Core TSO shall define its GSK based on scenarios with production and load units reflecting TSO's best forecast of flow patterns and market behaviour;

c. each Core TSO shall aim to apply a GSK that resembles the dispatch and the corresponding flow pattern, thereby contributing to minimizing the reliability margin;

d. Core TSOs belonging to the same bidding zone shall determine a common methodology that translates a change in the bidding zone net position to a specific change of generation or load in the common grid model.

Article 9 Methodology for remedial actions in capacity calculation

1. Each Core TSO may define a set of available RAs, which is located in its control area. For transparency reasons, all Core TSOs have to be informed about this set of RAs in advance.
2. The Core TSOs shall only use coordinated RAs during long-term capacity calculation.
3. Only RAs confirmed by a common procedure that includes rules and pre-defined critera by all Core TSOs will be considered.
4. The application of RAs has to be coordinated, therefore the predefined criteria for the consideration of RAs in the long-term capacity calculation by one Core TSO have to be approved by all Core TSOs.
5. Each Core TSO may refuse RAs proposed by other Core TSO in case of a significant negative influence to the amount of capacity on its border, based on the predefined criteria.
6. If the predefined criteria are fulfilled, the Core CCC shall apply the proposed RAs.

Article 10 Scenarios

1. In accordance with article 19 of the FCA Regulation, referring to article 10 of the FCA Regulation, all TSOs in CCRs shall jointly develop a common set of scenarios to be used in the common grid model for each long-term capacity calculation time frame.

2. In order to meet the above requirements, the Core TSOs shall use the annually created ENTSO-E year-ahead reference scenarios (i.e. default scenarios), in accordance with article 3.1 of CGMM for FCA in conjunction with article 65 of the SO GL Regulation. This Pan-European process is based on the common grid methodology as developed in accordance with article 18 of the FCA Regulation and respecting the merging and alignment processes developed in accordance with article 27 of the CACM Regulation.

3. Each Core TSO can update the year-ahead reference scenarios for the monthly capacity calculation to incorporate the latest available information as regard to the generation pattern and topology (due to grid element commissioning or decommissioning).

4. The Core CCC shall implement the latest available outage plans, together with the associated default topological switches related to the scenarios mentioned in this Article for each selected timestamp In order to use the most recent capacity calculation inputs.

5. The Core CCC will perform a first RAM computation with zero balance NPs for the Core TSOs, the so-called congestion check, in order to verify the operational security fulfillment before starting capacity calculation for the long term timeframe.

6. When a predefined maximum loading of a CNEC is exceded, the Core TSOs shall use coordinated actions to obtain the predefined maximum loading.

Article 11 Integration of cross-zonal HVDC interconnectors located within the Core CCR

1. Core TSOs determine the capacity of the HVDC interconnector located within the Core CCR by the MPTC and the consideration of the potential impacts of the capacity of CNECs considered in the capacity calculation.

2. Core TSOs shall calculate the impact of the cross-zonal exchange over a HVDC interconnector on CNECs. Core TSOs shall model the converter stations of the cross-zonal HVDC as two virtual hubs, which function equivalently as bidding zones. Then, the impact of an exchange between two bidding zones A and B over such an HVDC interconnector shall be expressed as an exchange from bidding zone A to the virtual hub representing the sending end of the HVDC interconnector plus an exchange from the virtual hub representing the receiving end of the interconnector to bidding zone B.

Article 12 Statistical analysis of likely corners

1. The Core CCC shall calculate the long-term capacity values based on likely corners.

2. The Core CCC shall determine at least once a year the set of likely corners for each season based on the frequence of occurances of corners during the seasons of the previous year.

3. The Core CCC shall include both directions of any new BZB in the set of likely corners.

4. Core TSOs shall review once a year the defined threshold for creating a set of likely corners and the defined timeframe of one season.

TITLE 3:
VALIDATION

Article 13 Validation methodology

1. In accordance with article 15 of the FCA Regulation, referring to article 26 of the CACM Regulation, each Core TSO shall validate and have the right to correct cross-zonal capacity relevant to the Core TSO's BZBs for reasons of operational security during the validation process. In exceptional situations cross-zonal capacities can be reduced by all Core TSOs. These potential situations are at least:
    a. an occurrence of an exceptional contingency or forced outage as defined in article 3 of the SO GL Regulation;
    b. when RAs, pursuant to Article 9, that are needed to ensure the calculated capacity on all CNECs, are not sufficient;
    c. a mistake in the input data, that leads to an overestimation of cross-zonal capacity from an operational security perspective, occured;
    d. a potential need to cover reactive power flows on certain CNECs.

2. The validation process is composed of two parts and explained in more detail in Article 13 (3) and (4):
    a. verification of the calculated capacities at the end of each calculation,
    b. validation of the final capacities.

3. The verification is performed after each calculation step, where Core TSOs may require a change in the input parameters of the calculation to correct the calculated capacities:

a. in case of a required reduction due to situations as defined in Article 13(1) a Core TSO may correct its initial FRM, in accordance with Article 5.1, for its own CNECs;

b. in case of a situation as defined in Article 13(1)(a), Core TSOs may also request to adapt the external constraints to reduce the cross-zonal capacity for its BZBs;

c. in case of a situation as defined in Article 13(1)(c), Core TSOs may also request a common decision to calculate capacities with the correct input data.

4. When the process of verification of the calculated capacities is completed, then the final capacity validation process takes place, whereby Core TSOs may require a reduction in calculated capacities for reasons of operational security. When performing the validation, Core TSOs may consider the operational security limits, but may also consider additional grid constraints, grid models, and other relevant information. Therefore, Core TSOs may use, but are not limited to use, the tools developed by the Core CCC for analysis and might also employ verification tools not available to the regional CCC.

5. The Core CCC shall issue a three-monthly report for regulatory authorities that shall include the amount of reduction in cross-zonal capacity, location, and reasons for the reduction, pursuant to article 26(5) of the CACM Regulation. In cases of reduction due to situations as defined in Article 13(1)(c) the report shall contain measures to prevent similar mistakes to occur again.

6. The Core CCC shall coordinate with neighbouring CCCs during the validation process, where at least the reductions in cross-zonal capacity are shared among them. Any information on decreased cross-zonal capacity from neighbouring CCCs shall be provided to Core TSOs. Core TSOs may then apply the appropriate reductions of cross-zonal capacities as decribed in Article 13(3).

TITLE 4: DETAILED DESCRIPTION OF THE CAPACITY CALCULATION PROCESS

Article 14 Technical description of the capacity calculation method

1. The Core TSOs shall provide the Core CCC the following inputs:
    a. GSKs in accordance with Article 8;
    b. MPTC of HVDC inside the Core CCR in accordance with Article 11;
    c. CNEs and Contingencies in accordance with Article 7;
    d. Reliability Margin in accordance with Article 5;
    e. Maximum current on a Critical Network Elements (Imax) / Maximum allowable power flow (Fmax) in accordance with Article 6;
    f. RAs in accordance with Article 9;
    g. CGMs for each selected timestamp in accordance with Article 10;
    h. Likely Corners for each selected timestamp in accordance with Article 12; and
    i. Already allocated capacities from JAO.

2. When providing the inputs, the Core TSOs shall respect the formats that have been agreed upon between the Core TSOs and the Core CCC, while respecting the requirements and guidance defined in the CGMES methodology developed in accordance with Section 2 of FCA Regulation.

3. For each selected timestamp using the associated CGM, CNECs and GSKs, the Core CCC shall calculate for each CNEC, based on its maximum allowed loading in accordance with Article 6, the RAM at Core zero-balance situation and its PTDFs of the BZB taking into account the uncertainties of flows by using a Reliability Margin in accordance with Article 5.

4. Based on those RAM and PTDFs, the Core CCC shall calculate for each timestamp the maximum secure cross-zonal long-term market capacity for all the Core BZBs based on the likely corners as determined in accordance with Article 12 and applying remedial actions in accordance with Article 9.

Calculation with Top-Down approach:

a. The Core CCC shall calculate, for each Core BZB and direction, the initial bilateral NTC starting from a Core zero-balanced situation.
b. The Core CCC shall assess the initial bilateral NTCs on their simultaneous feasibility in all the selected likely corners.
c. The Core CCC shall correct, for each likely corner for which the bilateral NTCs lead to overloaded CNEC(s), the bilateral NTCs based on a PTDF correction key until the overload(s) on the CNEC(s) is (are) removed.

Calculation with Bottom-Up approach:

a. The Core CCC shall apply, for each provided likely corner, Core TSOs best practices related to CNEC filtering.
b. The Core CCC shall ensure that, for each CNEC and each LTCC scenario, the remaining margin is equally shared between the Core internal borders that are positively influenced:

$$\mathrm{MaxBEFactor}_i = \frac{RAM_{CNEC,scenario}}{N_{shares}}$$

c. The Core CCC shall, from these aforementioned shares of margin, compute the maximum bilateral exchanges by dividing each share by the zone-to-zone PTDF:

$$\mathrm{incrementalMaxBE_i} = \frac{\mathrm{MaxBE}Factor_i}{pPTDF_{z2z}}$$

d. The Core CCC shall update the bilateral exchanges by adding the minimum values obtained over all CNECs:

$$\mathrm{MaxBE} = \min(MaxBE = MaxBE + incrementalMaxBE).$$

The steps b-d continue iteratively until over all CNECs the maximum value of the absolute difference between the margin obtained in two subsequent iterations is smaller than a predefined stop criterion. The resulting values represent coordinated maximum simultaneous bilateral NTC values for Core internal BZBs of a likely corner.The final NTCs for a timestamp are determined as a minimum value of the obtained NTCs in all likely corners.

5. The Core CCC shall determine the final NTCs for a timestamp as a minimum value of the obtained NTCs in all likely corners.

6. The Core CCC shall, if the monthly calculated NTC is lower than already allocated capacities, set the monthly NTC to the value of the already allocated capacities.
7. Core TSOs shall ensure that the cNTC values will meet the requirements of the Regional Design of Long-Term Transmission Rights pursuant to article 31 of the FCA Regulation.

Article 15 Consideration of non-Core CCR bidding zone borders

1. Where CNEs within the Core CCR are impacted by electricity exchanges outside the Core CCR, Core TSOs shall take such impact into account.
2. Core TSOs shall consider the electricity exchanges on BZBs outside the Core CCR as fixed input to the LT CCM, as prepared in the seasonal yearly and monthly models, with unchanged NPs. These electricity exchanges, defined as best forecasts of net positions and flows in the LTCC models, are defined and agreed pursuant to article 19 of the CGMM-FCA and are incorporated in the CGM. Uncertainties related to the electricity exchanges forecasts are implicity considered within the reliabilty margin.
3. In close cooperation with adjacent CCRs, non-Core BZBs approach in LT CCM will be studied by the Core TSOs in order to take into account non-Core BZBs and to heed article 21.1.b) vii) of the CACM Regulation.

Article 16 Fallback procedures

1. In accordance with article 10(7) of the FCA Regulation, referring to article 21(3) of the CACM Regulation, in the event that a LTCC process is unable to produce results, a fallback procedure shall be applied.
2. This fallback procedure applies only in force majeure conditions.
3. This fallback procedure is applicable for all long-term capacity calculation timeframes.
4. The Core TSOs shall bilaterally agree on NTC values for the relevant timeframe(s).
5. The Core TSOs shall commonly coordinate and validate these bilaterally agreed NTC values.

TITLE 5:
UPDATES AND PUBLICATION

Article 17 Review and updates

1. Based on article 3(f) of the FCA Regulation and in accordance with article 21(3) of the FCA Regulation, referring to article 27 of the CACM Regulation, all Core TSOs shall regularly and at least once a year review and update the key input and output parameters listed in article 27(4)(a) to (d) of the CACM Regulation. Should the operational security limits, CNEs, contingencies and import/export limits used for the common capacity calculation need to be updated based on this review, Core TSOs shall publish the changes at least 1 week before their implementation, in accordance with national law. Core TSOs shall include the re-assessment of the further need of import/export limits.
2. In case the review proves the need of an update of the reliability margins, Core TSOs shall publish the updated values of reliability margin at least one month before their implementation.
3. The review by the Core TSOs of the set of RAs taken into account in capacity calculation, in accordance with Article 9, shall include at least an evaluation of the efficiency of the RAs applied.

4. In case the review proves the need for updating the application of the methodologies for determining GSKs, CNEs, and contingencies referred to in articles 12 and 13 of the FCA Regulation, referring respectively to the articles 23 to 24 of the CACM Regulation, changes made in the methodologies have to be published at least three months before their implementation.

5. Any changes of parameters listed in article 27(4) of the CACM Regulation have to be communicated to market participants and Core NRAs.

6. The impacts of any changes of parameters listed in article 27(4)(d) of the CACM Regulation and of import/export limits have to be communicated to market participants and Core NRAs. If any change leads to an adaption of the LT CCM, Core TSOs will amend the methodology according to article 4(12) of the FCA Regulation.

Article 18 Publication of data

1. The data as set forth in Article 18(2) will be published by the CCC on a dedicated online communication platform representing all Core TSOs. To enable market participants to have a clear understanding of the published data, the handbook that has been prepared and published by Core TSOs on this communication platform in the framework of the DA CCM (article 23(1)) shall be extended with the information related to the LTCC.

2. In accordance with article 3(f) of the FCA Regulation, at least the following data items shall be published by the CCC in addition to the data items and definitions of Commission Regulation (EU) No 543/2013 on submission and publication of data in electricity markets:
   a. final cNTC per BZB per direction
   b. names of CNEC (with geographical names of sub-stations where relevant and separately for CNE and contingency);
   c. CNE EIC code and Contingency EIC code;
   d. import/export limits;
   e. final TRM value per BZB per direction.

3. The final, exhaustive and binding list of all publication items, respective templates and the data access points shall be developed in dedicated workshops with the Core CG and regulatory authorities.

4. Individual Core TSO may withhold the information referred to in paragraph 2(b) and 2(c) of this Article if it is classified as sensitive critical infrastructure protection related information in their Member States as provided for in point (d) of Article 2 of Council Directive 2008/114/EC of 8 December 2008 on the identification and designation of European critical infrastructures and the assessment of the need to improve their protection. In such a case, the information referred to in paragraph 2(b) and 2(c) of this Article shall be replaced with an anonymous identifier which shall be stable for each CNEC across all LTCC time-frames. The anonymous identifier shall also be used in the other TSO communications related to the CNEC and when communicating about an outage or an investment in infrastructure. The information about which information has been withheld pursuant to this paragraph shall be published on the communication platform referred to in paragraph 1.

Article 19 Monitoring and information to regulatory authorities

1. The Core TSOs shall provide to Core NRAs data on LTCC for the purpose of monitoring its compliance with this methodology and other relevant legislation.
2. At least, the information on non-anonymized names of CNECs as referred to Article 18(2)(b) shall be provided to all Core regulatory authorities on a yearly basis for each CNEC after the yearly calculations and on a monthly basis for each CNEC after each monthly calculation. This information shall be in a format that allows easily to combine the CNEC names with the information published in accordance with Article 18(2).
3. Core NRAs may request additional information to be provided by Core TSOs. For this purpose, all Core NRAs shall coordinate their requests and forward the coordinated request to Core TSOs. Each Core TSO may decide not to provide additional information, that was not requested by its competent regulatory authority.
4. The Core CCC, with the support of the Core TSOs where relevant, shall draft an annual report containing:
    a. the RAs in accordance with Article 9 on capacity calculation and in accordance with Article 10 on increasing base case quality.
    b. the quality of the data published on the dedicated online communication platform as referred to in Article 18, with supporting detailed analysis of a failure to achieve sufficient data quality standards by the concerned Core TSOs, where relevant.
    c. the Core TSOs´ report on their continuous monitoring of the effects and performance of the application of this methodology.

5. The annual report shall be sent by the Core CCC to the Core NRAs after approval by the Core TSOs.
6. The Core CCC shall issue a three-month report according to Article 13(5) on Cross-zonal capacity validation to the Core NRAs after approval by the Core TSOs.

TITLE 6:
IMPLEMENTATION

Article 20 Timescale for implementation

1. Core TSOs shall publish this methodology without undue delay after it has been approved by the relevant NRAs or a decision has been taken by the Agency for the Cooperation of Energy Regulators in accordance with article 4(9) of the FCA Regulation.

2. Core TSOs shall implement this methodology no later than 18 months after its final approval. The implementation process, which shall start with the entry into force of this methodology, shall consist of at least an internal test, during which the Core TSOs shall test the operational processes for the long-term capacity calculation inputs, the long-term capacity calculation process and the long-term capacity validation and develop the appropriate IT tools and infrastructure.

3. During the internal test, the Core TSOs shall continuously monitor the effects and the performance of the application of this methodology. For this purpose, they shall develop, in coordination with the Core NRAs, the Agency and stakeholders, the monitoring and performance criteria and report on the outcome of this monitoring on a quarterly basis. After the implementation of this methodology, the outcome of this monitoring shall be summarized in an annual report.

TITLE 7:
LANGUAGE

Article 21 Language

1. The reference language for this LT CCM shall be English.

2. For the avoidance of doubt, where Core TSOs need to translate this LT CCM into their national language(s), in the event of inconsistencies between the English version published by Core TSOs in accordance with article 4(13) of the FCA Regulation and any version in another language, the relevant Core TSOs shall be obliged to dispel any inconsistencies by providing a revised translation of this LT CCM to their relevant Core NRAs.