First amendment of the Long-term capacity calculation methodology of the Core capacity calculation region

in accordance with Article 10 of Commission Regulation (EU) 2016/1719 of 26 September 2016 establishing a guideline on forward capacity allocation

March 2025

Whereas

(1) This is the first amendment of the common coordinated long-term capacity calculation methodology (the 'Amendment') for the Core capacity calculation region ('Core CCR') in accordance with Article 4 (12) 2nd sentence and Article 10 of Commission Regulation (EU) 2016/1719 establishing a guideline on Forward Capacity Allocation ('FCA Regulation').

(2) The Amendment takes into account Regulation (EC) No 2019/943 on the internal market for electricity ('Electricity Regulation'), the general principles of forward capacity calculation set out in Article 10 of the FCA Regulation, and the objectives listed in Article 3 of the FCA Regulation.

(3) Pursuant to Article 10 (2) FCA Regulation, the approach used in the common capacity calculation methodology shall be either a coordinated net transmission capacity approach or a flow-based approach. With Decision No 14/2021 of the European Union Agency for the Cooperation of Energy Regulators of 3 November 2021 on the long-term capacity calculation methodology of the Core capacity calculation region, the implementation of the flow-based approach was considered to lead to an increase of economic efficiency in the capacity calculation region with the same level of system security compared to a coordinated net transmission capacity approach (Recital 55 Decision No 14/2021).

(4) During the implementation of the common coordinated long-term capacity calculation methodology for the Core CCR as well as the Decision No 05/2023 of the European Union Agency for the cooperation of Energy Regulators of 22 March 2023 on the TSOs' proposal for amendments to the requirements for the Single Allocation Platform (SAP) and the SAP cost sharing methodology ("SAP Methodology") discussion between NRAs, ACER and TSOs arose, which affected the implementation timeline of the aforementioned methodologies significantly.

(5) The requirements of the SAP Methodology, which will allow the Single Allocation Platform to handle flow-based results for capacity allocation, will be implemented in 2026. In order for the Core CCR to be able to deliver coordinated capacities to the Single Allocation Platform in 2025 already, the Core CCR will perform a flow-based capacity calculation with ATC-Extraction ("FB with ATC-Extraction") as an interim step, until the Single Allocation Platform has successfully implemented the requirements to handle flow-based parameters. As such, SAP readiness to handle flow-based parameters is a pre-condition to the flow-based capacity calculation Go live.

(6) The FB with ATC-Extraction will allow the Core CCR to perform the flow-based capacity calculation and allocation on the Single Allocation Platform in 2025 by converting the resulting flow-based domain into per-border ATC values according to this Amendment for an interim period.

(7) While flow-based capacity calculation and allocation remains the ultimate goal, the interim step of FB with ATC-Extraction offers advantages over maintaining individual NTC calculations. It fosters greater market integration, optimizes capacity allocation, and enhances transparency. This transition aligns with the objectives outlined in Article 3 of the FCA Regulation, providing a more stable and efficient foundation for long-term cross-zonal electricity trading within the Core CCR.

(8) Therefore, the LT CCM contributes to the achievement of the objectives of forward

capacity allocation listed in Article 3 of the FCA Regulation. In particular, this Amendment:

a) takes into account the hedging needs of electricity market participants, because FB with ATC-Extraction, even as a temporary measure, provides a harmonized calculation and allocation of available capacity across the Core CCR. This allows market participants to develop more reliable hedging strategies, fostering increased confidence and participation in long-term markets compared to the status quo. It is promoting effective long-term cross-zonal trade with long-term cross-zonal hedging opportunities for electricity market participants in accordance with Article 3(a) of the FCA Regulation;

b) allows for considering the entire Core CCR in a coordinated manner, taking into account all critical network elements, coordinates the timings of delivery of inputs, providing a calculation approach and coordinates validation requirements of the capacity calculation between the Core TSOs and the Core CCC. This coordinated approach allows the different bidding zone borders in competition with each other to receive a portion of the available capacity. The coordinated approach leads to a more efficient allocation of capacity by maximizing the use of existing infrastructure and optimising the calculation and allocation of long-term cross-zonal capacity. Thus, by applying FB with ATC extraction as an interim step this Amendment contributes to the optimisation of the calculation and allocation of long-term cross zonal capacity in Core, in accordance with Article 3(b) of the FCA Regulation;

c) applies equally to all market participants on all respective bidding zone borders in the Core CCR, thereby ensuring a level playing field amongst market participants, and providing non-discriminatory access to long-term cross-zonal capacity in accordance with Article 3(c) of the FCA Regulation;

d) has been developed and adopted in a transparent process involving all the relevant stakeholders. It ensures market parties are given time to prepare for the implementation of flow-based capacity calculation and allocation, following concerns they repeatedly expressed. This ensures fair and non-discriminatory treatment of the TSOs, ACER, regulatory authorities and market participants in accordance with Article 3(d) of the FCA Regulation;

e) mitigates the inconsistencies and potential inaccuracies inherent in individual NTC calculations, which can disrupt forward capacity allocation and lead to price volatility. FB with ATC-Extraction provides a more reliable and consistent foundation for forward capacity allocation. This contributes to a more orderly price formation and respects the need for a fair and orderly forward capacity allocation and orderly price formation in accordance with Article 3(e) of the FCA Regulation;

f) Requires the Core TSOs to provide market participants with reliable information on cross-zonal capacities for the forward allocation in a transparent and continuous way by publication of the validated results. This includes regular reporting on specific processes within capacity calculation. As such, it ensures and enhances the transparency and reliability of information on forward capacity allocation in accordance with Article 3(f) of the FCA Regulation;

g) Enables the allocation of long-term cross-zonal capacities and this provides long-term price signals and hedging and thus facilitates efficient investments in transmission,

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

Article 1
General Improvements

1. Article 2. Definitions shall be amended accordingly:

    1. A new letter (ab) shall be included and be read accordingly:

        "(ab) 'AAC' means: Already Allocated Capacity;"

    2. A new letter (cb) shall be included and be read accordingly:

        "(cb) ATC' means the available transmission capacity on bidding zone borders, which is the transmission capacity that remains available after the deduction of eventual previously allocated capacities and which respects the physical conditions of the transmission system."

2. Article 11. Integration of HVDC Interconnectors at the Core Bidding Zone Borders shall be amended accordingly:

    In Paragraph 4. the last sentence, stating "In case of a planned outage of the HVDC interconnector, the MPTC shall be set to zero." shall be deleted.

3. Article 16. Fallback Procedure shall be amended accordingly:

    In Paragraph 4. letter b) shall be replaced and be read accordingly:

        "For the monthly capacity calculation, the FB parameters calculated for the preceding monthly auction shall be used as a basis."

4. Article 20. Publication of Data shall be amended accordingly:

    In Paragraph 1. letter (e) shall be replaced and be read accordingly:

        "detailed breakdown of the final FB parameters per CNEC: Imax, U, cosφ, Fmax, Fref, F(0,Core), FRM, FAAC, RAM, minRAM application, zone-to-slack PTDFs"

Article 2
Implementation of temporary ATC-Extraction

5. Article 22. Timescale for Implementation shall be amended accordingly:

   In Paragraph 3. letter (c) shall be replaced and be read accordingly:

   "(c) implementation by the following deadlines of:
   i. a coordinated capacity calculation with an ATC extraction as a transitional solution for a yearly auction for 2026; and
   ii. a coordinated capacity calculation with an ATC extraction as a transitional solution for a monthly auction for January 2026.
   iii. a flow-based yearly auction for 2027; and
   iv. a flow-based monthly auction for January 2027."

6. A new Annex 1 - Transitional solution for calculation of long-term cross-zonal capacities shall be introduced and attached to the Long-term capacity calculation methodology of the Core capacity calculation region.

Annex 1 - Transitional solution for calculation of long-term cross-zonal capacities

1. As a transitional solution in accordance with Article 22 3(c), the CCC shall transform the final flow-based parameters into available transmission capacity ('ATC') values on bidding zone borders of the CORE CCR.

2. The following inputs are required to calculate yearly and monthly ATC as a transitional solution for calculation and allocation of long-term cross-zonal capacities:

   (a) the calculated flow-based parameters (**$PTDF_f$** and , **RAM_f),** where RAM_f is defined as:

   $$\mathbf{RAM_f = R_{SP} * (RAM_{bv} - IVA)} \qquad (10)$$

   with

   RAM_{bv} remaining available margin before validation, calculated in accordance with Article 14 equation (9)

   R_{SP} splitting factor for yearly and monthly timeframes as defined by Long-term Splitting Rules Methodology, in accordance with FCA regulation Article 16.

   IVA: adjustments resulting from validation pursuant to Article 17

   (b) if defined, the global allocation constraints shall be assumed to constrain the net positions.

3. The final PTDFs (**$PTDF_f$**) of all or only a subset of CNECs can be adjusted before the ATC extraction by setting the positive zone-to-zone PTDFs below a certain threshold to zero.

4. The calculation of the ATCs for LTTR allocation is an iterative procedure, which calculates ATCs for each timeframe, while respecting the constraints of the final flow-based parameters pursuant to paragraph 3

   (a) The initial ATCs are set equal to zero for each Core oriented bidding zone border, i.e.:

   $$\overrightarrow{ATC}_{k=0} = 0 \qquad (11)$$

   with

   $\overrightarrow{ATC}_{k=0}$ the initial ATCs before the first iteration

   (b) the remaining available margin at iteration zero is equal to the updated remaining available margin

(9) $\overrightarrow{RAM_{ATC}}(0) = \overrightarrow{RAM_f}$ *(12)*

with

$\overrightarrow{RAM_{ATC}}(0)$ remaining available margin for ATC calculation at iteration k=0

$\overrightarrow{RAM_f}$ updated remaining available margin for long term cross-zonal capacities as defined in equation 10

(c) The iterative method applied to calculate the ATCs for LTTR allocation consists of the following actions for each iteration step k:

i. for each CNEC and external constraint of the flow-based parameters pursuant to paragraph 3, calculate the remaining available margin based on ATCs at iteration k-1

$$\overrightarrow{RAM_{ATC}}(k) = \overrightarrow{RAM_{ATC}}(0) - \mathbf{pPTDF_{z2z}}\overrightarrow{ATC_{k-1}} \quad (13)$$

with

$\overrightarrow{RAM_{ATC}}(k)$ remaining available margin for ATC calculation at iteration k

$\overrightarrow{ATC_{k-1}}$ ATCs at iteration k-1

$\mathbf{pPTDF_{z2z}}$ positive zone-to-zone power transfer distribution factor matrix

ii. for each CNEC, share $RAM_{ATC}(k)$ with equal shares among the Core bidding zone borders with strictly positive zone-to-zone power transfer distribution factors on this CNEC;

iii. from those shares of $RAM_{ATC}(k)$, the maximum additional bilateral oriented exchanges are calculated by dividing the share of each Core oriented bidding zone border by the respective positive zone-to-zone PTDF.

iv. for each Core oriented bidding zone border, $\overrightarrow{ATC_k}$ is calculated by adding to $\overrightarrow{ATC_{k-1}}$ the minimum of all maximum additional bilateral

oriented exchanges for this border obtained over all CNECs and external constraints as calculated in the previous step;

v. iterate until the difference between the sum of ATCs of iterations k and k-1 is smaller than 1kW;

vi. the resulting positive ATCs for LTTR allocation stem from the ATC values determined in iteration k, after rounding down to integer values;

at the end of the calculation, there are some CNECs and external constraints with no remaining available margin left. These are the limiting constraints for the calculation of ATCs for LTTR allocation.

5. In addition to publication requirements pursuant to Article 20 and until the Single Allocation Platform ('SAP') in accordance with Article 49 of the FCA Regulation is able to support the allocation of cross-zonal capacities based on flow-based parameters, the Core CCC shall publish the ATCs for allocation of LTTRs.

6. While the ATC extraction transitional solution is applied, the reduction of already allocated cross-zonal capacities by the returned volumes defined in Article 14(4)(b) shall not be applied. Prior to ATC extraction, the calculation of flows resulting from already allocated cross-zonal capacities ($\vec{F}AAC$) shall be based on the full allocated volumes without deduction of returned AACs. The handling of returned AACs shall be performed as outlined in Title 5 of the Harmonised Allocation Rules for Long-Term Transmission Rights [Articles 38-40].