Channel TSOs proposal of a common capacity calculation methodology for the long-term time frames in accordance with Article 10 of Commission Regulation (EU) 2019/1719 of 26 September 2016 establishing a guideline on forward capacity allocation

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Disclaimer

This document is released on behalf of all TSOs of the Channel CCR solely for the purpose of public consultation on the proposal for a common capacity calculation methodology for long-term time frames in accordance with Article 10 of Commission Regulation (EU) 2016/1719 of 26 September 2016 establishing a guideline on forward capacity allocation. The consultation version of such methodology for the Channel CCR is a draft proposal and does not constitute a firm, binding or definitive TSOs' position on the content.

All TSOs of the Channel CCR, taking into account the following:

Whereas

1. Commission Regulation (EU) 2016/1719 of 26 September 2016 establishes a guideline on forward capacity allocation (hereinafter referred to as the "FCA Regulation"), which entered into force on 17 October 2016.

2. This document is a common proposal developed by all Transmission System Operators (hereinafter referred to as "TSOs") within the Channel Capacity Calculation Region (hereinafter referred to as "Channel CCR"), as defined in accordance with Article 15(1) of Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management (hereinafter referred to as the "CACM Regulation"), on the common capacity calculation performed for the forward capacity allocation within the long-term time frames (hereinafter referred to as "LT CC Methodology"). This proposal is required by, and developed in accordance with, Article 10 of the FCA Regulation.

3. Article 10(1) of the FCA Regulation requires the LT CC Methodology to be submitted within six months following the approval of the common coordinated capacity calculation methodology in the Channel CCR referred to in Article 9(7) of the CACM Regulation (hereinafter referred to as the "Channel Day-Ahead and Intraday Capacity Calculation Methodology"). The TSOs of the Channel CCR being unable to reach consensus on the LT CC Methodology by the due date, they informed the national regulatory authorities of the Channel CCR and the Agency for the Cooperation of Energy Regulators (hereinafter referred to as "the Agency") on 23 May 2019 and provided the relevant documentation and information in compliance with Article 4(4) of the FCA Regulation. Following information to the European Commission by the Agency, the former provided some guidance which resulted in the TSOs of the Channel CCR being able to reach an agreement on the main principles of the LT CC Methodology. The TSOs of the Channel CCR were requested by the European Commission to draft the LT CC Methodology based on these main principles under an agreed timetable.

4. The LT CC Methodology takes into account the general principles and goals set in the FCA Regulation.

   (a) In accordance with Article 10(2) of the FCA Regulation, the approach to be used is a

coordinated net transmission capacity approach or a flow-based approach. This LT CC Methodology applies the coordinated net transmission capacity approach which is set up according to the definition of Article 2(8) of the CACM Regulation.

(b) In compliance with Article 10(3) of the FCA Regulation, the LT CC Methodology shall be compatible with the Channel Day-Ahead and Intraday Capacity Calculation Methodology.

(c) Article 10(4) of the FCA Regulation requires the uncertainty associated with long-term capacity calculation time frames to be taken into account when applying either a security analysis based on multiple scenarios or a statistical approach based on historical cross-zonal capacity for day-ahead and intraday time frames. Uncertainties have been considered in Article 9 of this LT CC Methodology.

(d) In accordance with Article 10(6) of the FCA Regulation, where a security analysis based on multiple scenarios is applied, the requirements for the capacity calculation inputs, the capacity calculation approach and the validation of cross-zonal capacity as provided for in Article 21(1) of the CACM Regulation shall apply. These elements have been included in Articles 8 to 22 of this LT CC Methodology.

(e) In accordance with Article 10(7) of the FCA Regulation and Article 21(3) of the CACM Regulation, fallback procedures have been developed in Article 23 of this LT CC Methodology.

(f) Article 4(8) of the FCA Regulation requires that the proposed timescale for the implementation and the expected impact of the LT CC Methodology on the objectives of the FCA Regulation is described. They are respectively presented in Article 25 and in recital 4 of this Whereas Section.

5. The LT CC Methodology contributes to and does not in any way hinder the achievement of the objectives of Article 3 of the FCA Regulation. In particular, the LT CC Methodology:

(a) Establishes common and coordinated processes for the capacity calculations by defining a set of harmonised rules for long-term cross-zonal capacity calculation, seeking to release capacity at the earliest possible time. As such, this serves the objective of promoting effective long-term cross-zonal trade with long-term cross-zonal hedging opportunities for market participants in accordance with Article 3(a) of the FCA Regulation;

(b) Contributes to the objective of optimising the calculation and allocation of long-term cross-zonal capacity in accordance with Article 3(b) of the FCA Regulation by coordinating the timings for the delivery of inputs, the calculation approach and the validation requirements;

(c) Contributes to the objective of providing non-discriminatory access to long-term cross-zonal capacity in accordance with Article 3(c) of the FCA Regulation by ensuring that the capacity calculation is available to all market participants and is transparent;

(d) Contributes to the objective of ensuring fair and non-discriminatory treatment of TSOs, the Agency, regulatory authorities and market participants in accordance with Article 3(d) of the FCA Regulation by reducing long-term uncertainties in respect of cross-zonal capacities;

(e) Contributes to the objective of respecting the need for a fair and orderly forward capacity allocation and orderly price formation in accordance with Article 3(e) of the FCA Regulation by providing market participants with information on the quantity of long-term cross-zonal capacity that can be released and the reduction periods (if any);

(f) Contributes to the objective of ensuring and enhancing the transparency and reliability of information on forward capacity allocation in accordance with Article 3(f) of the FCA Regulation by coordinating the inputs of the capacity calculation and requiring these inputs to be transparent;

(g) 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 by providing TSOs and market participants with information on cross-border availability in a timely manner and ensuring that the results of each capacity calculation are based on the best possible forecast of the transmission systems at that point in time. Furthermore, this LT CC Methodology outlines how future interconnectors joining the Channel CCR would be incorporated within the capacity calculation.

SUBMIT THE FOLLOWING LT CC METHODOLOGY TO ALL NATIONAL REGULATORY AUTHORITIES OF THE CHANNEL CCR:

TITLE 1 General provisions

Article 1 Subject matter and scope

1. The common capacity calculation methodology as determined in this LT CC Methodology is the common proposal of all the TSOs of the Channel CCR in accordance with Article 10(1) of the FCA Regulation.

2. This LT CC Methodology applies solely to the long-term capacity calculations within the Channel CCR. Common capacity calculation methodologies within other capacity calculation regions or other timeframes are outside the scope of this proposal.

3. The LT CC Methodology covers the annual and monthly long-term time frames pursuant to Article 9 of the FCA Regulation.

4. The methodology for splitting long-term cross-zonal capacity is out of scope of this LT CC Methodology but in the scope of the methodology pursuant to Article 16 of the FCA Regulation.

Article 2 Definitions and interpretation

1. For the purposes of the LT CC Methodology, 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 and Article 2 of the FCA Regulation.

2. In addition, the following definitions shall apply:

CC	Capacity Calculation
CCC	Coordinated Capacity Calculator, as defined in Article 2(11) of the CACM Regulation
CCR	Capacity Calculation Region, as defined in article 2(3) of the CACM Regulation
CGM	Common Grid Model, as defined in Article 2(2) of the CACM Regulation
CGMM	Common Grid Model Methodology, as requested by Article 17(1) of the CACM Regulation
CNE	Critical Network Element
CNEC	Critical Network Element and Contingency
cNTC	Coordinated Net Transmission Capacity, as defined in Article 2(8) of the CACM Regulation

Day-Ahead	Has the meaning given to in Article 2(34) of the CACM Regulation
EC	European Commission
ENTSO-E	European Network of Transmission System Operators for Electricity
EU	European Union
Fmax	Maximum Allowable Power Flow
FRM	Flow Reliability Margin
GSK	Generation Shift Key, as defined in article 2(12) of the CACM Regulation
HVDC	High-Voltage Direct Current
$I_{\max}$	Maximum Admissible Current
LT	Long-Term
LTA	Long-Term Allocated capacity
Minimum Guaranteed Value	Minimum of the calculated values during the first annual cross-zonal capacity calculation under a scenario-based approach
MPTC	Maximum Permanent Technical Capacity. For the avoidance of doubt, it means, for the relevant market time unit(s), the maximum permanent technical capacity which is the maximum continuous active power which a cross-zonal network element (interconnector/HVDC system) is capable of transmitting (taking into account potential reduced availability due to planned and unplanned outages of the interconnector asset). This parameter is defined by the interconnector's asset operators, and only considers the interconnector asset availability
NRA	National Regulatory Authority
NTC	Net Transmission Capacity
PTDF	Power Transfer Distribution Factor
Remedial Action	Has the meaning given to it in Article 2(13) of the CACM Regulation
RoCoF	Rate of Change of Frequency

SO GL	Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation

3. In this LT CC Methodology, 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 proposal; 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 Capacity calculation approach

1. This LT CC Methodology is based on a cNTC approach in accordance with Article 10(2) of the FCA Regulation.

2. This LT CC Methodology is composed of three steps in respect of the annual capacity calculation: the first step described in Title 2 will be performed under a statistical approach whilst the second and third steps described in Title 3 will be performed under a scenario-based approach. The monthly capacity calculation will be carried out under a scenario-based approach.

TITLE 2 Requirements for long-term capacity calculations under a statistical-based approach

Article 4 General principles

A volume of annual cross-zonal capacity is to be made available before the end of February preceding the delivery year. Due to the unavailability of the input data for a scenario-based approach in accordance with Article 3(1) of CGMM for forward capacity allocation in conjunction with Article 65 of SO GL before this deadline, annual cross-zonal capacities will be calculated under a statistical-based approach. The result of the capacity calculation will be validated in accordance with the validation conditions described in Article 6 but will be capped at 35% of the interconnector MPTC.

Article 5 Methodology for the statistical long-term capacity calculations

The CCC shall calculate the annual cross-zonal capacity for each interconnector and direction on a bidding zone border as follows:

APPROACH 1

1. Obtain the last 2 years' worth of Day-Ahead NTC data per interconnector and per direction.
2. Take the average of those NTC values.
3. Calculate the value equal to 50% of the average value in order to take account of:
   (a) Removing LTA inclusion;
   (b) Removing the impact of intraday as a Remedial Action (in Great Britain only);
   (c) Removing the impact of countertrading; and
   (d) Adding a margin to reflect the difference between historical cross-zonal capacity values and forecasted long-term cross-zonal capacity values as required by Article 23 (1)(c) of the FCA Regulation.
4. Where the resulting value is above 35% of the interconnector MPTC, the applied capacity is 35% of the interconnector MPTC.
5. Where the resulting value is below 35% of the interconnector MPTC, either the resulting capacity of <35% of the interconnector MPTC is applied in case this is justified in line with Article 6(2), or the applied capacity is increased to 35% of the interconnector MPTC.
6. The value calculated in Article 5(4) or Article 5(5) is subject to validation as described in Article 6.

APPROACH 2

1. Obtain the last 2 years' worth of Day-Ahead NTC data per interconnector and per direction.
2. Calculate the following hourly values:
   (a) Day-Ahead NTC corrected with the impact of Remedial Actions on the Interconnector; and
   (b) Daily calculation without LTA inclusion even if there is no outage.
3. Construct the frequency curve based on the minimum of the two hourly values of step described in Article 5(2).
4. Determine the NTC value corresponding the pre-defined percentile-value (set at P10 as a starting point).
5. Where the resulting value is above 35% of the interconnector MPTC, the applied capacity is 35% of the interconnector MPTC.
6. Where the resulting value is below 35% of the interconnector MPTC, either the resulting capacity of <35% of the interconnector MPTC is applied in case this is justified in line with Article 6(2), or the applied capacity is increased to 35% of the interconnector MPTC.
7. The value calculated in Article 5(5) or Article 5(6) is subject to validation as described in Article 6.

APPROACH 3

1. Obtain the last 2 years' worth of Day-Ahead NTC data per interconnector and per direction.
2. Determine the percentile corresponding to 35% of the interconnector MPTC.
3. Determine the NTC value corresponding to the percentile defined in Article 5(2).
4. Where the resulting value is above 35% of the interconnector MPTC, the applied capacity is 35% of the interconnector MPTC.
5. Where the resulting value is below 35% of the interconnector MPTC, either the resulting capacity of <35% of the interconnector MPTC is applied in case this is justified in line with Article 6(2), or the applied capacity is increased to 35% of the interconnector MPTC.
6. The value calculated in Article 5(4) or Article 5(5) is subject to validation as described in Article 6.

Article 6 Validation

1. TSOs of the Channel CCR have the responsibility to validate the capacity proposed by the CCC and subject to Article 6(2) or Article 6(3), may locally re-assess the computed NTCs per interconnector.

2. If the result of the calculation described in Article 5 gives a value lower than 35% of the interconnector MPTC, the concerned TSOs may reduce the applied capacity below 35% of the interconnector MPTC in case the very high risk threshold is violated in the validation phase. A justification for the reduction shall be sent to the relevant NRAs.

3. TSOs may reduce the applied capacity below 35% of the interconnector based on planned outages, new infrastructure and generation and load pattern for the long-term capacity calculation time frames in accordance with Article 23(d) of the FCA Regulation. The reduction shall be incorporated in the long-term products as reduction periods. The level of reduction shall be duly justified based on an individual analysis to demonstrate that additional capacity would cause operational security concerns and this analysis must be presented to the TSOs of bidding zone border. This analysis must be performed in due course in order to release forward cross-zonal capacity before the end of February preceding the delivery year.

4. In case several interconnectors influence similar CNECs in the same control area, any reductions on these interconnectors shall be done proportionally to their influence on the limiting CNECs.

5. The TSOs of the Channel CCR shall report to NRAs any NTC reduction resulting from the validation phase.

TITLE 3 Requirements for long-term capacity calculations under a scenario-based approach

Article 7 General principles for long-term cross-zonal capacity calculations

1. For the long-term time frames, the CCC shall calculate the cross-zonal capacity for each interconnector on a bidding zone border and for each timestamp selected in accordance with Article 14 of this LT CC Methodology in respect of each long-term calculation using the cNTC approach.

2. Following the long-term statistical calculation occurring before the end of February Y-1, three different long-term calculations under a scenario-based approach will be performed in the following order:

   (a) Annual capacity calculation using a Minimum Guaranteed Value before the end of September Y-1;

   (b) Annual capacity calculation releasing the interconnector MPTC while using reduction periods in December Y-1; and

   (c) Monthly capacity calculation using reduction periods before the end of the month M-2.

3. The timestamps that will be used are the ones during which one or several outage(s) on a CNE is/are planned by an onshore TSO in one of the bidding zones. Otherwise, the calculation will give the interconnector MPTC except in respect of the calculation described in Article 7(2)(a) in which the lower value of each calculation over the period (excluding interconnectors outages) will be taken as constant output. The planned outages of an onshore TSO with a significant impact on the interconnector in one of the bidding zones to which that interconnector is connected shall be defined as follows:

   (a) A planned outage on one CNE satisfying the requirements set out in Article 8; and

   (b) Any other pre-determined conditions defined by the TSO, agreed with all Channel NRAs and published on the TSO's website before its application. In such a case, the concerned TSO shall explicitly publish without delay on its website the list of concerned grid elements and the estimated duration of the application of this specific grid condition when known.

4. Each onshore TSO shall publish on its website the list of the grid elements resulting from the selection criteria under Article 8.

5. The long-term capacity calculation shall be composed of the following three phases in accordance with Article 10(6) of the FCA Regulation: the input gathering phase as described in Chapter 2, the qualification phase as described in Chapter 3 and the validation phase as described in Chapter 4.

Chapter 1 Methodologies for the provision of the inputs for calculation

Article 8 Critical Network Element and Contingency (CNEC) methodology

1. Each TSO of the Channel CCR shall perform the selection of the CNECs based, at a minimum, on the assessment of the cross-zonal flow sensitivity trade sensitivity.

2. For the Channel CCR, the cross-zonal flow sensitivity shall correspond to maximum of the following bidding zone to bidding zones PTDF absolute value:

   (a) Great Britain to France;

   (b) Great Britain to Belgium;

   (c) Great Britain to The Netherlands.

3. According to Article 23(2) of the FCA Regulation, each TSO of the Channel CCR shall consider as not significantly influenced the CNECs with cross-zonal flow sensitivity below a certain threshold. Those not significantly influenced CNECs shall be ignored for the cross-zonal capacity calculation.

4. The cross-zonal flow sensitivity threshold is described in the following table:

Area	Threshold
France, Belgium and the Netherlands	Long-term CNEC selection criteria in the Core CCR
France, Belgium and the Netherlands (intermediate criteria in absence of approved CNEC selection principles in the Core CCR)	CNEC selection criteria in the Channel Day-Ahead and Intraday Capacity Calculation Methodology
Great Britain	CNEC selection criteria in the Channel Day-Ahead and Intraday Capacity Calculation Methodology

5. Each TSO of the Channel CCR shall monitor the CNECs to assess the relevance of the sensitivity threshold over time.

6. Each TSO of the Channel CCR shall critically assess the relevance of the CNECs against its CNEC selection criteria and may decide to discard some of the CNEC from the list. This must be based on a study performed by the TSO or operational experience.

7. The TSOs of the Channel CCR shall regularly challenge and if feasible change the threshold to maintain consistency within the Channel CCR and with other CCRs.

Article 9 Reliability margin methodology

1. The TSOs of the Channel CCR consider that the additional uncertainties between the long-term and Day-Ahead time frames are covered by the selected scenarios, therefore long-term capacity calculations will use the same Flow Reliability Margin applied in the Channel Day-Ahead and Intraday Capacity Calculation Methodology.

2. Determination of a reliability margin does not apply to direct current interconnections due to their controllability.

3. The TSOs of the Channel CCR shall regularly challenge the FRM methodology and if needed change the FRM in order to ensure at least the consistency with their neighbouring CCRs.

Article 10 Methodology for operation security limits

In accordance with Article 12 of the FCA Regulation:

1. Each TSO within the Channel CCR shall define at least per season (spring, summer, autumn & winter) and for each CNE the maximum permanent allowable current according to its operational security limits criteria defined in line with Article 25 of SO GL.

2. The TSOs of the Channel CCR shall regularly challenge and if needed change the operational security limits in order to ensure at least the consistency with their neighbouring CCRs. TSO of the Channel CCR who are also active in neighbouring CCRs shall apply the operational security limits as defined in these neighbouring CCRs.

3. The TSOs of the Channel CCR applying the security constraint on the bidding zone import/export limits shall provide this information to the CCC as an input data for the relevant capacity calculations.

Article 11 Generation shift keys methodology

1. The TSOs of Channel CCR shall define the generation shift keys (GSK) for long-term time frames in accordance with Article 13 of the FCA Regulation.

2. The GSK in Great Britain shall represent the best forecast of the relation of a change in net position of the bidding zone to a specific change of generation or load in the CGM.

3. The French GSK will be composed of all the units connected to RTE's network which are relevant for this long-term time frame. The variation of the generation pattern inside the GSK is the following: all the units which are in operations in the base case will follow the change of the French net position on a pro-rata basis. This means, if for instance one unit is representing n% of the total generation on the French grid, n% of the shift of the French net position will be attributed to this unit.

4. The Belgian GSK shall be determined for the Belgian bidding zone based on a defined list of nodes located where the most relevant flexible and controllable production units are connected. This list shall be defined in a way to limit as much as possible the impact of model limitations on the loading of the CNEs. The variation of the generation pattern inside the GSK shall be such that for each of these nodes, the sum of the generation units which are in operations on each of these nodes in the CGM will follow the change of the Belgian net

position in such a way that the generation at the node will reach its maximum when the maximum generation capability of the Belgian bidding zone is reached and will reach its minimum when the minimum generation capability of the Belgian bidding zone is reached.

5. The Dutch GSK will dispatch the main generators in a manner which avoids extensive and unrealistic under- and overloading of the units for extreme import or export scenarios. The GSK is directly adjusted in case of new power plants. In addition, unavailability of generators due to outages are considered in the GSK. All GSK units are re-dispatched pro-rata on the basis of predefined maximum and minimum production levels for each active unit. The total production level remains the same. The maximum production level is the contribution of the unit in a predefined extreme maximum production scenario. The minimum production level is the contribution of the unit in a predefined extreme minimum production scenario. Base-load units will have a smaller difference between their maximum and minimum production levels than start-stop units.

6. The TSOs of the Channel CCR shall regularly challenge and if needed change the GSKs in order to ensure at least the consistency with their neighbouring CCRs.

Article 12 Methodology for Remedial Actions in capacity calculation

1. Each TSO of the Channel CCR shall define individually the Remedial Actions, used for the calculation defined in Article 17, that shall be made available for the long-term capacity calculation within the Channel CCR in accordance with Article 14 of the FCA Regulation. Each TSO of the Channel CCR shall, at minimum, ensure that all relevant non-costly Remedial Actions according to the TSOs' operational principles which are anticipated to be available on the day of delivery are made available to the CCC. The type of non-costly remedial action shall cover, among others, topological changes and phase shifting transformer tap changes.

2. Each TSO of the Channel CCR may decide to make available costly Remedial Actions.

3. When defining a Remedial Action, each TSO of the Channel CCR shall specify at minimum:

   (a) The type of the Remedial Action and the sequence of actions to be implemented;

   (b) In case of quantifiable Remedial Action, the maximum and minimum values of the scalable quantity; and

   (c) Whether the Remedial Action is a shared Remedial Action and can be considered for all contingencies or whether it shall be limited to a subset of contingencies. In the latter case, the TSO shall specify the list of contingencies.

4. In case a Remedial Action made available for the long-term capacity calculation in the Channel CCR is also one which is made available in another CCR, the TSO taking control for the Remedial Action shall take care when defining it of a consistent use in its potential application in both CCRs to ensure a secure power system operation.

Article 13 Scenarios definition methodology

1. In accordance with Article 19 of the FCA Regulation, all TSOs in the Channel CCR shall jointly develop a common set of scenarios to be used in the CGM for each long-term capacity calculation time frame.

2. In order to meet the above requirements, the TSOs of the Channel CCR shall use the ENTSO-E year-ahead reference scenarios which are created on an annual basis (i.e. default scenarios), in line with Article 3.1 of CGMM developed according to Articles 67(1) and 70(1) of SO GL. This pan-European process is based on the common grid methodology as developed in accordance with Article 18 of the FCA Regulation.

3. ENTSO-E year-ahead reference scenarios can be updated by each TSO of the Channel CCR at a monthly level to incorporate the latest available information as regard to the generation pattern.

Article 14 Timestamp selection

1. Long-term cross-zonal capacity will be computed only in respect of the periods including a planned outage of a CNE with significant impact on the interconnector.

2. The outage planning of the CNEs listed before is available through the Outage Planning Coordination database according to Articles 97, 98 & 99 of SO GL. Based on this database, the timestamp selection will use the outage planning of the CNEs of the Channel CCR as follows:

   (a) Timestamps will be selected per granularity of the concerned period. This granularity is fixed in advance and is the following:

      i. 1 month for the annual cNTC calculation;

      ii. 1 week for the monthly cNTC calculation.

   (b) The selected timestamp within the granularity is the day with the largest simultaneous number of planned outages.

   (c) In case two or more timestamps take place within the same scenario and contain the same planned outages, those redundant timestamps will be ignored. The outcome of the calculation will be considered similar for the two timestamps without an additional calculation.

   (d) In case there is no planned outage within the granularity or redundancy occurs, no timestamp is selected. Instead, a second timestamp within another granularity can be selected.

   (e) As the timestamp selection is mainly driven by the number of simultaneous outages and not by the impact of the outages, the TSO may request extra timestamps.

3. The timestamp selections based on the outage planning of the CNE in the Channel CCR is proposed by the CCC to the TSOs sufficiently in advance of each annual calculation and each monthly calculation.

4. In case the CCC has no access to the outage planning, then the CCC requests the individual outage planning sufficiently in advance to the concerned TSOs prior to the relevant calculation.

5. After the standard timestamps are selected, TSOs can send their request of additional ad-hoc timestamps to the CCC.

6. For each selected timestamp, the CCC will generate a CGM in accordance with the CGMM related to Article 18 of the FCA Regulation and shall include the planned outages according to Article 14(2)(b).

Chapter 2 Input gathering phase

Article 15 Provision of the inputs for the long-term capacity calculations

1. The TSOs of the Channel CCR shall provide the CCC before a deadline commonly agreed between the TSOs and the CCC the following inputs:

   (a) Generation Shift Key in accordance with Article 11;

   (b) Maximum Permanent Technical Capacity in accordance with Article 2(2);

   (c) Critical Network Elements and Contigencies in accordance with Article 8;

   (d) Flow Reliability Margin in accordance with Article 9;

   (e) Maximum admissible current on a CNE (Imax) / Maximum allowable power flow (Fmax) in accordance with Article 10;

   (f) Remedial Actions in accordance with Article 12; and

   (g) Ad hoc timestamp in accordance with Article 14.

2. When providing the inputs, the TSOs of the Channel CCR shall respect the formats commonly agreed between the TSOs of the Channel CCR and the CCCs.

Chapter 3 Qualification phase

Article 16 Long-term capacity calculations

The CCC shall calculate the following:

   (a) the maximum secure value of simultaneous import; and

   (b) the maximum secure value of simultaneous export,

over all the interconnectors of the Channel CCR bidding zone borders for each timestamp following the process outlined in Article 14.

Article 17 Coordinated Net Transmission Capacity process

1. The CCC shall prepare the CGM for the timestamps selected according to Article 14 and shall use GSKs according to Article 11 for each scenario timestamp in order to reflect the starting point (maximum import/maximum export) for exchanges on the interconnectors.

2. The CCC shall run, with the objective to maximize cross-zonal capacity, a contingency analysis on the CGM using the CNEC list provided by the TSOs and evaluate results either allowing interconnector MPTC without further actions or indicating a potential interconnector import or export limitation as a result of a negative margin on a CNE or operational security standard violation.

3. For each negative margin on a CNE, the CCC shall deploy the list of Remedial Actions to alleviate such a margin. If Remedial Actions can alleviate the negative margin of the CNE, the interconnector MPTC can be made available for that scenario timestamp. If the Remedial Actions used in this respect cannot alleviate the CNE violation, the interconnector import/export capacity of the bidding zone where the limiting CNEC(s) is/are located should be progressively reduced in steps from starting points according to Article 18. Following each import/export reduction, the contingency analysis should be repeated with the Remedial Actions already deployed until a level of interconnector import/export capacity has been identified for which no CNE violations occur.

Article 18 Implementation of reduction of import/export

1. For each timestamp, the CCC shall perform a reduction as follows:

   (a) In case of negative margin on the CNECs which cannot be solved with available Remedial Actions, the CCC shall in his binary approach reduce the import or export value of the interconnectors in the bidding zone where the limiting CNE is located.

   (b) In case several interconnectors are located in the concerned bidding zone, the reduction shall be applied only to the interconnectors which have an influence on the limiting CNE above the thresholds defined in Article 8 and proportionally to their influence.

2. In case of a calculation resulting in a Minimum Guaranteed Value following Article 7(2)(a), the most significant reduction of capacity of all scenario timestamps, with exception of the interconnector outages, will be the NTC value of the interconnector for the entire time frame under calculation.

3. In case of a calculation resulting in the MPTC including reduction period(s) following Article 7(2)(b) or Article 7 (2)(c), the reduction of capacity, with exception of the interconnector outages, will apply for the entire duration of the relevant reduction period.

Article 19 Implementation of shift of import/export

When computing the capacity, the CCC shall implement any shift of the power transfer between two bidding zones by adjusting the generation in each of the bidding zones using the GSK of the bidding zones.

Article 20 N-1 security assessment of maximum import/export for each timestamp of the calculation

The CCC shall perform N-1 security assessments for the timestamps selected in accordance with Article 14.

Article 21 Calculation consistency

1. For the first scenario-based cross-zonal long-term calculation (resulting in a Minimum Guaranteed Value), for each interconnector in both import and export, the maximum value between the results obtained in Article 6 and the results obtained in Article 18 shall be taken as the capacity to be validated in accordance with Chapter 4. This means that the Minimum Guaranteed Value resulting from the calculation described in Article 7(2)(a) cannot be lower than the relevant value validated under the statistical-based approach.

2. For each remaining long-term calculation, for each interconnector in both import and export, the maximum value between the results obtained in Article 18 and the long-term Allocated capacity (LTA) corresponding to the studied timestamp shall be taken as the capacity to be validated for the reduction periods in accordance with Chapter 4.

Chapter 4 Validation phase

Article 22 Cross-zonal capacity validation methodology

1. The TSOs of the Channel CCR have the responsibility to validate the capacity proposed by the CCC and subject to paragraph 2 below, may locally re-assess the computed NTCs on the interconnector.

2. The TSOs of the Channel CCR have the right to re-assess the capacity calculated to prevent any risk due to possible unforeseen changes in grid situations which have occurred during the qualification phase such as:

   (a) Forced outage on one interconnector or one element defined as CNE or contingency;

   (b) A mistake in input data leading to an incorrect cross-zonal capacity; and/or

   (c) Any other criteria that the TSO shall have previously defined, agreed by its NRA and published in its website before its application.

3. In case of such possible unforeseen changes and if a TSO is detecting a constraint, the TSOs of the Channel CCR may have to reject the calculated NTCs on the interconnector(s) of its bidding zone. Those TSOs shall be entitled to reduce the proposed NTC towards its own interconnector.

4. The reduction of the proposed NTCs shall be monitored, based at minimum on an identification of the limiting CNEC and the explanation of the unforeseen event causing the NTC reduction. Under these circumstances, the output of this process is the amended NTC which is considered as the final NTC.

5. The TSOs of the Channel CCR shall report to NRAs any NTC reduction resulting from the validation phase and the related CNEC.

TITLE 4 Fall-back procedures

Article 23 Fall-back procedures for annual and monthly capacity calculations

1. In accordance with Article 42 of the FCA Regulation, in the event that the CCC is unable to produce results, the default fall-back procedure shall be the postponement of the forward capacity allocation and a reasonable deadline shall be agreed by the TSOs of the Channel CCR to run again the calculation.

2. In case the postponement of the forward capacity allocation is not possible, or the new deadline has been reached and no results are available, the TSOs of the Channel CCR foresee the following fall-back process:

   (a) For the annual capacity calculation, the TSOs will use as a starting point cross-zonal long-term capacity calculated by the CCC for the equivalent planned outages of the previous year. The TSOs of the Channel CCR will bilaterally validate these NTC values and then these values will be validated in a coordination meeting of the TSOs of the Channel CCR.

   (b) For the monthly capacity calculation, the TSOs of the Channel CCR will use as a starting point cross-zonal long-term capacity calculated by the CCC during the annual process for this month. The TSOs of the Channel CCR will bilaterally validate these NTC values and then these values will be validated in a coordination meeting of the TSOs of the Channel CCR.

TITLE 5 Publication and implementation

Article 24 Publication of information

1. In accordance with Article 3(f) and Article 21(3) of the FCA Regulation, all TSOs of the Channel CCR 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.

   (a) If the operational security limits and contingencies used for the capacity calculation need to be updated based on this review, the TSOs of the Channel CCR shall publish the changes at least one week before the implementation.

   (b) The TSOs of the Channel CCR shall include the re-assessment of the further need of security constraints.

2. The review of the common list of Remedial Actions taken into account in the capacity calculation shall include at least an evaluation of the efficiency of specific phase-shifting transformers and the topological Remedial Actions considered.

3. In case the review proves the need for updating the application of the methodologies in respect of CNECs and GSKs referred to in Articles 12 and 13 of the FCA Regulation, referring respectively to the Articles 23 to 24 of the CACM Regulation, changes will have to be published at least three months before the final implementation.

4. Any changes of parameters listed in Article 27(4) of the CACM Regulation have to be communicated to market participants and the NRAs of the Channel CCR.

Article 25 Implementation of the LT CC Methodology

1. The TSOs of the Channel CCR shall publish the LT CC Methodology without undue delay after all NRAs have approved the proposed LT CC Methodology or a decision has been taken by the Agency for the Cooperation of Energy Regulators in accordance with Article 4(9), Article 4(10) and 4(11) of the FCA Regulation.

2. The TSOs of the Channel CCR shall implement the LT CC Methodology for the capacity calculation performed in annual and monthly time frames no later than 12 months after the go-live of Channel Day-Ahead and Intraday Capacity Calculation.

3. The deadline defined in Article 25(2) can be modified on request of all TSOs of the Channel CCR in case the testing results of the testing period do not meet the necessary conditions for implementation.

4. During the implementation period, and especially in case of new interconnector, each TSO may apply a stepwise implementation of the LT CC Methodology for the interconnectors connected to its bidding zone.

Article 26 Implementation of new interconnectors

1. The LT CC Methodology will apply by default to new interconnectors in case no need for amendment is identified by the TSOs of the Channel CCR.

2. The TSOs of the Channel CCR shall jointly discuss, and not unreasonably withhold, proposed amendments to the LT CC Methodology required for a new interconnector joining the Channel CCR.

Article 27 Language

1. The reference language for this LT CC Methodology shall be English.

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

ANNEX: Proposed additional constraints

There is an ongoing discussion between the TSOs of the Channel CCR on whether RoCoF could be part of the LT CC Methodology. The TSOs of the Channel CCR are requested the opinions of the market parties in this respect. If the TSOs of the Channel CCR agree to include such constraints, the following paragraph will be added under Article 10:

In accordance with Article 12 of the FCA Regulation, in combination with Articles 23(1) and 23(2) of the CACM Regulation, the TSOs of the Channel CCR may use operational security limits and contingencies for long-term capacity calculation. Such operational security limits shall be modelled as a security constraint on interconnectors. These are not the same as those used in operational security analysis but take into account the needs of operational security analysis how to deal with uncertainties of generation and load. Such operational security limits shall be modelled as an external constraint on bidding zone import/export limits.