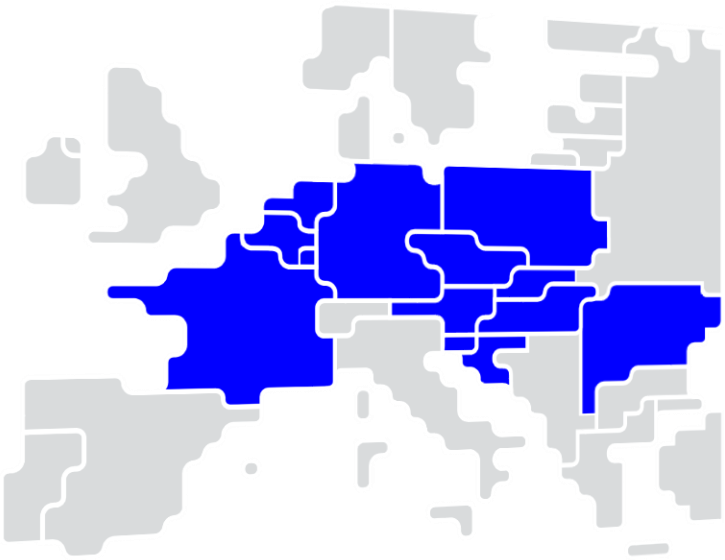
Derogation proposals of Core TSOs in accordance with Art. 16.9 Regulation 2019/943: Core common document



Version, date and status

Version	0.14	
Date	11-11-2019	
Status	☐ Draft	☒ Final

Document creation and distribution

Created by	PMO
Submitted to	Core SG
Type of document	☒ LG = legal document / proposal (for external submission)
File location	https://service.projectplace.com/pp/pp.cgi/r19485082
Final target	☒ Document to be circulated to: Core NRAs

Document History and Status

Date	Summary of Changes	Version	By
24/09/2019	Creation of skeleton	0.1	F.BEAU
09/10/2019	Purpose of the document completed by Core LG	0.2	Core LG
10/10/2019	Addition of derogation from SEPS	0.3	SEPS
14/10/2019	Addition of derogations from MAVIR and Elia	0.4	MAVIR & ELIA
14/10/2019	Addition of derogation from RTE	0.5	RTE
29/10/2019	Addition of submission date by HOPS	0.6	HOPS
30/10/2019	Addition of derogations from PSE and APG	0.7	PSE & APG
31/10/2019	Addition of derogation from HOPS	0.8	HOPS
31/10/2019	Corrections in Article 3 of RTE derogation	0.9	RTE
31/10/2019	Addition of derogation from TTN	0.10	TTN
31/10/2019	Corrections of references in Article 7 of Elia derogation	0.11	ELIA
05/11/2019	Addition of submission date for CEPS	0.12	CEPS
08/11/2019	Addition of derogation from CEPS	0.13	CEPS
11/11/2019	Addition of derogation letter from Translectrica	0.14	TRANSLECTRICA

Content

1. PURPOSE OF THE DOCUMENT

These are the Derogation proposals of Core TSOs, in accordance with Art. 16.9 Regulation 2019/943. Core TSOs reserve the right to submit further derogation proposals.

2. LIST OF CORE TSOS SUBMITTING A DEROGATION

As of 15/10/2019, the Core TSOs listed in the below table have informed about their intention to submit a derogation, in accordance with Art. 16.9 Regulation 2019/943.

TSO	Derogation?
50HERTZ	No
Amprion	Not likely
APG	**Yes**
CREOS	No
CEPS	**Yes**
ELES	No
ELIA	**Yes**
HOPS	**Yes**
MAVIR	**Yes**
PSE	**Yes**
RTE	**Yes**
SEPS	**Yes**
TenneT BV	**Yes**
TenneT GmbH	No
TRANSELECTRICA	**Yes**
TRANSNETBW	No

3. TSO DEROGATIONS

This section contains the derogations from:

- SEPS: submitted nationally on 10/10/2019
- MAVIR: submitted nationally on 15/10/2019
- Elia: submitted nationally on 15/10/2019
- RTE: submitted nationally on 15/10/2019
- HOPS: submitted nationally on 29/10/2019
- PSE: submitted nationally on 30/10/2019
- APG: submitted nationally on 30/10/2019
- TTN: submitted nationally on 31/10/2019
- CEPS: submitted nationally on 05/11/2019
- TRANSLECTRICA: submitted nationally on 11/11/2019

3.1. Derogation request of SEPS from Article 16 (8) of Regulation (EU) 2019/943 of the European Parliament and of the Council on the internal market for electricity pursuant to Article 16(9) of the Regulation

3.1.1 Introduction

The purpose of this request is to obtain derogation from the Article 16 (8) of Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity (hereafter referred to as the 'Regulation 2019/943').

Regulation (EU) 2015/1222 (hereafter referred to as the 'Regulation CACM') introduced the obligation to implement Flow-based (hereafter referred to as the 'FB') or Coordinated net transmission capacity (hereafter referred to as the 'cNTC') calculation approaches for Transmission System Operators (Recital (7) and Article 20&21).

Based on the Regulation CACM, the Day-ahead capacity calculation methodology of the Core capacity calculation region (hereafter referred to as the 'Core DA CCM') has been adopted and implemented. In Core DA CCM, the need for availability of 70% of the technical capacity of critical network elements considered in capacity calculation for cross-zonal trade (hereafter referred to as the 'MACZT') has been introduced for Flow-based approach (Recital (21), Article 17 and Annex 2).

Regulation 2019/943 prescribes in Article 16 (8) that Transmission System Operators (hereafter referred to as the 'TSOs') shall, as from 1 January 2020, reach the following minimum levels of MACZT:

a. *For borders using a coordinated net transmission capacity approach, the minimum capacity shall be 70 % of the transmission capacity respecting operational security limits after deduction of contingencies, as determined in accordance with the capacity allocation and congestion management guideline adopted on the basis of Article 18(5) of Regulation (EC) No 714/2009;*
b. *For borders using a flow-based approach, the minimum capacity shall be a margin set in the capacity calculation process as available for flows induced by cross-zonal exchange. The margin shall be 70% of the capacity respecting operational security limits of internal and cross-zonal critical network elements, taking into account contingencies, as determined in accordance with the capacity allocation and congestion management guideline adopted on the basis of Article 18(5) of Regulation (EC) No 714/2009;*

And the total amount of 30 % can be used for the reliability margins, loop flows and internal flows on each critical network element.

Further details on the implementation of the Article 16 of Regulation 2019/943 are provided by ACER in its Recommendation No 01/2019 (hereafter referred to as the 'ACER Recommendation'). All these three documents (Core DA CCM, Regulation 2019/943 & ACER Recommendation) are mutually compatible and bring basis for the MACZT obligation.

For the cases when MS/TSO is unable to comply with the aforementioned obligation the Regulation 2019/943 sets options for MS/TSO to establish action plan, review and amend its bidding zone configuration or to ask for a derogation from NRA:

"(…) the Member State with identified structural congestion shall, in cooperation with its transmission system operators, decide, within six months of receipt of the report, either to establish national or multinational action plans pursuant to Article 15, or to review and amend its bidding zone configuration. Those decisions shall be immediately notified to the Commission and to ACER." (2019/943 Article 14 (7)).

"Following the adoption of a decision pursuant to Article 14(7), the Member State with identified structural congestion shall develop an action plan in cooperation with its regulatory authority. That action plan shall contain a concrete timetable for adopting measures to reduce the structural congestions identified within four years of the adoption of the decision pursuant to Article 14(7)." (2019/943 Article 15 (1)).

"At the request of the transmission system operators in a capacity calculation region, the relevant regulatory authorities may grant a derogation from paragraph 8 on foreseeable grounds where necessary

for maintaining operational security. Such derogations, which shall not relate to the curtailment of capacities already allocated pursuant to paragraph 2, shall be granted for no more than one-year at a time, or, provided that the extent of the derogation decreases significantly after the first year, up to a maximum of two years. The extent of such derogations shall be strictly limited to what is necessary to maintain operational security and they shall avoid discrimination between internal and cross-zonal exchanges." (2019/943 Article 16 (9)).

3.1.2 Reasoning

As stated in Article 16 of Regulation 2019/943 the MACZT is mandatory for borders using FB and cNTC calculation approaches. SEPS (and other Core CCR TSOs) currently uses the NTC capacity calculation approach, which is not the capacity calculation method compliant with requirements as set by Regulation CACM. Core TSOs are working on implementation of Core FB DA CCM.

Requirements regarding MACZT parameters applied for CNE/CNEC in case of FB and/or cNTC approaches according to Regulation CACM should not be applied in the same manner on the current non-CACM compliant NTC-based capacity calculation methodologies with no or very limited coordination.

Until TSOs are able to implement the target solutions, regulatory authorities and the Agency should recognize that, in some cases, the high uncertainties related to forecast cross-zonal exchanges outside coordination areas may result in a higher reliability margin in relation to cross-zonal exchanges outside the coordination area and may impede the ability of TSOs to reach the MACZT target[1]. In such cases, the temporary relaxation of the MACZT target (e.g. through derogations) might be an appropriate instrument (ACER Recommendation 5.3 and Annex II).

The aforementioned uncertainties related to forecasting of cross-zonal exchanges stemming from the outside of the coordinated areas could endanger operational security of grid. Regulation 2019/943 states in Recital (27) that the capacity should be made available, complying with the safety standards of secure network operation including respecting the security standard for contingencies (N-1) and in the same paragraph it is stated "in the case of foreseeable problems for ensuring grid security, derogations should be possible". Furthermore in Article 16 paragraph 9 a derogation is allowed where necessary for maintaining operational security.

3.1.3 Conclusion

Given the nature of the Slovak Bidding Zone and the Slovak transmission system (in regard to its size, location at the edge of the Core CCR and the absence of structural congestions), together with observations from the Bidding Zone Review and indicative results of internal computations based on ACER Recommendation 01/2019 (See Annex I.), SEPS finds the option to ask for a derogation to be a the most appropriate measure from the two available alternatives (Action Plan and/or Derogation).

In accordance with the Article 16(9) of the Regulation 2019/943, it is possible to request a derogation for a duration of no more than one-year at a time, or, provided that the extent of the derogation decreases significantly after the first year, up to a maximum of two years. SEPS requests a derogation for a period of one year, as allowed by the regulation, nevertheless, it is the position of SEPS that the derogation should be granted for such time, until all CCMs in accordance with Regulation CACM and the Regulation 2019/943 are implemented.

[1] This large uncertainty may stem from the fact that the current coordination areas may be much smaller than CCRs pursuant to the CACM Regulation (e.g. within the Core CCR)"

3.1.4 ANNEX I – Calculation

Within this Annex SEPS provides its understanding of recommended approach to calculate MACZT and several of its observations.

Note: Calculations for all MTUs of previous 3 years as requested by ACER would be due to the time and resources point of view challenging therefore we decided for the calculation of the indicative values and testing the calculation approach to select the MTUs in which N-1 criterion was violated. Evaluation of MACZT in such situations provides useful insight and understanding of network utilization applying calculation approach provided in ACER Recommendation.

Description of internal calculations:

MACZT Calculation for individual CNECs in the NTC approach

Within a "Coordination Area", MACZT for each MTU is calculated as follows:

$$MACZT(CC\ MTU) = MCCC(CC\ MTU) + MNCC(CC\ MTU) \geq 70\%\ F_{max}(CC\ MTU)$$

For the purpose of the Recommendation, „Coordination Area" is defined as:

> ***'Coordination area'*** *means a set of bidding-zone borders within which capacity calculation is fully coordinated for the considered timeframe.* ***A coordination area may also be a single bidding-zone border, or one side of a bidding-zone border in case two different NTC values are calculated by each TSO and the lower one is used for capacity allocation.***

For SEPS, this implies that a "Coordination area" is one border only and that the NTC data are only those provided by SEPS for each individual border.

MCCC Calculation for individual CNECs in the NTC approach

$$MCCC_{NTC}(CC\ MTU) = \sum_{b\ \in\ coordination\ area} pPTDF_{z2z,b}(CC\ MTU) * NTC_b(\mathrm{CC}\ MTU)$$

MCCC is calculated as a multiplication of the PTDF coefficient for a given CNEC and the direction and the NTC value in a given direction for a MTU (in this case it is one value). The PTDF matrix is calculated using the principle of proportionality. The calculation of a PTDF matrix is done on the DACF model from the AMICA system. The matrix is calculated based on simulated exchanges from each zone to zone X, e.g.: „***zoneA2zoneX***", where zone X is a chosen part of Slovakia and zoneA is gradually each bidding zone inside the model. The PTDF coefficients for other exchanges (e.g. for ***zoneC-2-zoneD***) are calculated using linearization so that:

$$\boldsymbol{zoneC2zoneD = zoneC2zoneX - zoneD2zoneX}$$

MNCC Calculation for individual CNECs in the NTC approach

$$MNCC(CC\ MTU) = \sum_{b\ \notin\ coordination\ area} PTDF_{z2z,b}(CC\ MTU) * CGME_{\ b}(CC\ MTU)$$

The PTDF matrix is the same as for MCCC calculation. As CGME, the already executed exchanges between individual Control Areas will be used and will be obtained from the Verification platform, or from Vulcanus. The final MNCC value is calculated as a sum of partial contributions from each border. The contribution of each border is calculated as a multiplication of the corresponding oriented PTDF coefficient for the given CNEC and the exchange on the given border.

Observations from indicative results of internal calculations:

- Calculations provide only indicative results for MTUs with critical situations when N-1 criterion was not respected. In those situations the MACZT on some cross-zonal CNECs was not being fulfilled.
- If TSOs is not able to fulfill MACZT even when N-1 is not respected and as a result the operational security was endangered SEPS is of the opinion this obligation is in current setup physically not possible. Indicative calculations also show that it is not realistic to fulfill 70% MACZT on all cross-zonal CNECs simultaneously (i.e. for the same MTU).
- Above indicative conclusions were observed for the calculation where coordination area was considered as one side of BZB. Due to topology of Slovak transmission system and very high interdependencies between BZBs of SEPS it is reasonable to consider as coordination area not one side of BZB but all BZBs of SEPS. In such setup target of 70% MACZT is achievable
- Some directions of exchanges is not requested/utilized by the market. This results in situations when there is over 70% MACZT available on some CNECs while on others there are significantly lower values available (due to the physical nature of the grid applying the calculation according to ACER recommendation achieving 70% target MACZT on all CNE/CNECs seems to be unfeasible). Such disproportion is inherent and it does not make sense to provide 70% MACZT on directions and CNECs which are never used by the market. This results in unfulfillment of the obligation even when the market does not require the concerned direction at all. This is important particularly in the case of costly remedial actions applications and resulting in social welfare not being taken into account.
- Even after ACER Recommendation and Methodological paper provide guidance on calculations, evaluation rules are still not comprehensively defined (i.e. it should clarified what is the specific threshold for noncompliance).

3.2. Derogation request of MAVIR from Article 16(8) of Regulation (EU) 2019/943 of the European Parliament and of the Council on the internal market for electricity pursuant to Article 16(9) of the Regulation

MAVIR Hungarian Independent Transmission Operator Company Ltd. (registered office: 1031 Budapest, Anikó utca 4; Registration number: 01-10-044470, hereinafter referred to as: MAVIR**)** submits the following derogation request from Article 16(8) pursuant to Article 16(9) of Regulation (EU) 2019/943 of the European Parliament and of the Council (hereinafter referred to as: "Regulation") to the Hungarian Energy and Public Utility Regulatory Authority (hereinafter referred to as: "Office") for approval.

In accordance with Article 16(8) of the Regulation '*for borders using a coordinated net transmission capacity approach, the minimum capacity shall be 70 % of the transmission capacity respecting operational security limits after deduction of contingencies, as determined in accordance with the capacity allocation and congestion management guideline adopted on the basis of Article 18(5) of Regulation (EC) No 714/2009'* whereas '*for borders using a flow-based approach, the minimum capacity shall be a capacity set in the capacity calculation process as available for flows induced by cross-zonal exchange. The capacity shall be 70 % of the capacity respecting operational security limits of internal and cross-zonal critical network elements, taking into account contingencies, as determined in accordance with the capacity allocation and congestion management guideline adopted on the basis of Article 18(5) of Regulation (EC) No 714/2009*.'

In accordance with Article 16(9) of the Regulation '*At the request of the transmission system operators in a capacity calculation region, the relevant regulatory authorities may grant a derogation from paragraph 8 on foreseeable grounds where necessary for maintaining operational security*.'

At the request of the European Commission, the Agency for the Cooperation of Energy Regulators (ACER) adopted a recommendation[2] (hereinafter referred to as: 'Recommendation') on 8 August 2019 on the implementation of the minimum capacity , which also covers the implementation of the minimum capacity in capacity calculation methodologies that are not in compliance with the CACM Regulation[3], since Article 16 of the Regulation requires the implementation of the minimum capacity in the coordinated capacity calculation methodologies in accordance with CACM Regulation, which are still under development across Europe.

MAVIR is submitting the present derogation request from Article 16(8) of the Regulation pursuant to Article 16(9) of the Regulation to the Office in order to request an exemption, with respect to all EU bidding zone borders (HU-HR, HU-AT, HU-RO, HU-SK), all transmission network elements, taking into account the contingencies, from the application of the methodology set out in the Recommendation for one year or until the introduction of a coordinated flow-based capacity calculation methodology in accordance with CACM Regulation.

The underlying reason for our request is that MAVIR does not currently possess a methodology compatible with the calculation target model described in Article 5 of the Recommendation that is implemented and applied in the operational process. Thus, the capacity to be allocated to transmission network elements cannot be determined in advance with due accuracy and without significant uncertainties for the minimum capacity set out in Article 16(8) of the Regulation. By considering the uncertainties, there is high likelihood that the fulfillment of the minimum capacity threshold cannot be achieved without the violation of the operational security requirements. There is significant risk that until the determination of the capacity, with respect to the minimum capacity threshold, is coordinated and transparent among TSOs at regional level, the frequency of operational security limit violations in real-time operation will increase significantly. Moreover, there are further risks that the available remedial actions will not be sufficient for the purpose of

[2] Recommendation No 01/2019 of the European Union Agency for the Cooperation of Energy Regulators of 08 August 2019 on the implementation of the minimum capacity available for cross-zonal trade pursuant to Article 16(8) of Regulation (EU) 2019/943

[3] Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management

maintaining the acceptable operating boundaries, thus eventually guaranteeing the operational security until the implementation of methodologies with respect to the Coordination of Redispatching and Countertrading as well as to Operational Security is completed. As a result, the ex-post evaluation of the performance is not feasible with due accuracy either. It requires the results of calculation study to be done by ACER, which, however, are representative only in a limited manner due the data accuracy and completeness.

MAVIR below describes in detail the reasons for its request for the derogation.

3.2.1 Regulatory background

a) 70 % minimum capacity required by Article 16(8) of the Regulation (EU) 2019/943 *of the European Parliament and of the Council*

Article 16(1) Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity requires that bidding zone borders are be based on long-term, structural congestions in the transmission network and that internal structural congestions do not lead to reductions of cross-zonal trading capacity determined in accordance with the requirements of Article 16. Article 16(8) of the Regulation prohibits transmission system operators (TSOs) from limiting the volume of interconnection capacity made available to market participants as a means of solving congestion inside their own bidding zone or as a means of managing flows resulting from transactions internal to bidding zones. The same paragraph (8) of Article 16 interprets the compliance with this requirement as follows: **in the case of NTC-based and coordinated flow-based capacity calculations in accordance with CACM Regulation, 70% of transmission capacity, as minimum capacity, taking into account contingencies**, **shall be offered for cross-zonal trade** and the remaining 30% can be used for the purposes of reliability capacity, loop flows and internal flows.

b) ACER recommendation for 70% minimum capacity

At the request of the European Commission, **ACER adopted the recommendation referred to above on 8 August 2019 on the implementation of the minimum capacity** which also covers the implementation of the minimum capacity in capacity calculation methodologies that are not in compliance with CACM, since Article 16 of the Regulation requires the implementation of the minimum capacity in the coordinated capacity calculation methodologies in accordance with CACM Regulation, which are still in the introduction phase across Europe.

Article 6(1) of the Recommendation sets out the principle of calculating capacity available for cross-zonal trade (MACZT) in accordance with Article 21 of CACM Regulation by bidding zones applying flow-based or coordinated NTC-based capacity calculation. The Recommendation sets out in accordance with Article 16(8) of the Regulation that minimum 70% of the transmission capacity shall be available for trade on critical network elements taking into account contingencies. The purpose of the Recommendation is to provide guidance for National Regulatory Authorities (NRAs) and TSOs on capacity calculation and that of its monitoring that will facilitate the process to implement Article 16(8) of the Regulation in a harmonised and consistent manner until the coordinated capacity calculation methodologies described in Article 21 of CACM Regulation are implemented. The Recommendation recognises and takes into account the impact of cross-zonal trades outside of the coordination area (MNCC – Margin from non-coordinated capacity calculation) in the course of calculating MACZT in accordance with Article 5(3). In the case of bilateral NTC-based capacity calculation, MNCC includes the impact of every other borders and also covers, in the case of regionally coordinated capacity calculation, the flows from adjacent capacity calculation regions and the flows induced by cross-zonal trades over bidding-zone borders of non-EU third countries outside the capacity calculation region (Article 4(1) of the Recommendation).

c) Derogation in accordance with 16(9) of the Recommendation

In accordance with 16(9) of the Recommendation, at the request of the transmission system operators in a capacity calculation region, the **relevant regulatory authorities may grant a derogation on foreseeable grounds where necessary for maintaining operational security.** The extent of such

derogation shall be strictly limited to what is necessary to maintain operational security and they shall avoid discrimination between internal and cross-zonal exchanges.

3.2.2 Reasoning

a) Absence of the regional coordinated capacity calculation

Until the implementation of the Day-ahead capacity calculation methodology, according to CACM Regulation, in the Core region, scheduled for 01 December, 2020, major adaptation to the currently used bilateral NTC-based calculation should be carried out with respect to the fulfillment of the minimum capacity threshold during the interim period. Consequently, this major adaptation would result in developing a new individual methodology by MAVIR. The calculated results based on the individual methodology would inherently carry major uncertainties due to the fact that the necessary input dataset of other TSOs would only be reproduced with great degree of estimation uncertainty. Having the Core Day-ahead flow-based capacity calculation methodology implemented, the principal aim of this individual methodology, which, in fact, is not a realistic alternative, could be achieved.

The Hungarian Power System, itself, constitutes one single bidding zone, but at the same time, it is part of the highly meshed Continental Europe Synchronous Area. The highly meshed power system contributes to increasing the security of supply, but this fact also means that power flows resulting from cross-border exchanges potentially influence the cross-border capacity of other bidding zone borders. Therefore, the consideration of the principle of the simultaneity during the cross-border capacity calculation is of paramount importance. With respect to the cross-border capacity calculation, the principle of the simultaneity is construed as the modelling of power flows on critical network elements resulting from cross-border exchanges of all bidding-zone borders. The application of the principle of the simultaneity can be achieved by being part of a coordination area (Article 2 of the Recommendation). In the case of the current bilateral NTC-based calculation over the Hungarian bidding zone borders, the coordination area, in general, constitutes one single border between two bidding zone borders. This means that every other bidding zone border of the synchronous area is outside of the considered coordination area.[4]

Much of the uncertainty that stems from the above described approach can be circumvented by having coordinated capacity calculation at regional level which includes multiple bidding zone borders. This is due to the fact that the countries that participate in regional coordinated capacity calculation provide such input data which, by definition, more accurately describe the characteristics of their own network. Such coordination area is the Core Capacity Calculation Region of which Hungary is also part. However, the coordinated flow-based capacity calculation in the Core region has not been implemented yet. As long as there is no coordinated capacity calculation being implemented with respect to the Hungarian bidding zone borders at regional level, the impact of other cross-border exchanges on the coordination area being composed of one single bidding zone border can only be estimated. Given the circumstances described above, the estimation of the impact of other cross-border exchanges shall require the consideration of the input data in a significantly greater range for the guaranty of as well as the quantitative verification of the required minimum level of the transmission capacity. This means that the modelling of the power flows resulting from cross-border exchanges would require the development of as well as the implementation of an individual methodology. This individual methodology would be needed until the Day-ahead capacity calculation is implemented in the Core region. The aim of the individual methodology is to estimate the impact of the flows resulting from cross-border exchanges outside of the coordination area on the critical network elements with the consideration of contingency (CNEC). In order to calculate the power flows resulting from cross-border exchanges outside of the coordination area, the development of a flow-based

[4] For example in the case of the NTC-based calculation over the HU-AT bidding zone border, every other bidding zone border (HU-SK; AT-CZ; AT-SI...) is outside of the coordination area, which results in significant uncertainty as to the calculation. The same principle applies in the case of the NTC-based calculation over the HU-SK border where every other bidding zone border (HU-AT; AT-CZ; AT-SI...) is outside of the coordination area giving high uncertainty

modelling approach, based on power transfer distribution factor (PTDF) calculation, would be required. The application of the PTDF factors would be in accordance with Article 11 of the ACER Day-ahead capacity calculation methodology, Annex I. (hereinafter referred to as: "DA CCM").

According to this, a power transfer distribution factor gives the measurement of how sensitive one certain CNEC to the change of the net position of one certain bidding zone is. The mathematical calculation of the zone-to-slack power transfer distribution factor can be described as follows:

$$\boldsymbol{PTDF}_{zone-to-slack} = \boldsymbol{PTDF}_{node-to-slack} \cdot \boldsymbol{GSK}_{node-to-zone}$$

Equation 1

where:

$\mathbf{PTDF}_{zone-to-slack}$	matrix of zone-to-slack $PTDFs$ (columns: bidding zones; rows: CNECs)
$\mathbf{PTDF}_{node-to-slack}$	matrix of node-to-slack $PTDFs$ (columns: nodes; rows: CNECs)
$\mathbf{GSK}_{node-to-zone}$	matrix containing the $GSKs$ of all bidding zones (columns: bidding zones; rows: nodes; sum of each column equal to one)

In order to model the impact of the power flows resulting from cross-border exchanges, the calculation of the zone-to-zone PDTFs, in accordance with Article 11 (3) of DA CCM is required. This calculation is mathematically described as follows:

$$\boldsymbol{PTDF}_{A\rightarrow B,l} = PTDF_{A,l} - PTDF_{B,l}$$

Equation 2

where:

$\boldsymbol{PTDF}_{A\rightarrow B,l}$	a zone-to-zone $PTDF_{A\rightarrow B,l}$ represents the influence of a variation of a commercial exchange from bidding zone A to bidding zone B on CNEC l
$\boldsymbol{PTDF}_{A,l}$ **and** $\boldsymbol{PTDF}_{B,l}$	zone-to-slack PDTF of bidding zone A on CNEC l and zone-to-slack PDTF of bidding zone B on CNEC l

Power flows resulting from cross-border exchange between two bidding zone can be described as follows:

$$\Delta\boldsymbol{F}_{\boldsymbol{A\rightarrow B,l}} = PTDF_{A\rightarrow B,l} \cdot EX_{A\rightarrow B}$$

Equation 3

where:

$\Delta\boldsymbol{F}_{\boldsymbol{A\rightarrow B,l}}$	flow change on CNEC l induced by cross-border exchange between bidding zone A and bidding zone B
$\boldsymbol{EX}_{\boldsymbol{A\rightarrow B}}$	cross-border exchange between bidding zone A and bidding zone B

With respect to all pairs of bidding zone borders, the flow change induced by all cross-border exchanges outside of the coordination area on a certain CNEC results from the sum of all ΔF of the individual borders, which is in line with the MNCC calculation according to Article 5.3 of the Recommendation.

In order for the the power transfer distribution factors to be calculated, specific grid data such as generation and load shift keys (GLSK) and network models representing the synchronous area are needed. GLSKs describe the expected response of generation and/or load unites to changes in the net position of one certain bidding zone. TSOs that are not part of regional coordinated capacity calculation with data exchange don't have access to detailed information of other bidding zones with regard to the expected actual operation of the generation and that of its sensitivity to net position change correspondingly. Thus, GLSKs can only be considered with high degree of estimation uncertainty. The calculation of power transfer distribution factors, in addition to the GLSKs, require D-2 individual grid models as well. Not being involved in coordinated capacity calculation with data exchange at regional level, TSOs don't have access to individual D2CF models of other TSOs. As a result, the creation of common gird model (CGM) is not possible either. Based on outage planning information, it is possible, to create a grid model, but it still carries great degree of estimation uncertainty with respect to the expected grid conditions. Finally, in the case of a coordination area being composed of one single bidding zone, the best estimation of cross-zonal trades on all other cross-borders outside of the coordination area is also required. In doing so, both the cross-border capacity and the allocated capacity have to be taken into account as underlying assumptions which, however, lead to further major uncertainty especially with respect to the cross-zonal trades outside of coordination area.

In order to obtain more reliable and accurate estimation, the individual input data from the TSOs would be needed. Though, these individual input data are not accessible by other TSOs other than the one that provides it. The fact that these individual data are not available to other TSOs means that only rough estimation can be conducted by the TSOs, which, however, introduces further uncertainty and inaccuracy in the individual methodology.

This individual methodology would require a close to identical approach to the coordinated flow-based capacity calculation, though in the latter case, the individual input dataset comes from the participating TSOs without any rough estimation. In other words, the coordinated capacity calculation offers a methodological approach that inherently reduces the possibility of inaccuracy and uncertainty in a significant way.

Even the general consideration of the uncertainties in the capacity calculation is a major challenge for the TSOs. The currently used transmission reliability capacity (TRM) cannot be applied or changed in a dynamic way in terms of value owing to the fact that the values have been laid down in international operational agreements. Moreover, any further introduction of additional reliability capacity in a dynamic form would require a statistical approach based on probability distribution with data covering the past 2 years at least. Consequently, any application of this certain statistical approach would call for data used in coordinated capacity calculation at regional level.

By having such individual methodology for the achievement of the capacity threshold that carries inherent uncertainties, the risk of violating operational security limits in real-time significantly increases. Moreover, there are further risks that there will not be sufficient available remedial actions for the purpose of maintaining the acceptable operating boundaries, thus eventually guaranteeing the operational security until the implementation of methodologies with respect to the Coordination of Redispatching and Countertrading as well as Operational Security is completed.

The above described approach would involve considerably high uncertainties in the design of the action plan for the achievement of 70% minimum capacity on a linear trajectory. As a result, the identified network investments and developments can be on the one hand, overestimated or, on the other hand, be underestimated due to the uncertainties and inaccuracies in comparison with those of the ones that could be identified based on regional coordinated capacity calculations. In doing so, this would result in a clearly suboptimal investment process. **Therefore, MAVIR does not support the initiative for the development of the action plan according to Article 15 of the Regulation before the detailed analysis in accordance of paragraph (a) of *"Preparation for the application of the regulation after the derogation period"* is conducted based on the principles of the Day-ahead flow-based capacity calculation methodology of the Core region.**

By considering the above described major uncertainties in connection with the individual methodology, the development and the implementation of the individual methodology in operational process for an interim period would take months to happen. On top of it, it would bring about the need for significant external, internal human and financial resources. Meanwhile, there

is constant need for all these resources to be allocated to the ongoing implementation of the Day-ahead flow-based capacity calculation methodology of the Core region.

b) Flows from the trade with non-EU countries

The ACER Recommendation prescribes that consideration of cross-zonal trades over non-EU borders for the fulfilment of the 70% minimum threshold is only possible on the condition that an agreement has been concluded with the relevant non-EU country or countries. Cross-zonal trades over Hungary's non-EU borders have a significant impact on the transmission capacities available on EU borders. Not allowing the flows resulting from cross-zonal trades over non-EU borders to be considered in the 70% minimum capacity will greatly degrade the feasibility of the fulfilment of the minimum capacity requirement. This would mean that overall, in practice, greater than 70% as minimum capacity, should be ensured for cross zonal trades over EU and non-EU borders. For the purpose of ensuring the operational security, this would likely lead to limiting the cross-zonal trades over Hungary's non-EU borders by means of reducing the NTC values as necessary measure. Furthermore, it is also prescribed that non-EU countries shall also be involved in the cost-sharing of the remedial actions despite the fact that there is no such regional methodology in the EU yet which would give any basis on it.

Although the coordinated flow-based capacity calculation methodology[5] adopted by ACER and developed in accordance with CACM Regulation allows to take into account the flows resulting from cross-zonal trades with non-EU countries within 70% capacity, the European Commission stated in its letter dated 16 July 2019 and addressed to ENTSO-E that the flows resulting from cross-zonal trades over non-EU borders can only be taken into account if a bilateral agreement is concluded between all transmission system operators in the coordination area and the third country, complying with the conditions detailed in the Commission's letter. This agreement shall be approved by the NRAs concerned and shall be annexed to the capacity calculation methodology. Article 4(1) of ACER Recommendation also includes this provision, according to which the agreement shall be fully consistent with EU capacity calculation principles. However, the Commission letter does not address the ways and means of the agreement with non-EU countries that do not have a direct electric border with a certain EU country.

In the said letter, the Commission has considered the step-by-step introduction of the provision. Thus, the ACER Recommendation requires, until the signing of such agreement, the monitoring of the compliance with the minimum capacity threshold with and without the consideration of the flows resulting from cross-zonal trades over non-EU borders. However, the ACER Recommendation does not clearly state that the minimum capacity can temporarily be met including the flows referred to above.

Considering the inconclusive matters around the agreement with non-EU countries, MAVIR does not support an initiative for network developments for the purpose of fulfilling the 70% minimum capacity threshold since an agreement reached later in the future can have a great impact on the previously identified and concluded network development needs.

Until the application of the Regulation with regard to the minimum capacity threshold, the remaining time for any development and conclusion of such agreement referred to above is alarmingly limited. However, the conclusion of such agreement on the dedicated forum(s) will be actively supported by MAVIR.

c) Methodologies of coordinated redispatch, counter-trade and cost-sharing in accordance with CACM Regulation

Until the implementation of the methodologies on coordinated redispatch, counter-trading and related cost sharing, the current procedures afford limited possibility for planning the availability of sources for the purpose of redispatch in order to meet the required minimum capacity in short and medium term.

[5] Decision No 02/2019 of the Agency for the Cooperation of Energy Regulators of 21 February 2019 on the Core CCR TSOs' proposals for the regional design of the day-ahead and intraday common capacity calculation methodologies

Article 16(4) of the Regulation requires to comply with the safety standards of secure network operation to ensure the minimum capacity in accordance with Article 16(8) of the Regulation. To this end counter-trading and redispatch, including cross-border redispatch shall be used to the necessary extent. A coordinated and non-discriminatory process for cross-border remedial actions shall be applied to which redispatch and counter-trading cost sharing are applied. The methodology of the Regional Coordinated Security Analysis shall provide for the determination of cross-border remedial actions, while the methodology of cost-sharing developed in accordance with 74(1) of CACM Regulation shall provide for the cost sharing. These methodologies have not yet been approved and are expected to be implemented once the methodology of coordinated capacity calculation methodology is in place. Until then MAVIR can only use cross-border redispatch within the framework of Multilateral Redispatch Agreement (MRA) of Central-European TSO Security Cooperation (TSC). In this cooperation MAVIR is subject to a cost ceiling approved by the Office with regard to the costs incurred in connection with the MRA, and once the said ceiling is reached, MAVIR shall automatically withdraw from this cooperation. Each TSO participates in the cooperation on a voluntary basis, thus it is neither controllable nor foreseeable in the short and medium term what resources are available via the agreement to meet the required minimum capacity.

d) Regional impact of the derogation

It is understood that the level of the fulfillment of the minimum threshold by Hungary will not have influence or impact on the level of the fulfillment of the minimum threshold by the adjacent countries.

The cross-border capacity of individual borders is limited by critical network elements. The fulfillment of the minimum capacity threshold by a TSO is aimed at the critical network elements owned by this TSO, including the cross-zonal network elements. The determination of the cross-border capacity on individual borders, shall be done in such a way that the minimum capacity threshold on critical network elements is fulfilled. The position of MAVIR on the fulfillment of the minimum threshold is that if one country offers the minimum capacity on any of its own critical network elements, including cross-zonal network element, then the minimum capacity requirement is fulfilled by this given country, regardless of the value of the offered capacity by the other countries that might be less, thus being offered to the cross-zonal trade. On that account, from the perspective of the minimum threshold fulfillment of one, the offered capacity by this country shall be taken into account. Thus, the fulfillment is not influenced if other countries do not fulfill the minimum threshold requirement.

In the long term, however, regional network developments and the results of action plans can have direct influence and impact on the level of the fulfillment of the minimum threshold due to their consequential impact on both the degree and the pattern of loop flows caused from bidding zones.

3.2.3 Preparation for the application of the minimum capacity provision after the derogation period

MAVIR is going to implement two parallel sets of measures and an ex-post monitoring process as described below so as to prepare for the application of the 70% minimum capacity in accordance with Article 16(8) of the Regulation after the derogation period. In addition,, MAVIR will also proactively support the earliest possible development and conclusion of the agreements referred to in paragraph b) of the detailed reasoning chapter of the present derogation request so as to allow for the consideration of the flows resulting from cross-zonal trades over non-EU borders in the minimum capacity.

a) Analysis of the fulfilment level of the minimum capacity requirement according to the current state of the transmission network in a flow-based environment, identification of proposals on measures for a possible action plan

In the view of the introduction of the coordinated capacity calculation methodology in accordance with CACM Regulation currently scheduled to be implemented as of 01 December 2020, it is necessary to

analyse **how the requirement for 70% minimum capacity can be met in the current state of the Hungarian transmission network**. In order to begin the calculations, it is essential to have the adequate level of development of the necessary functionalities of the common capacity calculation tool developed by the TSOs in Core capacity calculation region performing the capacity calculations. It is also necessary to develop the local tool capable of processing the output of the common capacity calculation tool. These tools are expected to be available in February 2020. From then on, approximately one year is needed to collect and process enough data. **The analysis will be aimed at identifying the possible structural congestions that may form the basis for an action plan in accordance with Article 15 of the Regulation.**

Description of the analysis

The assessment of the application of the 70% minimum capacity in the flow-based methodology contains two steps. The first step is to analyse the base flow in the meshed transmission network calculated in accordance with the day-ahead capacity calculation methodology and to analyse whether the 70% transmission capacity for cross-zonal trades can be reached with maintaining or disregarding the flow reliability capacity (FRM).

In the second step, the analysis of critical network elements that may actually limit the cross-border capacity has to be carried out. It is possible that there are critical network elements that do not meet the 70 % minimum capacity threshold. However, other critical network elements, based on the network topology, can already become limiting by being overloaded in practice even before those critical network elements that do not fulfil the minimum capacity.

The critical network elements that do not meet the 70% minimum threshold and can get overloaded based on the capacity being calculated by the consideration of the directly limiting elements need to be addressed primarily. In order to determine this, flow-based capacity calculations are required with capacity70% minimum capacity threshold. Operational security analysis must then be performed. When evaluating the results, MAVIR has to assess whether there is topological remedial action or possible redispatch available to manage the overload or else deviation from the 70% minimum capacity threshold may be the solution.

The analysis shall take into account specific operating conditions, maintenances and seasonal peculiarities. Assessing these circumstances properly requires a longer period, approximately one year.

Identification of necessary measures for a possible action plan

Pursuant to Article 14(7) of the Regulation, the **Member States can adopt an action plan developed in accordance with Article 15 of the Regulation on the basis of a report on structural congestions carried out by the TSO or TSOs and approved by the relevant NRA(s). The identified measures described in the action plan shall be aimed at fulfilling the 70% minimum capacity threshold through a linear trajectory by 31 December, 2025**. If the report referred to above in this chapter identifies structural congestions, a **list of measures shall be assembled in order to eliminate the identified structural congestions**. While establishing the list of measures, MAVIR will assess and make proposals to eliminate the identified structural congestions according to the methodology applied in the Network Development Plan of Hungarian electricity system (NDP).

It is necessary in the longer term that the said list of measures adopted in the Action Plan are also included in the NDP in order to ensure consistency between the network development planning and the measures included in the Action Plan.

b) Assessment of the fulfilment of the minimum capacity requirement in the course of long term network development planning

In order to ensure the capacity in compliance with 70% minimum capacity threshold in the long run, it is necessary to apply this requirement in the NDP, as planning criterion and to identify and schedule the network investments needed to achieve and maintain the required minimum capacity threshold. In the course of long-term network development planning, the dual of the 70 % minimum capacity threshold will be analysed. This means a foreseen network condition in which the flow, without trading activities (Core regional zero balance state), might reach or exceed 30% of the operational security limit of the critical network element, taking into account N-1 case. If such case is identified, the 70%

minimum capacity threshold is not met, thus network developments are to be proposed. Considering that the above described analysis is independent of the analysis based on the coordinated flow-based capacity calculation methodology, MAVIR has already begun developing the concept.

c) Ex-Post monitoring of the minimum capacity

From the beginning of the derogation period, MAVIR will aim to carry out analysis which is based on more accurate and complete input dataset and on the capacity calculation concept described in the ACER Recommendation for the purpose of the ex-post monitoring of the minimum capacity threshold. The Office will be informed of the results of the analysis no later than six 6 weeks after the end of each quarter of the year.

3.3. Derogation request of Elia System Operator SA from Article 16 (8) of Regulation (EU) 2019/943 of the European Parliament and of the Council on the internal market for electricity pursuant to Article 16(9) of the Regulation

3.3.1 Whereas

(1) Article 16(8) of Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity (recast), hereinafter "Regulation 2019/943", prescribes that TSOs shall not limit the volume of interconnection capacity to be made available to market participants as a means of solving congestion inside their own bidding zone, or as a means of managing flows resulting from transactions internal to bidding zones. The same article also defines that this requirement shall be considered to be complied with if a minimum level of available capacity for cross-zonal trade is reached. For borders using a flow-based approach, this level (hereinafter referred to as the "CEP70 requirement") is generally set to 70% of the capacity of internal and cross-zonal critical network elements taking into account contingencies (hereinafter referred to as "CNECs"). Transitory measures, such as action plans pursuant to Article 15 of Regulation 2019/943 or derogations pursuant to Article 16(9) of the same regulation, allow progressivity in reaching this minimum capacity.

(2) Article 16(9) of Regulation 2019/943 prescribes that upon request of transmission system operators in a capacity calculation region, the relevant regulatory authorities may grant a derogation from the CEP70 requirement on foreseeable grounds where necessary for maintaining operational security. The derogation shall be granted for no more than one year at a time, or, provided that the extent of the derogation decreases significantly after the first year, up to a maximum of two years. The extent of such a derogation shall be strictly limited to what is necessary to maintain operational security and shall avoid undue discrimination between internal and cross-zonal exchanges.

(3) Article 16(4) of Regulation 2019/943 prescribes that counter-trading and redispatch, including cross-border redispatch, shall be used to reach the CEP70 requirement. This applies without condition to the use of internal redispatch, yet this article stipulates that the application of cross-border measures is subject to the implementation of a redispatching and counter-trading cost sharing methodology. This methodology is not yet implemented in the capacity calculation regions which Elia System Operator SA (hereinafter "Elia") is a member of.

(4) The 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") and the Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation (hereinafter referred to as the "SOGL Regulation") require TSOs to deliver methodologies which are key to managing the flows in the electricity grid via coordinated capacity calculation and coordinated application of remedial actions. These key methodologies are:

   a. The Capacity Calculation Methodology for the Core Capacity Calculation Region as referred to in Article 21 of the CACM Regulation (hereinafter referred to as "Core CCM").

   b. The operational security coordination methodology as referred to in Article 76 of the SOGL Regulation (hereinafter referred to as "SOGL 76 methodology").

   c. The coordinated redispatching and countertrading methodology as referred to in Article 35 of the CACM Regulation (hereinafter referred to as "CACM 35 methodology").

   d. The redispatching and countertrading cost sharing methodology as referred to in Article 74 of the CACM Regulation (hereinafter referred to as "CACM 74 methodology").

(5) The rationale and objectives of an action plan and of a derogation have been studied and discussed between Elia, the Belgian NRA (hereinafter "CREG") and the Belgian State. This led to the conclusion

that there is no justification for an action plan in Belgium according to Article 15 of Regulation 2019/943 since Belgium is not currently facing structural congestions and is not expected to be in the coming years. However, acknowledging that aforementioned key methodologies from the CACM Regulation and SOGL Regulation are not yet implemented, it was concluded that Elia cannot rely on them to implement the CEP70 requirement as of January 1st 2020. In order to be compliant with Regulation 2019/943, Elia therefore decided, based on a common understanding with CREG and the Belgian State, to submit a request for a derogation from the CEP70 requirement on the basis of three foreseeable grounds.

(6) The first foreseeable ground to request a derogation is an externality, being that loop flows on Belgian CNECs cannot be contained to an acceptable level, which is creating an operational security risk if the CEP70 requirement would be applied per January 1st 2020:

a. From Article 16(8) of Regulation 2019/943 it can be understood that the maximum acceptable level of loop flows is defined as the amount of loop flows which, together with the reliability margins and the internal flows, uses 30% of capacity of a CNEC.

b. Historical analyses of data from year 2018 have shown that the level of loop flows on Belgian CNECs can amount to 70%, and is structurally superior to a level that would allow meeting Article 16(8) of Regulation 2019/943.

c. Loop flows are created in neighbouring bidding zones and cannot be contained by using the redispatching potential available in Belgium. Phase Shifting Transformers (PSTs) located at the North border of Belgium can help partially limiting the loop flows, but even an optimised utilisation of the Belgian PSTs alone is not expected to be sufficient.

d. Considering the possibility for Member States to implement action plans in accordance with Article 15 of Regulation 2019/943, Elia expects that structural congestions in the neighboring bidding zones will not immediately disappear on 1st January 2020. Consequently, loop flows are expected to remain above an acceptable level according to Article 16(8) of Regulation 2019/943. Although the content of the possible action plans of neighboring Member States is unknown, it is however assumed that the level of loop flows through Belgium will decrease in the following years thanks to the linear trajectory followed by Member States implementing an action plan in accordance with Article 15(2) of Regulation 2019/943.

e. Possibly anticipating or complementing the full implementation of action plans outside Belgium, the implementation in the Core capacity calculation region of the CACM and SOGL methodologies listed in paragraph 4 should allow reducing the level of loop flows to an acceptable level. Indeed:

i. Article 10(5) of the Core CCM will offer each TSO the possibility to individually define the initial setting of its own non-costly and costly remedial actions, based on the best forecast of their application and with the aim to reduce the loop flows on its cross-zonal CNECs below a loop flow threshold that avoids undue discrimination. The same loop flow threshold is also considered as a constraint in the non-costly remedial action optimiser, as described in Article 16 of the Core CCM. This is important in the Belgian context as the Belgian PSTs contribute to the reduction of loop flows.

ii. If the mechanisms of the capacity calculation methodology are not sufficient to decrease loop flows below an acceptable level and if Elia faces congestions as a result of the application of the CEP70 requirement, SOGL 76 and CACM 35 should allow finding solutions in a coordinated way in the region to relieve these congestions.

iii. In addition to the implementation of SOGL 76 and CACM 35, which alleviate operational security risk, CACM 74 should enable a fair cost sharing, ensuring that the TSOs of the bidding zone(s) at the origin of the loop flows above an

acceptable level bear the costs of the remedial actions, in accordance with the polluter-pays principle as described in Article 16(13) of Regulation 2019/943.

(7) The second foreseeable ground to request a derogation is the possible lack of redispatching potential to allow Elia to follow the CEP70 requirement without endangering operational security when the grid is in an outage situation:

a. Considering the grid investment plan in Belgium includes upgrades of existing corridors, situations of long duration outages are expected to occur with a certain frequency and are, as such, considered as foreseeable. The planning of these long duration outages can be consulted on the ENTSO-E Transparency Platform, while visibility of their impact on capacity calculation is provided via the SPAIC process in place in CWE.

b. These grid investments are required to keep the grid fit for purpose considering the future energy mix, thus to avoid structural congestions arising in the future.

c. In an outage situation, the grid capacity is reduced and internal flows on the remaining critical network elements increase compared to the grid situation where the outage is not present.

d. It can occur that the available internal redispatching potential is insufficient to meet the CEP70 requirement while coping with the increased level of internal flows as a result of these outages.

e. The fact that the SOGL 76 methodology and CACM 35 methodology are not yet in place prevents Elia to rely on cross-border remedial actions. Existing bilateral redispatching contracts do not enable an efficient use due to the manual procedures involved and the limited visibility on the future availability of redispatching potential.

f. Requests for derogation due to outage situations are expected to become less frequent thanks to the implementation of the methodologies listed in the previous paragraph which will give more structural redispatching possibilities.

(8) The third foreseeable ground to request a derogation is the operational security risk introduced on one hand by the development of new processes to offer higher capacities to the market, and on the other hand by the introduction of new tools enabling the implementation of this request for derogation:

a. As regards the risk related to new processes to offer higher capacities:

i. The implementation of the CEP70 requirement should lead to more capacity given to the market which may require a more extensive application of remedial actions, in accordance with Article 16(4) of Regulation 2019/943. The operational experience for processes with an extensive application of remedial actions is currently low.

ii. The likelihood of a more extensive application of remedial actions is higher in Member States where no action plan is applied, as it is the case for Belgium.

iii. In general, the overall effect on capacities offered to the market and on the extent of application of remedial actions can be assessed only when the situation in all countries having an influence on each other's grid is known. As of January 1st 2020, action plans pursuant to Article 15 of Regulation 2019/943 and derogations pursuant to Article 16(9) of Regulation 2019/943 may be applied by different Member States. The application of these measures and/or their extent is currently unknown by Elia. Therefore Elia is not in a position to ensure that its grid operators will have the relevant and required experience to ensure operational security as of January 1st 2020.

b. As regards to the risk related to new tools:

i. This request for derogation, which applies a methodological approach as detailed in Article 3, leads to the need to develop additional tools to correctly account for the effect of the loop flows above an acceptable level in accordance with Article 4.

ii. While the implementation of these new tools is ongoing at the time of the submission of this request for derogation, the short time between the publication of Regulation 2019/943 and the entry into force of the CEP70 requirement, together with the discussions related to the interpretation of the regulation at national, regional and European level, did not allow Elia to anticipate much on the implementation of these tools. Consequently, the tools will only benefit from a very limited testing period of 4 to 6 weeks during which the operators are to be trained as well. An additional testing period of 3 months is required to acquire experience and stabilize the tools and as such guarantee the quality and stability of the results, which in turn is needed to guarantee operational security.

To mitigate the identified operational security risks, Elia requests a transition period to create the relevant experience of the processes and to complete the testing of the tools. During this period, a so-called external parallel run approach shall be applied, as described in Article 6. Besides the aforementioned reasons, this approach allows giving some foresight to market participants about the expected impact of the implementation of the CEP70 requirement.

(9) This request for derogation is compliant with Regulation 2019/943, more specifically Article 16(9), since:

a. The grounds to request a derogation are foreseeable, as set out in paragraph 4 to 8.

b. The derogation is required to guarantee operational security as developed in paragraph 4 to 8.

c. The extent of the derogation is strictly limited to what is necessary:

i. Acknowledging the limitations by the absence of the CACM and SOGL methodologies listed in paragraph 4, the redispatching potential structurally available to Elia will be used to reduce too high Belgian internal flows. Only if the operational security cannot be guaranteed in this situation (due to a lack of redispatching potential), the capacity for cross-zonal trade set in the capacity calculation process is reduced.

ii. The methodological approach described in Article 3 allows taking assumptions as late as possible in the capacity calculation process, that is, with the most accurate information related to the grid situation. This approach reduces the extent of the derogation compared to an approach where fixed values would have been defined and included directly in the derogation. The methodological approach avoids under- or overestimating the actual need for a derogation. Indeed, a fixed value approach would lead to unnecessary security margins considering the variety of situations to be covered, the intrinsic uncertainty of grid operation and the lack of visibility on the intentions of neighbouring Member States regarding their approach for implementing Article 16 of Regulation 2109/943, and possibly Article 15 of the same regulation. Given the fact that loop flows follow a variable pattern by nature, the inefficiency of a fixed value approach would be significant and structural.

d. The derogation avoids undue discrimination between internal and cross-zonal exchanges: the sum of reliability margins, loop flows below an acceptable level and internal flows on each CNEC is lower than 30% for as much as operational security can be guaranteed. This ensures that, even in presence of loop flows above an acceptable threshold, the internal flows accounted for in the capacity calculation are reduced in order to avoid undue discrimination between internal and cross-zonal exchanges.

(10) The cornerstones of this approach have been presented to Belgian market parties and to the NRAs of the Core capacity calculation region during an implementation group meeting. The comments raised have been taken into account when writing this request.

ELIA SUBMITS THE FOLLOWING REQUEST FOR DEROGATION FROM THE MINIMUM LEVEL OF CAPACITY TO BE MADE AVAILABLE FOR CROSS-ZONAL TRADE

3.3.2 Article 1: Subject matter and scope

(1) This request for derogation is a request from Elia to derogate from the implementation of the minimum margin available for cross-zonal trade as established in Article 16(8) and in accordance with Article 16(9) of Regulation 2019/943.

(2) This request for derogation is based on three different reasons to deviate from the CEP70 requirement: (i) loop flows above an acceptable level, as detailed in Article 4 and justified in paragraph 6 of the whereas section, (ii) the outages, as detailed in Article 5 and justified in paragraph 7 of the whereas section, and (iii) the introduction of new processes and tools, as detailed in Article 6 and justified in paragraph 8 of the whereas section.

(3) The minimum margin available for cross-zonal trade as defined by the CEP70 requirement or by this request for derogation will be implemented for as long as operational security can be guaranteed. Deviations will be reported to CREG along with a justification why the deviation was required to guarantee operational security.

(4) Within 6 months following the approval of this request for derogation by the Belgian NRA, Elia shall draft a report detailing the methodology and projects that shall provide a long-term solution to the operational security risk that this derogation seeks to address, including the elements listed in paragraphs 5(e) and 6(e) of the whereas section. This report will be presented to the Belgian NRA and published for stakeholders, in line with the requirements in Article 16(9), third paragraph of Regulation 2019/943.

3.3.3 Article 2: Definitions and interpretation

(1) For the purpose of this request for derogation, the terms used in this document shall have the meaning of the definitions included in Article 2 of Regulation 2019/943, Article 2 of the CACM Regulation, Article 2 of the Core DA CCM, Article 2 of the ACER Recommendation No 01/2019, and the Central-Western Europe (hereinafter “CWE”) Flow-Based Market Coupling Approval Package.

(2) In this request for derogation, unless the context requires otherwise:

a. The singular indicates the plural and vice versa.

b. The table of contents, headings and examples are inserted for convenience only and do not affect the interpretation of this derogation request.

c. Any reference to legislation, regulations, directive, order, instrument, code or any other enactment shall include any modification, extension or re-enactment of it then in force.

3.3.4 Article 3: Methodological approach for derogation

(1) The approach used in this request for derogation defines principles and calculation rules including, where needed, mathematical formulas. These principles and calculation rules are applied to the day ahead capacity calculation process as applied in the CWE coordination area.

(2) More specifically, the methodological derogation takes the common grid models (24 in total, 1 for each hour) delivered as part of the CWE day ahead capacity calculation process as basis and applies the following principles:

a. During the qualification phase, the loop flows are calculated and the minimum margin available for cross-zonal trade is applied to the Belgian CNECs as per the calculation rules explained in Article 4. For the avoidance of doubt, if the loop flows are below the acceptable level defined in paragraph 2 of Article 4, the minimum margin remains equal to 70%.

b. During the verification phase, operational security is assessed. This implies the detection of congestion and the possibility to relieve such congestion through the application of remedial actions, non-costly and costly.

c. As long as operational security can be guaranteed, the minimum margin resulting from the qualification phase is kept as result for the verification phase. If not, the minimum margin is reduced to a level that guarantees operational security.

3.3.5 Article 4: Loop flows

(1) The application of this derogation for loop flows above an acceptable level entails the following steps:

a. Step 1: define the acceptable level of loop flows LF_{accept} per CNEC, as further detailed in paragraph 2.

b. Step 2: calculate the loop flows LF_{calc} per CNEC, as further detailed in paragraph 3.

c. Step 3: define the *minRAM* parameter taking into account the results of the previous steps, as further detailed in paragraph 4.

(2) Article 16(8) of Regulation 2019/943 prescribes that a total amount of 30% of capacity on each CNEC can be used for the reliability margins, loop flows and internal flows. This derogation defines the acceptable level of loop flows (LF_{accept}) for the different type of critical network elements as follows:

a. Cross-border critical network elements: the acceptable level of loop flows is equal to the difference between 30% and the reliability margins of these elements.

b. Internal critical network elements: a choice has to be made on how to divide the capacity between loop flows and internal flows. This request for derogation considers that the acceptable level of loop flows is equal to half of the difference between 30% and the reliability margins of these elements. The second half is used by the internal flows.

(3) The loop flows LF_{calc} are calculated in the day ahead capacity calculation process as follows:

a. The common grid model enriched with the coordinated application of preventive remedial actions as established during the qualification phase, shall be used.

b. Obtain the zero-balanced grid model by shifting the net positions of the common grid model to zero:

$$F_{0,all} = F_{ref} - \mathbf{PTDF_{all}}\,\overrightarrow{NP}_{ref,all}$$

With:

i. $F_{0,all}$: flow derived from a zero-balanced common grid model, meaning a situation without any commercial exchange between bidding zones within Continental Europe and between bidding zones within Continental Europe and bidding zones of other synchronous areas.

ii. F_{ref} : flow per critical network element in the CGM.

iii. $PTDF_{all}$: power transfer distribution factor matrix for all bidding zones in Continental Europe and all critical network elements.

iv. $NP_{ref,all}$: total net positions per bidding zone in Continental Europe included in the CGM.

c. Apply flow decomposition to derive the loop flows on each CNEC. Until a flow decomposition methodology is approved within Core, the following flow decomposition methodology will be applied:

i. Cross-border critical network elements: as there is no internal flow the $F_{0,all}$ defines directly the loop flows.

ii. Internal critical network elements: a flow decomposition is required since $F_{0,all}$ consists of internal flows and loop flows. To distinguish internal flows and loop flows, the nodal positive and negative injections are considered in the zero-balanced grid model. A perfect-mixer principle[6] is used in order to uniquely allocate the flows to the injections.

d. For a given CNEC, LF_{calc} is equal to the loop flows computed following paragraph c divided by the maximum admissible power flow (F_{max}).

(4) The minimum margin available for flows induced by cross-zonal exchanges is then equal to:

$$minRAM = 70\%^{7} - max\left(0; LF_{calc} - LF_{accept}\right)$$

3.3.6 Article 5: Outages

(1) In principle, even when the grid is in outage situation due to one or several internal critical network elements being in outage, Elia shall aim at applying the same minimum margin in the capacity calculation as defined according to Article 4, by using if needed non-costly and costly remedial actions.

[6] Firstly introduced in "*J. Bialek, D. B. Tam, Tracing the generators' output, in International Conference on Opportunities and Advances in International Electric Power Generation (Conf. Publ. No. 419), Durham, UK, March 1996*"

[7] The 70% is the margin available for all cross zonal trades (MACZT) thus consisting of the trades within the CWE coordination area (MCCC) as well the trades on borders external to the CWE coordination area (MNCC).

(2) In case operational security cannot be guaranteed, due to the absence or insufficient nature of the non-costly and costly remedial actions, the minimum margin as defined according to Article 4 shall be reduced to a level that guarantees operational security.

(3) When reporting about the deviation in accordance with paragraph 3 of Article 1 and in case of an outage situation, Elia shall include in the reporting to CREG whether the minimum margin defined according to Article 4 would have been reached in case the outage(s) would not have been present.

3.3.7 Article 6: New processes and tools

(1) A parallel run will be set up for the day ahead capacity calculation process in CWE, which means that:

a. Elia will execute the new processes and local tools for the calculation of the minimum margin on its CNECs in accordance with the CEP70 requirement and this request for derogation.

b. The capacity calculation process is run upon this dataset from Elia, combined with the dataset from the other TSOs in CWE:

i. For those TSOs that would also apply a parallel run, the dataset specific for the parallel run will be used, allowing via the parallel run to test the combined effect of the implementation of the CEP70 requirement.

ii. For those TSOs that do not apply a parallel run, the dataset provided to the operational day ahead flow-based process in CWE will be taken.

c. The results of the parallel run will be published.

(2) During the parallel run, Elia will continue to apply the current approved methodology and practices in the CWE region to the operational day ahead capacity calculation process in CWE. For the avoidance of doubt, the current methodology in the CWE region includes providing on the Belgian CNECs a minimum margin for cross-zonal trades within the CWE region equal to 20%.

3.3.8 Article 7: Extent and duration of the derogation

(1) This request for derogation is applicable to all Belgian CNECs participating to the day ahead capacity calculation process in CWE, thus respecting the applicable PTDF threshold.

(2) The request for derogation regarding loop flows in accordance with Article 4 and regarding outages in accordance with Article 5 is requested for 1 year starting from the 1st of January 2020. The derogation regarding the parallel run in accordance with Article 6 is requested for 3 months starting from the 1st of January 2020.

3.4. Derogation request of RTE from Article 16 (8) of Regulation (EU) 2019/943 of the European Parliament and of the Council on the internal market for electricity pursuant to Article 16(9) of the Regulation

3.4.1 Whereas

(1) RTE is required, by Article 16(8) of the Regulation (EU) 2019/943 of 5 June 2019 on the internal market for electricity (hereinafter, the "Regulation 2019/943"), to offer minimum levels of available capacity for cross-zonal trade as of the 1st of January 2020

(2) Article 16(4) of the Regulation 2019/943 provides that, in order to maximise available capacities to reach the minimum capacity requirements provided for by paragraph 8, Transmission System Operators (hereinafter, "TSOs") shall use counter-trading and redispatch, including cross-border redispatch, via "*a coordinated and non-discriminatory process*". However, complying with the minimum requirements set in Article 16(8) by relying on costly remedial actions would entail uncertainties on the non-coordinated areas and undermine the operational security of the French grid. Operational security is listed as one of the main objectives of day-ahead and intraday markets by Article 7(2) of Regulation 2019/943 and, according to Article 16(9), forseeable grounds related to maintaining operational security justify a request for a derogation from the obligation, imposed by Article 16(8), to offer minimum levels of available capacity for cross-zonal trade .

(3) This document constitutes a request for derogation in accordance with Article 16(9) of the Regulation 2019/943 and addresses the foreseeable grounds, related to the operational security of the French grid, justifying the request for a derogation.

(4) RTE will provide a long-term solution to the issue that this derogation seeks to address, in coordination with the TSOs of the affected capacity calculation regions (hereinafter "CCR").

RTE SUBMITS THE FOLLOWING REQUEST FOR DEROGATION

3.4.2 Article 1. Subject matter and scope

(1) This document constitutes a request for derogation from the implementation of the minimum margin available for cross-zonal trade in accordance with Article 16(9) of Regulation 2019/943.

3.4.3 Article 2. Definitions

(1) All the terms used in this request for derogation shall have the meaning provided by Article 2 of Regulation 2019/943 and Article 2 of Regulation 2015/1222.

3.4.4 Article 3. Operational Security grounds justifying the request for a derogation

(1) As of 1st of January 2020, RTE will not be able to guarantee operational security -as mentioned in Article 16(9)- while applying the minimum requirements set in Article 16(8), due to the uncertainties on the non-coordinated areas (namely due to external flows stemming from neighbouring CCR and third countries). Indeed, the limitation of the reliability margin (30%) is not sufficient to cover the risk in regard to calculated capacities. Indeed, error in the forecasted flows can be of the same order of magnitude as the calculated capacity.

(2) The development of new processes aiming at offering higher capacities to the market, and the introduction of new tools enabling the fulfilment of Article 16(8) minimum capacity requirements introduce new risks to Operational security :

(3) With regards the risk related to new processes to offer higher capacities:

a. the implementation of the minimum capacity requirement requirement should lead to more capacity given to the market which may require a more extensive application of remedial actions, in accordance with Article 16(4) of the Regulation 2019/943. The operational experience for processes with an extensive application of remedial actions is currently low.
b. the implementation of the minimum capacity requirement set forth in Article 16(8) of the Regulation 2019/943 should lead to more capacity given to the market which may require a more extensive application of costly remedial actions, in accordance with Article 16(4) of the same Regulation. The operational experience for processes with an extensive application of costly remedial actions is currently very low;
c. the likelihood of a more extensive application of remedial actions is higher in Member States where no action plan is applied, as it is the case for France;
d. in general, the overall effect on capacities offered to the market and on the extent of application of remedial actions can be assessed only when the situation in all countries having an influence on each other's grid is known. As of 1st January 2020, action plans pursuant to Article 15 of Regulation 2019/943 and derogations pursuant to Article 16(9) of Regulation 2019/943 may be applied by different Member States. The application of these measures and/or their extent is currently unknown to RTE. Therefore RTE is not in a position to ensure that its grid operators will have the relevant and required experience to ensure operational security as of 1st January 2020.

(4) with regards to the risks related to new tools:

a. in line with Article 16(3) of Regulation 2019/943, it should be possible for RCCs to identify the cases where remedial actions are sufficient to guarantee the security of supply.

As of 1st of January 2020, Regional Coordination Centres (hereinafter, "RCCs") will not have the tools necessary to assess and validate the availability of such remedial actions. Furthermore, RCCs will not have common tools to do it efficiently and thus provide affordable energy to the final customers, which is one of the main objective of Regulation 2019/943;

b. As of 1st of January 2020, RTE will not have the tools necessary to assess and validate the availability of such remedial actions. Furthermore, RTE does not have internal tools to do it efficiently and thus provide affordable energy to the final customers, which is one of the main objective of Regulation 2019/943. While the implementation of these new tools is ongoing at the time of the submission of this request for derogation, the limited amount of time between the publication of Regulation 2019/943 (June 2019) and the entry into force of its provisions (January 2020), together with the discussions related to the interpretation of this Regulation at national, regional and European level, did not allow RTE with sufficient time to develop and implement these tools.. Consequently, the tools will only benefit from a very limited testing period during which the operators are to be trained as well. An additional testing period of 6 months is required to acquire experience and stabilise the tools and as such guarantee the quality and stability of the results. This additional testing period is necessary to guarantee operational security.

(5) To mitigate the identified operational security risks, RTE requests a transition period of 6 months to gather relevant experience from the processes and to complete the testing of the tools. During this period, a so-called parallel run approach shall be applied.

3.4.5 Article 4: Description of learning period justifying derogation request

(1) A 6 months parallel run will be set up for the day ahead capacity calculation process in CWE, which means that:

a. RTE will execute the new processes and local tools for the calculation of the minimum margin on its CNECs in accordance with the minimum capacity requirement of Regulation 2019/943 and this request for derogation;

b. the capacity calculation process is run on the basis of a dataset from RTE, combined with the dataset provided by the other TSOs in CWE:

i. for those TSOs that would also apply a parallel run, the dataset specific to the parallel run will be used. This would allow, via the parallel run, to test the effect of the implementation of the minimum capacity requirements;

ii. for those TSOs that do not apply a parallel run, the dataset provided to the operational day ahead flow-based process in CWE will be used.

(2) During the parallel run, RTE will continue to apply the current approved capacity calculation methodology and practices in the CWE region to the operational day-ahead flow-based process in CWE. For the avoidance of doubt, the current methodology in the CWE region includes providing a minimum margin on the French CNECs for cross-zonal trades within the CWE region equal to 20% of the thermal limit of the considered network element.

(3) During the parallel run, RTE will develop processes and tools that will allow RTE to:

a. monitor the margin for cross-zonal trades for all the French CNECs as defined by ACER guidance n°01/2019;

b. validate the availability of remedial actions in order to ensure the minimum capacity requirement set forth in Regulation 2019/943.

(4) RTE will train the operators in order for them to gain enough experience with new processes and tools to ensure the operational security.

(5) RTE will assess the possibility to implement, in operations, higher values of minimum margins for cross-zonal trades providing that the tools and processes are sufficiently developed to ensure operational security with these levels of minimum margins.

(6) The assessment of new values of minimum margins and the implementation of new values of minimum margins will be conducted by RTE with the Commission de Régulation de l'Energy (hereinafter, "CRE") every two months.

3.4.6 Article 5: Reporting

(1) The results of this learning period will be communicated regularly to CRE.

(2) RTE will publish at least the following indicators for the French CNECs :

a. Average % of margin for cross zonal-trades;

b. Number of hours where the minimum capacity requirement set forth in Regulation 2019/943 is reached.

3.4.7 Article 6: Renewal of the derogation

(1) If at the expiry of the derogation period, the reasons described in Article (3) of the current derogation are not tackled, RTE may ask for a renewal in accordance with Article 16(9) of the Regulation =2019/943. RTE will provide justification for such a renewal and the proposal for the minimum value.

3.5. Derogation request of PSE S.A. from Article 16 (8) of Regulation (EU) 2019/943 of the European Parliament and of the Council on the internal market for electricity pursuant to Article 16(9) of the Regulation

3.5.1 Whereas

(1) Article 16(8) of Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity (hereinafter "Regulation 2019/943"), prescribes that TSOs shall not limit the volume of interconnection capacity to be made available to market participants as a means of solving congestion inside their own bidding zone, or as a means of managing flows resulting from transactions internal to bidding zones. The same Article also defines that this requirement shall be considered to be complied with if a minimum level of available capacity for cross-zonal trade is reached. This level, hereinafter referred to as the "CEP 70% requirement", is set to 70% of the capacity of internal and cross-zonal critical network elements respecting operational security limits (hereinafter "CNEs") taking into account contingencies (hereinafter referred to as "CNECs").

(2) Article 16(4) of Regulation 2019/943 prescribes that counter-trading and redispatch, including cross-border redispatch, shall be used to reach the CEP 70% requirement. This Article stipulates that the application of cross-border measures is subject to the implementation of a redispatching and counter-trading cost sharing methodology. This methodology is however not yet implemented in the capacity calculation regions where PSE S.A. is a member.

(3) CEP 70% requirement to offer minimum cross-zonal capacity is applicable as of 1 January 2020. Transitory measures, i.e. action plans pursuant to Article 15 of Regulation 2019/943 or derogations pursuant to Article 16(9) of the same regulation, allow for this minimum capacity to be reached in a progressive way.

(4) Article 14(7) of Regulation 2019/943 stipulates that where structural congestion has been identified in the report pursuant to paragraph 2 of this Article or in the bidding zone review pursuant to this Article or by one or more transmission system operators in their control areas in a report approved by the competent regulatory authority, the Member State with identified structural congestion shall, in cooperation with its transmission system operators, decide, within six months of receipt of the report, either to establish national or multinational action plans pursuant to Article 15, or to review and amend its bidding zone configuration.

(5) Article 15 of Regulation 2019/943 prescribes that following the adoption of a decision pursuant to Article 14(7), the Member State with identified structural congestion shall develop an action plan in cooperation with its regulatory authority. That action plan shall contain a concrete timetable for adopting measures to reduce the structural congestions. Irrespective of the concrete progress of the action plan, Member States shall ensure that without prejudice to derogations granted under Article 16(9) or deviations under Article 16(3), the cross-zonal trade capacity is increased on an annual basis until the minimum capacity provided for in Article 16(8) is reached.

(6) The above provision also requires that minimum capacity compliant with Article 16(8) shall be reached by 31 December 2025, and that those annual increases shall be achieved by means of a linear trajectory.

(7) Article 15 stipulates that it is for the Member State to decide on the establishment and implementation of the action plan. This issue is currently under consideration by Polish authorities, the result of which is not known at the time when this request for Derogation is submitted to the Polish NRA.

(8) Article 16(9) of Regulation 2019/943 prescribes that upon request of transmission system operators in a capacity calculation region, the relevant regulatory authorities may grant a derogation from the CEP 70% requirement on foreseeable grounds where necessary for maintaining operational security. The derogation shall be granted for no more than one year at a time, or, provided that the extent of the derogation decreases significantly after the first year, up to a maximum of two years. The extent of such a derogation shall be strictly limited to what is necessary to maintain operational security and shall avoid undue discrimination between internal and cross-zonal exchanges.

(9) Linear trajectory of increasing minimal capacity obligations following adoption of the action plan as prescribed in Article 15(2) is meant to obtain capacity levels prescribed in Article 16(8). This Article sets these minimal capacity levels at 70%, without prejudice to the application of the derogations under paragraphs 3 and 9 of this Article and to the application of Article 15(2). Hence, the obligation to maintain linear trajectory of increasing minimal capacity requirements is without prejudice to the application of derogations.

(10) The Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management (hereinafter referred to as the "CACM") and the Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation (hereinafter referred to as the "SOGL") require TSOs to deliver methodologies which are key to managing the flows in the electricity grid via coordinated capacity calculation and coordinated application of remedial actions. These key methodologies are:

a. The capacity calculation methodology for the Core Capacity Calculation Region as referred to in Article 21 of the CACM (hereinafter "Core CCM");
b. The operational security coordination methodology as referred to in Article 76 of the SOGL;
c. The coordinated redispatching and countertrading methodology as referred to in Article 35 of the CACM;
d. The redispatching and countertrading cost sharing methodology as referred to in Article 74 of the CACM.

(11) The aforementioned key methodologies from the CACM and SOGL are not yet implemented. PSE S.A. cannot rely on them to implement the CEP 70% requirement as of January 1st 2020, irrespective of whether the minimal capacity level is 70% or established in the action plan adopted by Poland. In order to ensure the ability to maintain operational security while reaching minimal level of cross-zonal capacities as prescribed by Regulation 2019/943, PSE S.A. has decided, based on a common understanding with Polish NRA and Polish authorities, to submit a request for a derogation from the CEP 70% requirement on the basis of three foreseeable grounds.

(12) The first ground for derogation is the necessity to establish new capacity calculation processes and tools, including the calculation methods and IT tools, to be able to implement these minimum capacity thresholds hour by hour, monitor their fulfillment and archive the data needed for compliance monitoring by the NRA. In particular, capacities offered by PSE S.A. from 1 January 2020 cannot endanger secure operation of the interconnected European power system.

(13) Moreover, the ability to meet the minimum cross-zonal capacity obligations will also depend on factors beyond the control of the Polish TSO. These factors include:

a. Loop flows through the Polish grid – the level of loop flows and the related uncertainties might be higher than the maximum level foreseen by Article 16(8), where up to 30% of thermal capacity could be reserved for loop flows, internal flows and reliability margins (TRM). As long as the methodologies prescribed in Articles 35 and 74 of CACM as well as Article 76 of SOGL are not implemented, lack of necessary coordination of remedial actions may lead to loop flows and related uncertainties surpassing the above level, threatening secure system operation.
b. Uncertainties related to forecasting transit flows resulting from cross-zonal transactions outside of Poland. These transits should normally be a part of minimum levels of available capacity for cross-zonal trade, but there is an important uncertainty related to forecasting these, which might require additional transit forecasting margin beyond the TRM margin. PSE S.A. will strive for continuous improvement of the forecasting method, so that eventually the error reaches an acceptable level;

(14) Planned and unplanned outages of transmission lines affect the level of capacities which can be safely offered to the market. In certain cases, in particular but not only where prolonged outages are required to perform the necessary grid reinforcements or modernization works, there is a risk that mandated minimal capacities such as CEP 70% requirement would not be achieved while respecting operational security. The above issue however is of a generic nature, meaning that it cannot be eliminated without extensive transmission grid reinforcements beyond the reasonable needs of the grid users who bear costs of such grid developments. Given the above, this issue is best dealt with in the process of capacity calculation and compliance monitoring, where such cases

of outages of transmission elements impacting the ability to meet the CEP 70% requirement should be realized under scrutiny of the NRA and not be treated as non-compliance with Article 16(8).

(15) The present request is compliant with the requirements of Article 16(9) of Regulation 2019/943 in the following way:

a. The grounds to request a derogation, described in paragraphs 2 to 4 above, are foreseeable on the basis of TSOs' experience and in the light of available data;

b. The requested derogations are required to guarantee that the system stays within the defined boundaries of operational security limits, especially given the lack of implemented regional processes supporting PSE S.A. in ensuring operational security.

c. The extent of the derogation is strictly limited to what is necessary, in that respectively:

i. A foreseeable period required to adapt the IT toolbox for capacity calculation;

ii. A margin for loop flows allowing to effectively consider the expected loop flows during the transitional period until the relevant regional supportive processes are implemented;

iii. A margin to deal with uncertainties related to forecasting transit flows resulting from cross-zonal transactions outside of Poland, expressed as transit forecasting margin and calculated on the basis of forecasting and statistical interpretation of historical data;

iv. The geographical extent is limited, as derogation for each reason is only requested with regard to critical network elements, border or technical profile where the respective issue has a specific impact.

d. The derogation avoids discrimination between internal and cross-zonal exchanges as the margin for loop flows is to be increased solely due to external factors and lack of sufficient regional coordination, and will not affect market participants from outside the Polish control area in any different way than Polish market participants. In the context of the reasons described in recital (12)(a) above it should be added that loop flows are not cross-zonal market flows as they result from intra-zonal transactions in neighbouring bidding zones, and that the Polish TSO has no influence on such transactions;

(16) In the present request, certain values are assumed for the parameters determining the scope of derogation. In order to properly reflect operational security limits and at the same time identify opportunities for increasing cross-zonal capacities during the period in which the present derogation is applied, PSE S.A. will monitor the impact of these parameters on cross-zonal capacities and, if necessary, might adjust the abovementioned parameters in agreement with the Polish NRA aiming at ensuring maximization of cross-zonal capacities while respecting operational security.

(17) The requested derogation is without prejudice to the overarching principle of maximisation of cross-zonal capacities available for trade subject to maintaining operational security, as put forward *inter alia* in recital (27) and Article 16(4) of Regulation 2019/943. PSE S.A. shall at all times offer the market participants as high capacity as possible complying with the safety standard of secure network operation. This means that the capacity resulting from the application of the derogation pursuant to Article 16(9) is to be seen as minimum and not maximum to be expected. In other words, PSE S.A. shall make use of the derogation only in the market time units when offering cross-border capacities compliant with CEP 70% requirement would risk violating system security. In particular, as of 1 January 2020 PSE S.A. expects to offer cross-zonal capacities on the level at least on par with what is currently offered on Polish interconnectors;

PSE S.A. SUBMITS THE FOLLOWING REQUEST FOR DEROGATION

3.5.2 Article 1. Subject matter and scope

(1) This request for derogation on the implementation of the minimum margin available for cross-zonal trade is submitted by PSE S.A. in accordance with Article 16(9) of the Regulation 2019/943.

(2) This request for derogation is based on three different reasons to deviate from the CEP 70% requirement:

(i) implementation of new processes and tools, as detailed in Article 2,

(ii) loop flows above an acceptable level, as detailed in Article 3,

(iii) margin for uncoordinated transits, as detailed in Article 4.

(3) The minimum margin available for cross-zonal trade as defined by the CEP 70% requirement or by this request for derogation will be achieved to the maximum possible extent as long as operational security is guaranteed. Deviations will be reported to the Polish NRA along with a justification why the deviation was required to guarantee operational security.

(4) In this request for derogation, the definitions of Regulation 2019/943, CACM, SOGL, and Core CCM, as well as Recommendation No 01/2019 of the European Agency for the Cooperation of Energy Regulators of 08 August 2019 on the implementation of the minimum margin available for cross-zonal trade pursuant to Article 16(8) of Regulation 2019/943 (hereinafter "ACER's Recommendation No 01/2019") are used; in particular:

a. "CC MTU" means the capacity calculation market time unit, i.e. the time unit for the considered capacity calculation, and is equal to either DA CC MTU (day-ahead capacity calculation market time unit) or ID CC MTU (intraday capacity calculation market time unit);

b. "CGM" means the common grid model as defined in Article 2(2) of the CACM, and means a CGM established for the considered capacity calculation process for the CC MTU in accordance with the common grid model methodology pursuant to Article 17 of the CACM;

c. "flow-based approach" means the capacity calculation method described in Article 2(9) of the CACM;

d. "MACZT" means the margin available for cross-zonal trade, i.e. the portion of capacity of a CNEC available for cross-zonal trade;

e. "MCCC" means the margin from coordinated capacity calculation, i.e. the portion of capacity of a CNEC available for cross-zonal trade on bidding-zone borders within the considered coordination area;

f. "MNCC" means the margin from non-coordinated capacity calculation, i.e. the portion of capacity of a CNEC available for cross-zonal trade on bidding-zone borders outside the considered coordination area;

g. "NTC" means the (coordinated) net transmission capacity calculation approach, as defined in Article 2(8) of the CACM;

h. "TRM" means the reliability margin as defined in Article 2(14) of the CACM.

(5) The derogations described in the present request are to be applied irrespectively of Member State decisions regarding the CEP 70% requirement.

3.5.3 Article 2. Derogation due to new capacity calculation processes and tools

(1) The first ground to request of derogation from the minimal capacity obligations mandated by CEP 70% requirement is the need for the development of new capacity calculation processes and tools.

(2) The current process of capacity calculation prescribes that the cross-zonal capacities are calculated based on the best forecast of the grid situation in the required time horizon, as known to the Polish TSO at the time frame of capacity calculation. The new changed process resulting from CEP 70% requirement obligations require monitoring the offered capacities in relation to the

CEP 70% requirement, i.e. offering 70% or minimal capacity level resulting from linear trajectory included in the action plan established by Poland.

a. In case of flow-based approach, the minimal capacity obligation will be applicable from the moment new IT tools are implemented in the Core region pursuant to the Core CCM established by ACER. These new IT tools will be able to manage the minimal capacity requirements.

b. Until the Core CCM is implemented, currently used NTC methodology will be applied. Monitoring of minimum capacities in this methodology requires preparation of new processes and implementation of new IT tools.

(3) Considering the fact that by 1 January 2020 all interconnectors managed by the Polish TSOs will be operating in NTC capacity calculation mode, PSE S.A. needs to create dedicated tools for monitoring and verification calculated transmission capacities (NTC) in accordance with the minimum capacity requirements. Such tools need to be created, tested and parametrised.

(4) Changing the capacity calculation approach without proper tooling, tests and parametrization will give rise to risks for secure system operation, especially in absence of coordinated capacity calculation process in Core CCR and lack of relevant regional coordination processes for remedial measures application.

(5) For the above reasons, PSE S.A. requests a time-limited derogation from the minimum capacity obligations for a period of 6 months. This period is needed for the tool development, testing and parametrization, as well as to provide additional information to market participants allowing them to better understand what to expect as a result of minimal capacity requirements.

Part of derogation period from paragraph (5) above will be used as a parallel run, the results of which will be made public to market participants, so that all parties will have a good understanding of the impact of CEP 70% requirement on minimum capacity requirements once these requirements become operational at the end of this derogation period.

3.5.4 Article 3. Derogation due to loop flows

(1) The application of derogations for loop flows above an acceptable level entails the necessity to establish a threshold for acceptable level of loop flows.

(2) The need for establishing such loop flows threshold stems from Article 16(8) prescribing 30% of margin as the limit on loop flows, internal flows and transmission reliability margin, as well as Article 16(13) of Regulation 2019/943, where it is prescribed that loop flows exceeding the threshold for acceptable level shall be considered as liable for covering the costs of remedial measures necessary to manage congestion to which they contribute.

(3) Article 16(8) of Regulation 2019/943 prescribes that loop flows are part of the remaining 30% together with reliability margins and internal flows.

a. TRM is determined by the Core CCM as 10% of CNEC thermal capacity or another value that will be calculated based on the Core CCM.

b. Until Core CCM is implemented to allow for coordinated capacity calculation in the Core CCR, TRM is estimated by PSE S.A. based on the statistical approach by comparing the differences between the expected uncoordinated flows on the Polish borders (loop flows, internal flows and unscheduled transit flows) and the observed uncoordinated flows, by applying a certain level of risk – currently 10%. This risk level is handled by remedial measures available to PSE S.A.

(4) This implies that the maximal level of acceptable loop flows shall be:

a. For cross-zonal CNECs, maximal loop flows shall be:

$$LF_{max} = \left(100\% - MACZT_{min[\%]}\right) \times F_{max} - F_{TRM}$$

b. On internal CNECs, the maximal level of loop flows shall also consider the existence of internal flows. Since internal lines are predominantly to be used for carrying internal flows, the maximal level of acceptable loop flows shall be:

$$LF_{max} = \frac{1}{10}[(100\% - MACZT_{min[\%]}) \times F_{max} - F_{TRM}]$$

where:

LF_{max}	is the maximal level of loop flows on the CNEC;
$MACZT_{min[\%]}$	is the MACZT expressed as a percentage of F_{max}, equal to 70% in case CEP 70% requirement is applied or the level of capacity prescribed in the trajectory established in the action plan;
F_{max}	is the thermal capacity of the CNEC respecting operational security limits;
F_{TRM}	is the reliability margin reserved on each CNEC.

(5) Loop flows are to be estimated at the moment of capacity calculation using the CGM used for this process. In absence of coordinated capacity calculation process on synchronous Polish, this CGM is built by PSE S.A. based on best available information from previous operational planning processes such as among other Day Ahead Congestion Forecast and Intra-Day Congestion Forecast. In order to obtain the level of expected loop flows, CGM is modified to zero-balance by shifting the net positions of the common grid model to zero. Loop flows expected on cross-zonal CNECs will be used to estimate loop flows expected on internal CNECs in order to distinguish them from internal flows expected on these internal CNECs in the zero-balance CGM.

(6) The expected level of loop flows will affect the capacities offered for cross-zonal exchanges. When calculating cross-zonal capacities, in case the CGM used for capacity calculation includes loop flows exceeding the level of maximal allowed loop flows:

a. In case countertrading and redispatching arrangements established on the basis of Articles 35 and 74 of the CACM and Article 76 of the SOGL are implemented allowing for adequate coordination to ensure operational security, the capacities on Polish interconnectors will meet the minimal capacity threshold resulting from CEP 70% requirement.

b. In the absence of the said countertrading and redispatching arrangements, the capacities offered by PSE S.A. on its affected interconnection shall be adequately modified to reflect the PSE S.A. inability to mitigate these loop flows that are beyond its control. This means that for the market time units with such power flow conditions, the capacities on Polish interconnectors will not meet the minimal capacity threshold resulting from CEP 70% requirement, which is the subject of this derogation.

For the above reasons, PSE S.A. requests a time-limited derogation for a period of 1 year, allowing for applying a higher margin for loop flows than the maximal allowance for the sum of loop flows, internal flows and reliability margin, as prescribed in Article 16(8) of Regulation 2019/943. For the period of this time-limited derogation described in Article 3, and subject to paragraphs (6)(a) and (6)(b) above, the margin for loopflows shall be the level of loopflows expected in the CGM used for calculating cross-zonal capacities.

3.5.5 Article 4. Derogation due to uncertainties of the non-coordinated transit flows

(1) The present derogation is based on the framework of MACZT, MCCC and MNCC concepts introduced by ACER's Recommendation No 01/2019.

(2) In case derogations or action plans define minimum MACZT targets (or rules from which such targets can be derived) which differ from 70% of F_{max}, the following equation shall be fulfilled:

$$MACZT(CC\ MTU) = MCCC(CC\ MTU) + MNCC(CC\ MTU) \geq MACZT_{min}\ (CNEC, CC\ MTU)$$

where:

$CC\ MTU$ is the capacity calculation market time unit as defined in Article 1(4)(a);
$MACZT_{min}$ is the minimum MACZT target level derived from the derogation or action plan proceedings for the considered CNEC, timeframe and CC MTU, if applicable.

(3) PSE S.A. calculates cross-zonal capacities for the joint profile consisting of PL-DE, PL-CZ and PL-SK bidding-zone borders. Borders taking part of this, so called, “synchronous profile” are highly interdependent. Hence, the current Polish coordination area – where capacity calculation is fully coordinated – covers Polish critical grid elements constituting the PL-DE, PL-CZ and PL-SK bidding-zone borders.

(4) While MNCC values are expected to decrease in the future, e.g. following the implementation of the CGM methodology and of the CCMs pursuant to the CACM, which will enlarge existing coordination areas to CCRs, the current coordination area for Polish synchronous bidding-zone borders brings high uncertainties of the MNCC for Polish CNECs which need to be considered in the capacity calculation. Further, it needs to be underlined that for the Polish CNECs the character of the MNCC strongly depends on intermittent renewable energy sources generation outside the Polish coordination area.

(5) The uncertainties of the MNCC, i.e. the forecast error of the non-coordinated transit flows which are out of PSE S.A. control, impact the PSE S.A. ability to reach the minimum MACZT targets. This results from the lack of regional coordinated Core CCM. Moreover, lack of regional countertrading and redispatching arrangements established on the basis of Articles 35 and 74 of the CACM and Article 76 of the SOGL implies that there are no adequate tools for managing these uncertainties in a way to ensure operational security.

(6) For the above reasons, PSE S.A. requests a time-limited derogation for a period of 1 year, allowing for dealing with the uncertainties of MNCC. Ensuring operational security requires a dedicated margin for MNCC forecasting errors to be calculated and considered as part of MNCC. Thus, during the period of this derogation and in absence of the coordinated Core CCM and relevant regional countertrading and redispatching arrangements established on the basis of Articles 35 and 74 of the CACM and Article 76 of the SOGL, MNCC for the Polish coordination area and Polish CNECs shall be defined as:

$$MNCC\ = MNCC\ _{CGM} + MNCC_{margin}$$

where:

$MNCC$ is the margin for MNCC to be applied in period derogation pursuant to Article 4
$MNCC_{CGM}$ is the flow induced by cross-zonal exchanges on bidding-zone borders outside the Polish coordination area. This flow is to be computed based on forecasted net positions of bidding zones reflecting trade outside the Polish coordination area and constitutes forecasted non-coordinated transit flow.

$MNCC_{margin}$ is the margin to cover the uncertainties of the forecasted non-coordinated transit flows. The margin is to be calculated in two steps. In the first step, the probability distribution of deviations between the forecasted non-coordinated transit flows at the time of the capacity calculation and the realised non-coordinated transit flows in real time shall be calculated. In the second step, the 90th percentiles of the probability distributions of all CNEs shall be calculated[8]. This means that PSE S.A. applies a risk level of 10% and thereby the margin values cover 90% of the historical forecast errors within the observation period.

[8] In line with the flow reliability margin methodology prescribed in Article 8 of the Core CCM.

3.5.6 Article 5. Extent and duration of the derogation

(1) This request for derogation is applicable to all Polish CNECs taken into account in the day ahead capacity calculation process to the extent specified in each respective Article.

(2) The derogation regarding new processes and tool as detailed in Article 2 is to be applied for a period of 6 months and shall apply to all Polish bidding zone borders.

(3) The derogation regarding loop flows as detailed in Article 3 is requested for 1 year and shall apply to the Polish bidding zone borders belonging to the Core CCR. However, since those concerns are reoccurring issues, this request may be resubmitted at the end of the 1 year period for the next period of maximal duration allowed by Regulation 2019/943.

(4) The derogation regarding the uncertainties of the non-coordinated transit flows as detailed in Article 4 is requested for 1 year and shall apply to the Polish bidding zone borders belonging to the Core CCR. However, since this concern is a reoccurring issue, this request may be resubmitted at the end of the 1 year period for the next period of maximal duration allowed by Regulation 2019/943 or until the Core CCM is in operation.

(5) Subject to regulatory approval and based on the results of the dry run as described in Article 2, the assumed values of the following parameters may be changed to in order to properly reflect operational security limits and at the same time identify opportunities for increasing cross-zonal capacities during the period in which the present derogation is applied :

a. the level of risk determining the TRM as defined in Article 3(3)(b),

b. maximal level of loop flows on internal CNECs defined in Article 3(4)(b), and

c. the level of risk determining $MNCC_{margin}$ as defined in Article 4(6), in conjunction with TRM margin.

3.6. Derogation request of APG from Article 16 (8) of Regulation (EU) 2019/943 of the European Parliament and of the Council on the internal market for electricity pursuant to Article 16(9) of the Regulation

3.6.1 Introduction

(1) In accordance with Article 16(8) of the Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity ("Regulation 2019/943") transmission system operators shall not limit the volume of interconnection capacity to be made available to market participants as a means of solving congestion inside their own bidding zone or as a means of managing flows resulting from transactions internal to bidding zones. The minimum levels of available capacity for cross-zonal trade are reached:

- for borders using a coordinated net transmission capacity approach, the minimum capacity shall be 70 % of the transmission capacity respecting operational security limits after deduction of contingencies, as determined in accordance with the capacity allocation and congestion management guideline adopted on the basis of Article 18(5) of the Regulation 2009/714 (EC) 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 and repealing Regulation ("Regulation 2009/714").
- for borders using a flow-based approach, the minimum capacity shall be a margin set in the capacity calculation process as available for flows induced by cross-zonal exchange. The margin shall be 70 % of the capacity respecting operational security limits of internal and cross-zonal critical network elements, taking into account contingencies, as determined in accordance with the capacity allocation and congestion management guideline adopted on the basis of Article 18(5) of the Regulation 2009/714.

(2) However, in case a transmission system operator cannot comply with the minimum capacity of 70 % to be made available to market participants due to operational security risks on foreseeable grounds, such transmission system operator may request from the relevant regulatory authorities a derogation from Article 16(8) of the Regulation 2019/943. The extent of such derogations shall be strictly limited to what is necessary to maintain operational security and they shall avoid discrimination between internal and cross-zonal exchanges. Before granting a derogation, the relevant regulatory authority shall consult the regulatory authorities of other Member States forming part of the affected capacity calculation regions. In absence of an unanimous decision by the regulatory authorities such decision is incumbent upon ACER.

(3) ACER issued a Recommendation (No. 01/2019), published on 09 August 2019, describing a unified way on how to monitor the capacities made available to the market in relation to the 70% target for all considered timeframes and all coordination areas.

(4) In accordance with the Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on Capacity Allocation and Congestion Management ("CACM Regulation") and the Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation ("SOGL"), TSOs are required to develop and deliver the proposals on the methodologies in which the essential elements related to the coordinated capacity calculation and coordinated usage of non-costly and costly remedial actions are to be defined. The following methodologies have to be submitted by TSOs from the same Capacity Calculation Region ("CCR"):

   a. The Capacity Calculation Methodologies for the Core CCR as referred to in Article 21 of the CACM Regulation ("Core CCM").
   b. The Coordinated Redispatching and Countertrading Methodology for the Core CCR as referred to in Article 35 of the CACM Regulation ("CACM 35").

c. The Redispatching and Countertrading Cost-Sharing Methodology for the Core CCR as referred to in Article 74 of the CACM Regulation ("CACM 74").
d. The operational security coordination methodology for the Core CCR as referred to in Article 76 of the SOGL Regulation ("SOGL 76").

(5) APG is operating the Austrian transmission system for electricity and therefore is ensuring the trans-regional national exchange of electricity as well as the exchange with neighbouring countries between generators and consumers. APG has been certified as Independent Transmission Operator on 12 March 2012.

i. Essentially, the present request refers to the obligation deriving from Article 16 (8) of the Regulation 2019/943 which applies to APG in its role as transmission system operator from 01 January 2020.

(6) After having performed the first preliminary analysis on the concepts of ACER's Recommendation (No. 01/2019), APG cannot conclude with a reasonable certainty whether the cross-zonal capacities could meet the requirement defined in Art 16(8) of the Regulation 2009/714, as of 01 January 2020 due to the following reasons detailed in the provisions below and therefore issues this request for a derogation.

(7) Against this background and pursuant to Article 16 (9) of the Regulation 2019/943, APG files the following request for the grant of a derogation from the obligations laid down under Article 16 (8) of the Regulation 2019/943 in relation to the bidding zone borders AT/DE, AT/CZ, AT/HU and AT/SI.

3.6.2 Article 1: Subject Matter and Scope

(1) APG requests a derogation from the implementation of the minimum margin available for cross-zonal trade of 70% transmission capacity as established in Article 16(8) and in accordance with Article 16(9) of the Regulation 2019/943 for the duration of one year for its Core bidding zone borders AT/DE, AT/CZ, AT/HU as well as AT/SI.

(2) This request for derogation is based on 5 different foreseeable grounds for deviating from the 70% capacity criterion as further described in Article 3 justifying the approval of a derogation.

3.6.3 Article 2: Definitions and abbreviations

CC…	Capacity Calculation
CCR…	Capacity Calculation Region
CEP…	Clean Energy Package
CNE(C)…	Critical Network Element (with Contingency)
CWE…	Central Western Europe
D-2…	Two-Days Ahead
FB…	Flow Based
FBCE…	Flow Based Common Environment
INB…	Italian North Border
MACZT…	Margin Available for Cross-Zonal Trade
minRAM…	minimum Remaining Available Margin
MNCC…	Margin from Non-Coordinated Capacity Calculation
MCCC…	Margin from Coordinated Capacity Calculation
MTU…	Market Time Unit
NP…	Net Position

NTC… Net Transfer Capacity
PST… Phase-Shifting Transformer
RAM… Remaining Available Margin
TRM… Transmission Reliability Margin
TTC… Total Transfer Capacity

3.6.4 Article 3: Foreseeable grounds impacting operational security

Acknowledging that key methodologies from the CACM and SOGL Regulations mentioned in the Introduction are still not implemented in the CCRs in which APG is actively involved as a member TSO, APG cannot count on them in relation to the assessment and fulfillment of CEP 70%, starting as of 1 January 2020. Based on this, the application of the minimum capacity of 70% in accordance with Article 16(8) of the Regulation 2019/943 for borders using a coordinated net transmission capacity and for borders using a flow-based approach from 01 January 2020 on, **endangers the operational security due to the 5 foreseeable grounds stated in Table 1,** which are further elaborated in this Article. These foreseeable grounds are relevant for all Austrian borders of the Core CCR (AT/CZ, AT/HU, AT/SI and AT/DE) if not explicitly specified otherwise.

Table 1. List of foreseeable grounds that endanger the operational security

No.	Description
3.1	Insufficient concepts and IT-Tools for capacity calculation and validation (in line with the Regulation 2019/943) in the different capacity calculation areas
3.2	Insufficient redispatch potential to guarantee the 70% capacity criterion
3.3	Absence of consideration of flows of 3rd countries in the capacity calculation
3.4	Current usage of CNEC capacity > 30% by loop flows and PST flows and lack of cross-CCR coordination
3.5	Uncertainties in the capacity calculation process related to the non-existence of a common coordinated forecast process in Europe

As further elaborated in this Article all these arguments related to the request for derogation pursuant to Art 16(9) of the Regulation 2019/943 are foreseeable, they directly impact APG's operational processes and are of major importance for maintaining the operational security.

1.
2.

3.1. Insufficient concepts and IT-Tools for capacity calculation and validation (in line with the Regulation 2019/943) in the different capacity calculation areas

Referring to Point (4) of the Introduction key methodologies concerning a capacity calculation and validation broadly coordinated in the Core region for the day ahead and intraday timeframe according to the CACM Regulation will not be implemented until the January 1st 2020. It was concluded that APG cannot count on them in relation to the fulfillment of the 70% criterion, starting as of 1st January 2020.

Capacity Calculation at NTC borders: As the Regulation 2019/943 entered into force on 4 July 2019 and the relevant ACER Recommendation (No 1/2019) was published on 9 August 2019, there is a too short time period left for TSOs to adapt current processes related to capacity calculation (evaluation,

development, specification, implementation, testing, training) and be ready to fulfil requirements stemming from Article 16(8), starting from the 1 January 2020. The currently applied NTC methods (at AT/CZ, AT/HU, AT/SI) have been designed in such a way that they follow the ENTSO-E methodology which is based on the calculation of TTC (Total Transfer Capacity) and TRM (Transmission Reliability Margin). The NTC methodology assumes bilateral stepwise increase/decrease of power generation per country and monitoring of the n-1 security criteria relevant for a certain border. By that process the total values of cross-zonal capacity are calculated per border (and not per CNEC). That currently applied method, which is not compliant with the coordinated NTC approach according to the CACM Regulation, has neither been designed to calculate the margins available for cross-zonal trade per CNEC nor to evaluate the influence of commercial trades from the other non-coordinated areas on the elements of the coordinated area or to distinguish between different flow types.

Capacity Calculation at Flow Based (CWE) border (DE/AT): As the Regulation 2019/943 entered into force on 4 July 2019, there is a very short time period left for TSOs to adapt current processes related to flow-based capacity calculation and be ready to fulfil obligations from Article 16(8), starting from the 1 January 2020. The necessary IT changes include the possibility to set the minRAM value per CNEC individually (nowadays only a global setting for all CNECs is possible), while there is also a necessity to have an agreed method (followed by IT development) on how to calculate MNCC values per CNEC. According to the latest information available, only the option to set the minRAM values individually for each CNEC in CWE will be ready in time. Regarding the calculation of MNCC, CWE TSOs have consulted CWE NRAs on open questions for the IT developments. However, for certain points CWE NRAs haven't provided a common guidance yet, e.g. concept for consideration of MNCCs.

Capacity Validation at NTC and Flow Based (CWE) border (DE/AT): The new methods and processes of capacity calculation in line with the requirements of the Regulation 2019/943 (see Capacity Calculation paragraphs above and Article 4) and according to ACER's Recommendation (No. 01/2019) are expected to lead to significantly more volatile MCCC values, which due to the basic principles of the methodology according to the Recommendation can go way beyond the security limits, as first evaluations show. Therefore an additional process step for operational security validation of the calculated capacities is of paramount importance to ensure secure operational conditions. The concepts, methods and IT-tools for this process step are currently not yet available.

Due to the location in the center of the continent, APG is highly exposed to the effects of diverse developments on the electricity sector in many European countries. In this context for APG it is even more critical that the capacity calculation and forecast methods are not yet harmonized and properly coordinated (see Introduction (4)). Hence, such a validation process is of high complexity and has to consider all relevant uncertainties that come along with the current status. It needs to be newly developed and tested thoroughly, to ensure that the capacities calculated under consideration of minimum targets according to the Regulation 2019/943 can be secured in each and every MTU with the remedial actions available.

Without a reliable validation process, along with the new respectively enhanced capacity calculation concepts considering the 70% minimum target, there is no possibility to evaluate if the available remedial actions and especially the redispatch potential after the closure of day-ahead energy market are sufficient to solve potential overloads and to ensure physical firmness of the transmission capacities offered on D-2 level. **This could lead to situations, where higher capacities are given to the market with the goal to fulfil the 70% MACZT criterion, but the redispatch potentials to ensure these capacities are physically not available. This would impose an unbearable risk for operational security and**

endanger security of supply. Currently such a process is not in place yet. A reliable validation process including the relevant IT tools is foreseen to be developed and implemented according to the steps provided in Article 4.

Due to the aforementioned reasons APG is not able to calculate from 1 January 2020 the volume of NTC transmission capacity on its Eastern and South-Eastern borders (AT/CZ, AT/HU, AT/SI) that would comply with the newly designed 70% criteria on at least one limiting CNEC. Concerning the CNECs relevant for the CWE region, the minRAM values to be determined in line with ACER Recommendation (No. 01/2019), that consider exchanges outside of CWE region (MNCC values), can as well not be calculated by 1 January 2020. Even if the capacity calculation in line with CEP 70% requirement would be possible starting from 1st January 2020, without reliable validation processes, it wouldn't be feasible to evaluate if the available remedial actions are sufficient to solve potential overloads and to ensure physical firmness of the transmission capacities offered on D-2 level.

Due to those reasons, APG is not able determine with any appropriate accuracy the 70% cross-zonal capacities to be offered to the market, and in the consecutive step, cannot validate their feasibility by ensuring the network security.

A raise of cross border capacities currently cannot be assessed by APG at capacity calculation stage neither regarding the effect on the 70% targets and nor on the impact on operational conditions. Such an approach would impose an unbearable risk for operational security and seriously endanger security of supply (see as well 3.3).

3.2. Insufficient redispatch potential to guarantee the 70% capacity criterion

Already today APG regularly applies remedial actions including substantial volumes of redispatching to ensure firmness of already allocated capacities and maintain operational security. Studies and analysis performed so far have shown, that the redispatch potential and processes currently available might not be sufficient to guarantee the 70% capacities, starting from 1 January 2020. In fact, an increase of cross-zonal capacities could lead to situations, where the current redispatch potential is not sufficient to ensure a safe grid operation. On top of that, significant uncertainties related to the forecasts of cross-zonal exchanges outside of the respective coordination area (see 3.5) will increase the demand for redispatching capacities even much further. Key methodologies according to the CACM Regulation and SOGL addressing that issue, especially regarding operational security coordination as well as coordinated redispatching and countertrading will not be implemented by 1 January 2020 and will therefore not alleviate that situation. For the sake of completeness it is to be mentioned, that a fair rule for the cost-sharing of RD&CT in line with Article 74 of the CACM Regulation will as well not be implemented by 1 January 2020. **Due to the reasons above a mismatch between the amount of redispatch needed when increasing capacities towards 70% requirements and the currently available redispatch potential is expected by APG, especially under consideration of the currently available methods and processes. Insufficient remedial actions and especially redispatch capacities constitute a high risk for operational security.**

3.3. Absence of consideration of Flows of 3rd Countries in the Capacity Calculation[9]

According to the guidance given by EC in its letter from 16 July 2019, the consideration of the non-EU country flows in the capacity calculation and counting these flows towards the 70% target of MACZT should be possible on the condition that an agreement has been concluded by all TSOs of a CCR with TSO of the third country, approved by the respective NRAs. This agreement should be fully in line with EU capacity calculation principles and rules, and should cover at least:

- Consideration of internal third country constraints for intra-EU capacity calculation
- Consideration of EU internal constraints for capacity calculation on the border with third countries, and
- Cost-sharing of remedial actions

However, the physical flows caused by the 3rd countries are present on the CNECs and cannot be artificially neglected in the calculation process. It also needs to be pointed out that non-consideration of third country flows leads to a different treatment of the EU Members States TSOs with the regard to fulfilment of 70% requirement, with a significant disadvantage for those which are stronger exposed to flows of 3rd countries.

As the cross-zonal capacities of APG are significantly influenced by the import/export of Switzerland, a non-consideration of schedules from/to Switzerland during the determination of MNCCs would lead to a RAM shift towards lower RAMs on the certain APG CNECs and also bring uncertainties. . With a focus on Switzerland different potential options of the inclusion are currently being investigated within the Core CCR in close coordination with the European Commission, ACER and the NRAs of the Swiss neighboring countries. Depending on the resulting solution a contractual framework is planned to be established. Nevertheless the timeline to fulfil all the preconditions related to the inclusion of third countries into the determination of MACZT stated above is very tight. Under consideration of the status and the remaining open issues, it is rather unlikely and not in the sphere of APG that an appropriate contractual framework can be concluded before 1 January 2020. In order to fulfil the 70% requirement without considering CH, APG would need to artificially increase available capacity/RAM on some CNECs. **Based on analysis performed with historical data, some CNECs are highly influenced from third country flows. A further artificial increase of capacity/RAM would increase the risk for operational security risk and endanger the network security.**

3.4. Usage of CNECs capacity >30% by loop or PST flows originating from the other coordination areas (or capacity calculation regions) due to the lack of cross-CCR coordination[10]

According to the Regulation 2019/943, the total amount of 30 % of capacity on each CNE can be used for the reliability margins, loop flows and internal flows. Based on the calculations performed with historical data, the volume of loop flows and PST flows is sometimes substantially higher on some CNECs. **This inevitably leads to the fact that 70% margin available for cross-zonal trade cannot be fully given to the market without additional costs and without endangering network security, as a large amount of capacity is blocked by loop flows (incl. PST flows).** The reason for this can be found in the not yet

[9] Argumentation is valid for all APG CNECs / NTC borders, but especially relevant for the consideration of CH flows in the calculation of DE/AT capacity calculation

[10] Argument is especially valid for the CNECs of CZ/HU/SI coordination area

implemented coordinated capacity calculation methods according to the CACM Regulation in the different CCRs (calculation of loop flows and its limitation is foreseen in the Core CCM), the pending implementation of proper methods for operational security coordination and the non-existence of adequate cross-CCR coordination, as for example between Core and Italy North CCR.

3.5. Uncertainties in the capacity calculation process related to the non-existence of a common coordinated forecast process in Europe

According to the Regulation 2019/943, the reliability margin on a critical network element needs to be contained within 30% of Fmax under consideration of contingencies together with loop flows (incl. PST flows) and internal flows. For the determination of the capacities to be offered for the cross-zonal trade according to ACERs Recommendation (No. 1/2019), netting of flows outside of the coordination area (MNCCs) is envisaged. These MNCCs are to be calculated based on non-coordinated and non-harmonized forecasts. As the coordination areas nowadays are relatively small (especially for NTC methods), and as there is no common, harmonized and reliable net-position or exchange forecast yet implemented in Europe, the application of such a methodology will inevitably lead to large uncertainties which cannot be covered by a such low reliability margin. **Neglecting these evident and foreseeable uncertainties can lead to high overloads and potentially to operational situations where the available remedial action portfolio (incl. redispatch) is insufficient. This would endanger the operational security severely.**

All five foreseeable grounds clearly justify the necessity of the derogation from the implementation of the minimum margin available for cross-zonal trade of 70% transmission capacity as established in Article 16(8) and in accordance with Article 16(9) of the Regulation 2019/943 for maintaining security of supply.
APG made best efforts in the very short timeframe available to analyse the effects of the 70% requirements on operational security conditions as comprehensively as possible, which resulted in the conclusions above. Nonetheless the current level of information is still rather limited and significant uncertainties remain, e.g. on how other member states will implement the Regulation 2019/943 (especially for NTC-Borders), how certain outages and their combination affect the capabilities, lack of operational experience with new methods and processes, etc. Therefore it is currently not yet feasible for APG to assess all the potential effects of the 70% requirements on operational security conditions conclusively. APG will closely monitor the further developments and will resume investigations when further information/experience is available.

3.6.5 Article 4: Steps towards Implementation of the 70% MACZT Criterion

In order to be able to fulfil the requirements of Art 16(8) of the Regulation 2019/943 and to conclude with a reasonable certainty whether the cross-zonal capacities could meet those requirements, APG plans to develop the necessary methods and concepts, as well as the IT tools as an interim step until the relevant key methodologies according to the CACM Regulation and the SOGL are implemented (see Introduction (4)).
This article lists concrete steps and projects to mitigate the foreseeable grounds for derogation as presented in Article 3.

4.1. Mitigation of insufficient concepts and IT-Tools for capacity calculation (in line with Regulation 2019/943) in the different capacity calculation areas

- Until the implementation of the Core CCM, for three NTC borders (AT/CZ , AT/HU, AT/SI), an enhanced calculation methodology which considers mutual interdependences of all three borders will be specified and respective IT-tools will be developed in 2020, followed by the tests and implementation. The calculation tool should enable APG to calculate in a more coordinated manner across the three borders the highest possible NTCs with respect to the 70% requirements and under consideration of reliably maintaining operational security. Before the successful start of operation, operator training will take place.
- Until the implementation of the Core CCM, for the CWE border (DE/AT), a local calculation tool will be developed which should serve as temporary solution, respectively backup, until there is a common calculation methodology implemented in the CWE FBCC. This tool will also enable APG to calculate minRAMs for each CNEC and test their feasibility during the expected parallel run in CWE. An adequate test period is important to a gain experience and information for operations and as well the development of a reliable validation tool (Article 4.2) to ensure operational security.
- Besides the local developments, APG will support the development of the mentioned common calculation, which is foreseen to be available for the CWE region in the coming year.
- In parallel, APG is actively working together with the other Core TSOs to implement the Core capacity calculation methodology in line with the Regulation 2019/943. This methodology is expected to be a major step towards an adequately coordinated capacity calculation in the highly meshed system of Continental Europe and according to the ongoing discussion between Core TSOs and NRAs it is planned to be put into operation mid-2021.

4.2. Mitigation of insufficient concepts and IT-Tools for capacity validation (in line with Regulation 2019/943)

- Until the implementation of Core CCM, it is planned that a new methodology to validate the outcomes of the capacity calculation tools (Article 4.1) will be specified and respective IT-tools will be developed, followed by the tests and implementation.
- In parallel, APG is actively working with the other Core TSOs to implement capacity validation requirements in line with Core CCM and in line with the Regulation 2019/943.

4.3. Mitigations for increasing redispatch potential to guarantee 70% requirement

- Until the submission and implementation of Core methodologies according to Articles 35 and 74 of the CACM Regulation and Article 76 SOGL, APG will further on actively work on gaining access to additional redispatch potentials available in neighboring and non-neighboring countries as an interim improvement. Preliminary assessments show that a higher level or redispatch volumes are required to ensure the cross-zonal capacities calculated in line with the 70% requirements.
- The implementation of the methodologies according to Articles 35 and 74 of the CACM Regulation and Article 75 and 76 SOGL is a further key factor in approaching the 70% minimum targets under secure operational conditions. They are aiming at expanding the available remedial action portfolio, it’s optimized application and a fair distribution of the resulting costs. In parallel to the interim improvement, APG will actively work with the other Core TSOs to submit methodology proposals related to coordinated redispatch and countertrading methodology (incl. cost-sharing methodology) in line with Articles 35 and 74 of the CACM Regulation and Article 76 SOGL and in line with Regulation 2019/943 and subsequently implement those.

4.4. Absence of consideration of flows of 3rd countries in the capacity calculation

- In order to properly consider the flows originating from 3rd countries, APG is actively involved in the Core CCR investigations and discussions on how to integrate 3rd countries in the relevant methodologies.
- With a focus on Switzerland these investigations and developments are currently done in close coordination with the European Commission, ACER and the NRAs of the Swiss neighboring countries.
- Depending on the resulting solution a contractual framework is planned to be established.

4.5. Mitigation of CNEC capacity usage >30% by loop flows and PST flows and lack of cross-CCR coordination

- This foreseeable ground for derogation cannot be solved solely by APG. As the network of APG is located on the edge of two regions, the mutual interaction between the different CCRs is especially visible on APG's CNECs and this requires close coordination and clear rules of network operation especially for the application remedial actions (e.g. control of PSTs), which are currently not in place but are foreseen with the implementation of Articles 21, 35 and 74 of the CACM Regulation as well as Articles 75 and 76 SOGL

4.6. Uncertainties in the capacity calculation process related to the non-existence of a common coordinated forecast process for determination of net positions in Europe

- The application of a capacity calculation process in line with 70% requirements on a relatively small coordination areas leads to large uncertainties which cannot be covered with the low reliability margins.
- An assessment of adequate minimum reliability margins will be performed by APG during the implementation of new capacity calculation and validation tools (Article 4.1 and Article 4.2).

The aforementioned mitigation measures will require a significant amount of human and financial resources. Especially those which are envisaged as individual interim solutions until the relevant key methodologies according to the CACM Regulation and SOGL (see Introduction (4)) are implemented, are expected to be in operation just for a very short time period. Hence the huge effort, interfering with sensible operational processes and potentially restricting the availability of resources for the development of the enduring solutions according the CACM Regulation and SOGL in Core is indeed questionable in the view of APG. A review of the necessary efforts and costs against the short-term benefits and in consequence a guidance on that issue and on the expected way forward from E-Control would be highly appreciated.

3.6.6 Article 5: Duration of the Derogation

APG requests the derogation for one year in accordance with Art. 16.9 of the Regulation 2019/943. In the course of the beginning of next year and provided that the derogation was granted, APG will develop and publish the methodologies and projects that will provide an interim solution to the issues that the request for derogation addresses in line with the steps set forth in Article 4.

This request is applicable for all the APG CNECs used in day ahead calculation in CWE (respecting the applicable PDTF threshold) and all NTC borders within the Core CCR.

In case that the technical grounds described in Article 3 of this derogation request cannot be fully tackled (either by APG or jointly within the Core CCR), before the expiry of the derogation period, APG might have to request a renewal of the derogation. If such a case should occur, APG will provide a detailed justification for a renewal of the derogation.

3.6.7 Article 6: Proportionality regarding maintaining the operational security

In order to maintain operational security, starting from 01.01.2020 and during the validity period of derogation, APG shall make its best efforts to offer the following cross-zonal capacities as average per year:

- For NTC borders (AT/CZ, AT/HU and AT/SI): Per border and direction the values that are at least on the same level (on average per border and per direction) as in the last three years.
- For the FB border (AT/DE): 20% of the thermal limit per CNEC and its direction for the cross-zonal trades within the CWE region, including the current processes of the long-term capacity inclusion.

The scope of the derogation therefore does not go beyond what is necessary to maintain operational security, as set out in Article 3 and does not relate to curtailment of capacities already allocated (Article 8).

3.6.8 Article 7: Non-Discrimination

The proposed derogation aims at the transition from the status quo to the 70% criterion in a non-discriminatory manner. Any currently applicable methodologies with respect to calculating the NTC values or FB capacities or any future methodologies which still need to be developed do and will not contain any measures resulting in a discrimination between internal and cross-zonal exchanges.

3.6.9 Article 8: No curtailment procedures of capacities already allocated pursuant to Art 16 Abs 2

The proposed derogation shall apply solely to the determination of capacities on all Core CCR borders of APG, which will be made available for cross-zonal exchanges. The derogation does not provide any grounds for the curtailing of any already allocated capacities. Curtailments of already allocated capacities remain subject to respective Network Codes/Guidelines.

3.6.10 Article 9: Request

For all the above mentioned reasons, and as previously mentioned in Article 1, APG, in accordance with Article 16 (9) of Regulation 2019/943 seeks to be granted a request for derogation from the obligations under Article 16 (8) of Regulation (EC) No 2019/943 with regard to the bidding zone borders AT/DE, AT/CZ, AT/HU and AT/SI for the a period of one year.

3.7. Derogation request of HOPS from Article 16 (8) of Regulation (EU) 2019/943 of the European Parliament and of the Council on the internal market for electricity pursuant to Article 16(9) of the Regulation

Dear Sir/Madam,

In Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity (hereinafter: Regulation), Article 16, paragraph 8 prescribes:

> *Transmission system operators shall not limit the volume of interconnection capacity to be made available to market participants as a means of solving congestion inside their own bidding zone or as a means of managing flows resulting from transactions internal to bidding zones. Without prejudice to the application of the derogations under paragraphs 3 and 9 of this Article and to the application of Article 15(2), this paragraph shall be considered to be complied with where the following minimum levels of available capacity for cross-zonal trade are reached:*
>
> *(a) for borders using a coordinated net transmission capacity approach, the minimum capacity shall be 70% of the transmission capacity respecting operational security limits after deduction of contingencies, as determined in accordance with the capacity allocation and congestion management guideline adopted on the basis of Article 18(5) of Regulation (EC) No 714/2009;*
>
> *(b) for borders using a flow-based approach, the minimum capacity shall be a margin set in the capacity calculation process as available for flows induced by cross-zonal exchange. The margin shall be 70 % of the capacity respecting operational security limits of internal and cross-zonal critical network elements, taking into account contingencies, as determined in accordance with the capacity allocation and congestion management guideline adopted on the basis of Article 18(5) of Regulation (EC) No 714/2009.*
>
> *The total amount of 30 % can be used for the reliability margins, loop flows and internal flows on each critical network element.*

Hereinafter, compliance with Article 16, paragraph shall be referred to as compliance with the 70% target.

The said Regulation will be effective starting 1 January 2020, and as of that date, the 70% target should be fulfilled at the Croatian borders with its neighbouring Member States (HR-SI and HR-HU), i.e. at bidding zone borders that fall within the area of application of the Regulation.

Based on the currently available data, the Croatian System Transmission Operator Ltd. (hereinafter: HOPS), has assessed that the **70% target is not met** at either of the above borders, and pursuant to Article 16, paragraph 9 of the Regulation, which stipulates:

> *At the request of the transmission system operators in a capacity calculation region, the relevant regulatory authorities may grant a derogation from paragraph 8 on foreseeable grounds where necessary for maintaining operational security. Such derogations, which shall not relate to the*

curtailment of capacities already allocated pursuant to paragraph 2, shall be granted for no more than one-year at a time, or, provided that the extent of the derogation decreases significantly after the first year, up to a maximum of two years. The extent of such derogations shall be strictly limited to what is necessary to maintain operational security and they shall avoid discrimination between internal and cross-zonal exchanges.

Before granting a derogation, the relevant regulatory authority shall consult the regulatory authorities of other Member States forming part of the affected capacity calculation regions. Where a regulatory authority disagrees with the proposed derogation, ACER shall decide whether it should be granted pursuant to point (a) of Article 6(10) of Regulation (EU) 2019/942. The justification and reasons for the derogation shall be published. Where a derogation is granted, the relevant transmission system operators shall develop and publish a methodology and projects that shall provide a long-term solution to the issue that the derogation seeks to address. The derogation shall expire when the time limit for the derogation is reached or when the solution is applied, whichever is earlier,

hereby submits its request for a derogation from the requirements prescribed under Article 16(8) of the Regulation, in the sense of application to the borders between Croatia and Slovenia, and between Croatian and Hungary, to all critical elements of the transmission network, for a period of one year, beginning on 1 January 2020 to 31 December 2020, i.e. to the start of the application of the methodology prescribed under Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline for capacity allocation and congestion management (hereinafter: CACM Regulation) in the Core region for capacity calculation (hereinafter: Core CCR), with regard to the regional day-ahead capacity calculation, and the manner of activation and costs sharing for redispatching and countertrading.

The details of the conducted procedure to assess compliance with the 70% target, and the reasons for submission of this application for derogation are outlined below.

3.7.1 Introduction

Currently at all borders (HR-SI, HR-HU, HR-BA, HR-RS), HOPS determines the amount of available cross-zonal capacities **at a monthly level** using the **net transmission capacity** approach (bilateral NTC calculation).

The monthly NTC is still determined on the basis of the MLA Operation Handbook, Policy 4: Coordinated Operational Planning, chapter Capacity Calculation. Even though the Operation Handbook has been formally not in force anymore since 14 April 2019 (since the entry into effect of the Synchronous Area Framework Agreement (SAFA) for Regional Group Continental Europe), considering that the application of the target method of a flow-based approach to capacity calculation (hereinafter: Core DA FB CC) has not yet begun in the Core CCR as prescribed under the CACM Regulation, the method prescribed in the Operation Handbook is applied, as stipulated under the bilateral operational agreements between HOPS and ELES (for the HR-SI border) and between HOPS and MAVIR (for the HR-HU border).

The above **uncoordinated** manner of capacity calculation enables an individual transmission system operator (hereinafter: TSO) to take into account all elements of the transmission network during the NTC calculation (including internal network elements), including those that are not directly associated with cross-zonal trading. The only coordination that exists between two TSOs, in the sense of determining cross-zonal capacities, is that after the independent NTC calculation, the lower value is taken as the joint NTC offered at auction.

The NTC value for the day-ahead (DA) market is not calculated. The values of capacities offered on the day-ahead market are determined on the basis of the monthly NTC values, in which those values are determined in the manner in which the security criteria are met for each market unit in that month.

3.7.2 Methods of calculating compliance with the 70% target

The assessment of compliance with the requirements prescribed under the Regulation are based on the ACER document "*Recommendation No 01/2019 of the European Union Agency for the Cooperation of Energy Regulators of 08 August 2019 on the implementation of the minimum margin available for cross-zonal trade pursuant to Article 16(8) of Regulation (EU) 2019/943" (hereinafter: ACER Recommendation)*, which is aimed at securing uniform access in application of the Regulation. Namely, pursuant to the conclusions of working meetings/working groups at the ENTSO-E and Core CCR levels, **it became evident that there are differences in the interpretation of certain provisions of this Regulation**, which has since been reduced, though not completely resolved, with the publication of the ACER Recommendation.

HOPS has conducted an assessment of compliance with the 70% target, taking into account the critical network elements (hereinafter: CNE) and unpredictable cases, i.e. contingencies of certain network elements (hereinafter: C) based on historical data for the calculation of monthly NTC values at the borders with Slovenia and Hungary. However, due to the previously outlined uncoordinated determination of the NTC and lack of a day-ahead NTC calculation, a series of assumptions and simplifications were also applied.

To assess the future state as of 1 January 2020, HOPS applied an adapted reference model. The network models for which the capacity available for cross-border trade are met in the analysis are not uniformly determined (seasonally, monthly, daily or hourly) until the day-ahead calculation is established, pursuant to the CACM Regulation, which prescribes that such calculations are based on D-2 models. Namely, the Operation Handbook recommends that the uncoordinated manner of capacity calculations for the network model should be in accordance with the cycle of capacity calculation, which in this specific case would mean that the 70% target has been met, which according to the ACER Recommendation made for the offered capacities at the D-1 level, should be conducted on the model developed for D-2. Such a model is currently not developed, and due to the cessation of validity of the Operation Handbook, no other model to be used in calculations has been prescribed; instead, it is recommended that the model be adapted in accordance with the best assessment of the state of the network. HOPS, like other TSOs, cannot have the data for development of the D-2 model without exchanges with other TSOs, and instead can only more or less successfully estimate these data (i.e. data on network switching conditions, distribution of production, generation load shift keys (GLSK), cross-border exchanges, etc.).

For the purpose of assessment of the state of the network, data from the following reports were considered: “2018 Ten Year Network Development Plan” (released by ENTSO-E), “Ten Year Transmission Network Development Plan 2019-2028 with detailed outline for the initial 3-year and 1-year periods“ (released by HOPS), and the preliminary availability plan of relevant assets (drafted in accordance with Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation (hereinafter: SO GL Regulation) for 2020.

From the above, it is evident that, considering the deadlines set by the SO GL Regulation, at the time of writing this request for derogation, the said preliminary plan has not yet completed the alignment phase with other TSOs, and can at this time only be considered indicative, and certainly not reliable. The data from these documents have been considered during the assessment of the state of the network.

Calculation on the adapted models have been conducted for the purpose of assessing the fulfilment of criteria as prescribed by Article 16(8) of the Regulation, both in the case of the currently applied uncoordinated bilateral calculation of NTC capacities, and in the case of the planned future Core DA FB CC.

The NTC values used during this calculation are not a fully relevant reflection of the cross-zonal capacity for HOPS, as in accordance with the Operation Handbook, the minimum values calculated by the TSOs within the coordination area (HR-SI and HR-HU) have been selected. This means that certain NTC values may be a reflection of network constraints of the neighbouring TSO (limiting elements are present outside the HOPS network, and within the coordination area).

Due to the shape and size of the Croatian electricity system, and the significant interdependencies of flows at certain borders, HOPS has given particular attention to the impact of third-country flows in its calculation, e.g. countries with which it borders but which do not fall within the area of application of the Regulation (HR-BA (Bosnia-Herzegovina) and HR-RS (Serbia)). Namely, in its letter to ACER and ENTSO-E of 16 July 2019, the European Commission established that flows resulting from cross-zonal trading with third countries may be taken into consideration only if an agreement has been concluded with all TSOs of the region for capacity calculation (for Croatia, that is the Core CCR) and the third countries.

Following the approval of the competent regulatory bodies of the Core CCR, such an agreement becomes an integral part of the capacity calculation methodology, which means that it must be fully aligned with the principles of capacity calculation as envisaged under EU regulations. Therefore, the currently applied uncoordinated capacity calculation method cannot be the subject of the impact of third-country flows. It is clear that the ACER Recommendation permits the consideration of the impact of such flows, though ultimately, HOPS cannot know whether the concluded agreement will appropriately contribute or hinder the compliance with the 70% target.

Following from this, it is evident that HOPS cannot adopt the action plans envisaged under Article 15 of the Regulation, which would be transposed into the network development plans, as without good quality input parameters, it is not possible to conduct a cost benefit analysis.

Furthermore, the criteria for assessing compliance with Article 16(8) of the Regulation are ambiguous, as a literal interpretation of the provisions could be that general compliance has been achieved only if abiding by compliance at each border, in each direction, and for each market unit, which is virtually impossible to fulfil. Therefore, the question arises concerning the criteria for assessment compliance with the

requirements from Article 16(8) of the Regulation, and consequently responses are required to the following questions:

- Is the capacity offered on the intra-day market taking into consideration, and if yes, is this taking into consideration always, or only in certain (justifiable) situations?
  ii.
- Are the criteria applied in both directions, or only in the direction with the positive shadow price, i.e. for the direction in demand by market participants?

- Is a reduction of the transmission capacities due to unavailibility caused by network element maintenance taking into account, i.e. can the offered capacities be reduced in that case?
  iii.
- How can uncertainties in capacity calculations due to possible incorrect capacity calculation calculations in neighbouring regions be taken into account?

3.7.3 Conclusion

Taking the above facts and circumstances into account, **HOPS considers that operational system security will be threatened if the 70% target is in effect as of 1 January 2020**.

The arguments behind the HOPS conclusion lie in the following three reasons:

1) At this time, HOPS is not able to calculate the Margin Available for Cross Zonal Trade (MACZT) with satisfactory certainty, which in the case of an inaccurate assessment of the capacity available for cross-zonal trade could directly threaten the security of the operation of the system, if HOPS would permit the allocation of excessive quantities of cross-zonal capacities on the day-ahead market. That would mean that HOPS would be required to guarantee, i.e. secure that capacity using limited resources, even if the input assumptions used for the calculation of cross-zonal capacities would significantly differ from the actual state in the network. Calculation ambiguities are as follows:

- It is not possible to envisage the impact of flows from neighbouring countries, as there is high uncertainty in assessing cross-zonal trading due to the current manner of calculating cross-zonal capacities, which is not in compliance with the target model as prescribed by the CACM Regulation (the information required to create reliable D-2 models needed to calculate capacities for D-1 allocations are not being exchanged);
- The calculation of cross-zonal trading at borders with third countries has not been taken into account – in the time up to the conclusion of an agreement between all TSOs from the CCR (in this case the Core CCR) and third countries, it is possible that the TSOs within this CCR (in this case the Core CCR) have not adequately assessed the impacts from third-country flows (due to the bilateral NTC approach to third countries, inadequate availability of data, etc.);
- The action of neighbouring Member States in the sense of compliance with the 70% target is not known, which can result in amendments to usual patterns of power flows– it can be assumed that certain remedial actions will be taken, or perhaps excessive capacities will be allocated unjustifiable in order to comply with the 70% target, which thereby means it is possible that the N-1 condition will occasionally not be met (conscious taking of the risk of cascading contingencies outages of network elements),
- A new network element in the surroundings that may have an impact is the HVDC submarine cable between Italy and Montenegro, that will become operational at the end of this year, though the coordination procedures between TSOs upon which this cable will have the greatest impacts have not yet been developed (CGES, ELES, HOPS, NOS BiH, Terna), i.e. between the competent regional security coordinators (hereafter: RSCs), both in the planning phase and in real-time operation. Higher reliability limits must be determined for the development of such procedures

while calculating cross-zonal capacities, in order to consider the cases of cable contingencies or sudden changes in power being transmitted.

2)

To secure 70% of the available capacity on CNECs, a larger engagement of all remedial measures would be necessary, in particular redispatching. Currently, HOPS possesses very limited resources for active redispatching, which relates to:

- Lack of an appropriate legal framework – "Rules for congestion management within the Croatian electric power system (EPS), including tie lines" is currently in the process of alignment and approval before the relevant regulatory body, which may not be completed prior to 1 January 2020. Until that approval, HOPS may not adequately use the resources within the Croatian EPS, as there is no adequate activation mechanism and means to the costs sharing of redispatching activation. The same also applies for the situation in Core CCR, where the rules for redispatching and countertrading (RD & CT) at the level of the Core CCR, and the rules for sharing such costs, are still in the adoption process,
- Lack of appropriate partner agreements – HOPS has limited capabilities to influence cross-zonal trading at the borders HU-HR and HR-SI due to the lack of appropriate remedial measures for resolving congestion at those borders, e.g. caused byloop flows in central Europe, as there are no bilateral contracts with neighbouring TSOs concerning redispatching. At this time, only the "Multilateral Redispatch Agreement (MRA) of Central-European TSO Security Cooperation (TSC)" (hereinafter: MRA) is in effect, which can be used to influence congestion in Central Europe. However, participation in this agreement is not nearly a sufficient tool to activate the expected activation amounts. Namely, HOPS participates in this MRA with a restricted amount of EUR 200,000 per year, which is not sufficient for the expected needs. Furthermore, the MRA is not a reliable remedial measure, as the participation of other TSOs that could aid in resolving the usual congestion in the Croatian EPS (primarily ELES and MAVIR) is not binding.

3)

With regards to long-term disconnections in 2020, during this period, a disconnection is planned due to works to replace conductors at the OHL 220 kV Konjsko – Zakučac, which will reduce the transmission capacities of the grid and the possibility for remedial measures that would assist in meeting the 70% target, which would negatively impact the security of system operation.

Bearing in mind the outstanding issues pertaining to the operational security of the system, HOPS takes in account that the following solutions are possible:

- Amendment to the bidding zone configuration,
- Action plan,
- Request for temporary derogation from compliance with the 70% target.

With regard to amending the bidding zone configuration, it was concluded that due to the uncertainty of the calculation, the need for wide-reaching coordination with other TSOs, high cost of implementation, insufficient human resources needed for implementation, and ultimately the questionability of achieving satisfactory results, amending the bidding zone will not be pursued.

In anticipation of an action plan as a possible solution, the key premise is that the action plan results in additional investments in construction of transmission networks, which means corrections to the Development plan of the HOPS transmission network. This in turn implies a cost-benefit analysis to

determine the justification of individual investments of the TSO, which should be evaluated with respect to the issue of unreliable calculations. This ultimately could lead to unnecessary (*stranded*) investments in the network (overinvestment) or insufficient investments in the network (underinvestment). Furthermore, some of the analysed solutions include multinational plans, which require even longer time for preparation.

Therefore, we believe that an Action plan may be a realistic future option, after the current unreliable input parameters for cross-zonal capacity calculation and for assessment to determine the justification of investment are ascertained with a sufficient degree of certainty.

Therefore, pursuant to Article 5.3 of the ACER Recommendation:

> *MNCC values are expected to decrease in the future, e.g. following the implementation of the CGM methodology and of the CCMs pursuant to the CACM Regulation, which will enlarge existing coordination areas to CCRs. Further, after the CCMs pursuant to the CACM Regulation are implemented, TSOs should further work on increasing the size of CCRs (which is expected gradually to diminish the flows resulting from cross-zonal exchanges outside CCRs) and, where such increase would not be efficient, to implement advanced hybrid coupling (which is expected to consider the flows resulting from cross-zonal exchanges outside CCRs within MCCC). However, until TSOs are able to implement the above-mentioned solutions, regulatory authorities and the Agency should recognise that, in some cases, the high uncertainties related to forecast cross-zonal exchanges outside coordination areas may result in a higher reliability margin in relation to cross-zonal exchanges outside the coordination area and may impede the ability of TSOs to reach the MACZT target. In such cases, the temporary relaxation of the MACZT target (e.g. through derogations) might be an appropriate instrument.*

HOPS has decided to submit a request for derogation from compliance of the 70% target, as prescribed in Article 16(9) of the Regulation, since it deems that the requested derogation period could be used to undertake measures aimed at achieving compliance with the 70% target and perform additional analyses that will lead to permanent compliance with the 70% target.

The measures that HOPS will take with the aim of complying with the 70% target:

HOPS will work in cooperation with other TSOs to remove the above mentioned reasons for the requested derogation from Article 16(8) of the Regulation, particularly with regard to the rapid implementation of the Core DA FB CC, and to establish coordinated redispatching and countertrading activation as well as cost sharing in accordance with Articles 35 and 74 of the CACM Regulation, as it deems that its implementation is a necessary requirement to comply with the 70% target.

HOPS will actively support all initiatives to conclude agreements between all TSOs from the Core CCR and TSOs from Serbia and Bosnia and Herzegovina, in order to regulate the mutual taking in account flows created from trading at cross-zonal borders of significance, which is key to ensuring the operational security of all edge countries of the Core CCR.

Furthermore, HOPS will actively support the establishment of a regional coordination for operational security, and the establishment of interregional cooperation of the competent RSCs, i.e. in order to more reliably predict the impacts of the HVDC cable between Italy and Montenegro.

HOPS will continue to improve the quality of capacity calculation, and the procurement of the appropriate software support to facilitate this is currently underway.

HOPS will give particular attention to planning and shortening the duration of works on grid elements whose unavailbility may cause reductions in transmission capacities.

Following from the above, HOPS is hereby submitting its request for derogation from the requirement prescribed by Article 16(8) of the Regulation, and is available to provide additional documentation and explanation as required.

Sincerely,

President of Management Board:

Tomislav Plavšić, Ph.D.

Enclosures:

- Results of the calculation made on reference models
- Recommendation No.01/2019 ACER of 8 July 2019 on the application of minimal margin available for cross-zonal trade pursuant to Article 16(8) of Regulation (EU) 2019/943 (English original)
- Letter of the European Commission to ACER and ENTSO-E on capacity calculations and third countries of 16 July 2019 (English original)

3.8. Derogation request of TenneT TSO B.V. from the minimum level of capacity to be made available for cross-zonal trade in accordance with Article 16 (8) of Regulation (EU) 2019/943 of the European Parliament and of the Council on the internal market for electricity pursuant to Article 16(9) of the Regulation

THE DUTCH TRANSMISSION SYSTEM OPERATOR TENNET TSO B.V. TAKING INTO ACCOUNT THE FOLLOWING,

3.8.1 Whereas

(1) Article 16(8) of the Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity (recast), hereinafter the "Regulation 2019/943", prescribes that TSOs shall not limit the volume of interconnection capacity to be made available to market participants as a means of solving congestion inside their own bidding zone, or as a means of managing flows resulting from transactions internal to bidding zones. The same article also defines that this requirement shall be considered to be complied with if a minimum level of available capacity for cross-zonal trade is reached. For borders using a flow-based approach, this level (hereinafter referred to as the "70% requirement") is set to 70% of the capacity respecting operational security limits of internal and cross-zonal critical network elements taking into account contingencies (hereinafter referred to as "CNECs"). Transitory measures, such as action plans pursuant to Article 15 of the Regulation 2019/943 or derogations pursuant to Article 16(9) of the same regulation, allow a step-wise approach for reaching this minimum capacity ultimately by 31 December 2025.

(2) Article 16(9) of Regulation 2019/943 prescribes that upon request of transmission system operators in a capacity calculation region, the relevant regulatory authorities may grant a derogation from the 70% requirement on foreseeable grounds where necessary for maintaining operational security. The derogation shall be granted for no more than one year at a time, or, provided that the extent of the derogation decreases significantly after the first year, up to a maximum of two years. The extent of such a derogation shall be strictly limited to what is necessary to maintain operational security and shall avoid discrimination between internal and cross-zonal exchanges.

(3) Article 16(4) of Regulation 2019/943 prescribes that counter-trading and redispatch, including cross-border redispatch, shall be used to reach the 70% requirement. However, this article stipulates that the application of cross-border measures is subject to the implementation of a redispatching and counter-trading cost sharing methodology. This methodology is not yet implemented in the capacity calculation regions in which TenneT TSO B.V. (hereinafter referred to as "TenneT") is a represented member.

(4) The 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") and the Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation (hereinafter referred to as the "SOGL Regulation") require TSOs to deliver some methodologies which are key to managing the flows in the electricity grid via coordinated capacity calculation and coordinated application of remedial actions. These key methodologies are:

   a. The Day-Ahead Capacity Calculation Methodology for the Core Capacity Calculation Region as referred to in Article 21 of the CACM Regulation (hereinafter referred to as "Core DA CCM");

   b. The operational security coordination methodology as referred to in Article 76 of the SOGL Regulation (hereinafter referred to as "SOGL 76 methodology");

   c. The coordinated redispatching and countertrading methodology as referred to in Article 35 of the CACM Regulation (hereinafter referred to as "CACM 35 methodology"); and

   d. The redispatching and countertrading cost sharing methodology as referred to in Article 74 of the CACM Regulation (hereinafter referred to as "CACM 74 methodology").

Acknowledging that all the key methodologies from the CACM Regulation and SOGL regulation are not yet implemented, TenneT cannot rely on these methodologies in order to implement the 70% requirement per 1 January 2020 on a structural basis.

(5) The rationale and objectives of this derogation have been studied and discussed between TenneT, the Dutch national regulatory Authority for Consumers and Markets (hereinafter "ACM"), and the Dutch State.

(6) TenneT has investigated for the period January 2017 until July 2019 the extent in which the 70% requirement is met for the capacity made available by TenneT for cross-zonal trade in the day-ahead market. Based on these findings it became clear that the 70% requirement was not reached to a large extent, also when a possible derogation for loopflows would be taken into account. On the basis of this investigation, TenneT has identified structural congestions in the Dutch transmission network in the context of applying the minimum capacity in accordance with Article 16(8) of Regulation 2019/943. TenneT has shared the outcome of this analysis in a report (hereinafter, "structural congestion report"). which has been submitted for approval to ACM in accordance with Article 14(7) of Regulation 2019/943.

(7) In order to be compliant with the Regulation 2019/943, TenneT decided to apply for a derogation from the 70% requirement on the basis of the foreseeable ground that in case of approval of the submitted structural congestion report and a possible subsequent decision by the Dutch State to establish an action plan in accordance with Article 15 of the Regulation 2019/943, insufficient time is available to implement this action plan before 1 January 2020 for the following reasons:

a. The short time between the publication of Regulation 2019/943 and the entry into force of the 70% requirement, together with:

    1. the discussions related to the interpretation of the Regulation 2019/943 at national, regional and European level;

    2. the discussion related to the requirements of a structural congestion report at national level;

    3. the study performed by TenneT on request of the ACM on the extent in which the 70% requirement is met for the capacity made available for cross-zonal trade in the day-ahead market

    4. The time needed to develop an action plan including a linear trajectory

    5. The time required for the development of new tools and automated processes to correctly determine the minimum capacity available for cross-zonal trade according to the linear trajectory defined by an established action plan

    does not allow sufficient time to have a possible action plan implemented by 1 January 2020.

b. Additional studies by TenneT are required on the future grid situation in order to provide the Dutch State with enough information to make an informed decision on the required actions in order to reach the 70% requirement by 31 December 2025.

c. In general, the possible decision by the Dutch State to establish an action plan in accordance with Article 15 of the Regulation 2019/943 would lead to the undesired situation of entry into force of the 70% requirement before the action plan is established ultimately six months after the identification of structural congestions in accordance with Article 15(7) of Regulation 2019/943.

(8) This request for derogation is compliant with the Regulation 2019/943, more specifically Article 16(9), since:

a. The grounds to request a derogation are foreseeable, as set out in paragraph 6 and 7.

b. The derogation is required to maintain operational security as set out in paragraph 7.

c. The extent of the derogation is strictly limited to what is necessary as set out in Article 4(2).

SUBMITS THE FOLLOWING REQUEST FOR DEROGATION FROM THE IMPLEMENTATION OF THE MINIMUM LEVEL OF CAPACITY TO BE MADE AVAILABLE FOR CROSS-ZONAL TRADE FOR APPROVAL TO THE AUTHORITY FOR CONSUMERS AND MARKETS

3.8.2 Article 1. Subject matter and scope

(1) This request for derogation is a request of TenneT to derogate from the implementation of the minimum capacity available for cross-zonal trade as established in Article 16(8) and in accordance with Article 16(9) of the Regulation 2019/943.

(2) This request for derogation is based on additional time needed for the implementation of a possible action plan as detailed in 3.8.4 and justified in paragraph 7 of the whereas section.

(3) This request for derogation is subject to approval by ACM in accordance with Article 16(9) of the Regulation 2019/943.

3.8.3 Article 2. Definitions and interpretation

(1) For the purpose of this request for derogation, the terms used in this document shall have the meaning of the definitions included in Article 2 of the Regulation 2019/943, Article 2 of the CACM Regulation, Article 2 of the Core DA CCM and the Central-Western Europe (hereinafter referred to as “CWE”) Flow-Based Market Coupling Approval Package.

(2) In this derogation request, unless the context requires otherwise:

a. the singular indicates the plural and vice versa;

b. the table of contents, headings and examples are inserted for convenience only and do not affect the interpretation of this derogation request;

c. any reference to legislation, regulations, directive, order, instrument, code or any other enactment shall include any modification, extension or re-enactment of it then in force.

3.8.4 Article 3. Possible action plan

(1) A transition period will be applied in case the Dutch State decides to establish an action plan in accordance with Article 15 of Regulation 2019/943.

(2) During this transition period, TenneT will continue to apply the current approved methodology and practices in the CWE coordination area to the operational day-ahead capacity calculation process in CWE. For the avoidance of doubt, the current methodology in the CWE region includes the application of a minimum capacity for cross-zonal trade on each CNEC within the CWE region equal to 20% of the maximum capacity according to the operational security limits.

3.8.5 Article 4. Extent and duration of the derogation

(1) This request for derogation is applicable to all Dutch CNECs participating to the CWE day-ahead capacity calculation process.

(2) The derogation is requested for the period starting from 1 January 2020 until the implementation date in accordance with Article 14(10) of Regulation 2019/943 as defined by the establishment of an action plan.

(3) This derogation will apply, as of its approval by ACM, starting from 1 January 2020.

3.8.6 Article 5. Language

(1) The reference language for this derogation request shall be English.

3.8.7 Article 6. Confidentiality

(1) The information provided by TenneT to ACM for this derogation request does not have to be treated as confidential unless stated or agreed otherwise.

..

3.9. Derogation request of TenneT TSO B.V. from the minimum level of capacity to be made available for cross-zonal trade in accordance with Article 16 (8) of Regulation (EU) 2019/943 of the European Parliament and of the Council on the internal market for electricity pursuant to Article 16(9) of the Regulation

THE DUTCH TRANSMISSION SYSTEM OPERATOR TENNET TSO B.V. TAKING INTO ACCOUNT THE FOLLOWING,

3.9.1 Whereas

(1) Article 16(8) of the Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity (recast), hereinafter the "Regulation 2019/943", prescribes that TSOs shall not limit the volume of interconnection capacity to be made available to market participants as a means of solving congestion inside their own bidding zone, or as a means of managing flows resulting from transactions internal to bidding zones. The same article also defines that this requirement shall be considered to be complied with if a minimum level of available capacity for cross-zonal trade is reached. For borders using a flow-based approach, this level (hereinafter referred to as the "70% requirement") is set to 70% of the capacity respecting operational security limits of internal and cross-zonal critical network elements taking into account contingencies (hereinafter referred to as "CNECs"). Transitory measures, such as action plans pursuant to Article 15 of the Regulation 2019/943 or derogations pursuant to Article 16(9) of the same regulation, allow a step-wise approach for reaching this minimum capacity ultimately by 31 December 2025.

(2) Article 16(9) of Regulation 2019/943 prescribes that upon request of transmission system operators in a capacity calculation region, the relevant regulatory authorities may grant a derogation from the 70% requirement on foreseeable grounds where necessary for maintaining operational security. The derogation shall be granted for no more than one year at a time, or, provided that the extent of the derogation decreases significantly after the first year, up to a maximum of two years. The extent of such a derogation shall be strictly limited to what is necessary to maintain operational security and shall avoid discrimination between internal and cross-zonal exchanges.

(3) Article 16(4) of Regulation 2019/943 prescribes that counter-trading and redispatch, including cross-border redispatch, shall be used to reach the 70% requirement. However, this article stipulates that the application of cross-border measures is subject to the implementation of a redispatching and counter-trading cost sharing methodology. This methodology is not yet implemented in the capacity calculation regions in which TenneT TSO B.V. (hereinafter referred to as "TenneT") is a represented member.

(4) The 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") and the Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation (hereinafter referred to as the "SOGL Regulation") require TSOs to deliver some methodologies which are key to managing the flows in the electricity grid via coordinated capacity calculation and coordinated application of remedial actions. These key methodologies are:

   a. The Day-Ahead Capacity Calculation Methodology for the Core Capacity Calculation Region as referred to in Article 21 of the CACM Regulation (hereinafter referred to as "Core DA CCM");

   b. The operational security coordination methodology as referred to in Article 76 of the SOGL Regulation (hereinafter referred to as "SOGL 76 methodology");

   c. The coordinated redispatching and countertrading methodology as referred to in Article 35 of the CACM Regulation (hereinafter referred to as "CACM 35 methodology"); and

   d. The redispatching and countertrading cost sharing methodology as referred to in Article 74 of the CACM Regulation (hereinafter referred to as "CACM 74 methodology").

Acknowledging that all the key methodologies from the CACM Regulation and SOGL regulation are not yet implemented, TenneT cannot rely on these methodologies in order to implement the 70% requirement per 1 January 2020 on a structural basis.

(5) The rationale and objectives of this derogation have been studied and discussed between TenneT, the Dutch national regulatory Authority for Consumers and Markets (hereinafter "ACM"), and the Dutch State. In order to be compliant with the Regulation 2019/943, TenneT decided to apply for a derogation from the 70% requirement on the basis of three foreseeable grounds.

(6) The first foreseeable ground to request a derogation is an externality, being that loop flows on Dutch CNECs cannot be contained to an acceptable level, which contributes in creating an operational security risk if the 70% requirement would be directly applied per 1 January 2020:

a. From Article 16(8) of Regulation 2019/943 it can be understood that the maximum acceptable level of loop flows is defined as the amount of loop flows which, together with the reliability margins and the internal flows, uses 30% of capacity of a CNEC respecting their operational security limits.

b. Historical analyses of data from the period January 2017 until July 2019 have shown that the average level of loop flows on Dutch presolved CNECs is usually above 30% of the total power flow and can amount up to almost full capacity usage on specific hours, which is exceeding the level that would allow meeting the requirements set in Article 16(8) of the Regulation 2019/943.

c. Loop flows created in neighbouring bidding zones are a consequence of their grid topology in combination with a sub-optimal generation and load distribution which cannot expected to be contained by using the redispatching potential available in the Netherlands. Phase Shifting Transformers located at the North-Eastern border of the Netherlands can help partially limiting the loop flows, but even an optimised utilisation of these transformers is not expected to be sufficient to contain the level of loop flows historically observed.

d. Considering the possibility for Member States to implement an action plan in accordance with Article 15 of the Regulation 2019/943 and the fact that a structural congestion report has been handed in to the German State, TenneT expects that identified structural congestions in neighboring bidding zones will not disappear on short term. Consequently, loop flows are expected to remain above an acceptable level according to Article 16(8) of Regulation 2019/943, at least for the duration of this derogation.

(7) The second foreseeable ground to request a derogation is the possible lack of redispatching potential to allow TenneT to follow the 70% requirement without endangering operational security when the grid is in an outage situation:

a. Considering the grid investment plan in the Netherlands includes upgrades of existing corridors, situations of long duration outages are expected to occur with a certain frequency and are, as such, considered as foreseeable.

b. These grid investments are required to keep the grid fit for purpose considering the future energy mix as a result of set climate goals (e.g. Klimaatakkoord, dd. 28 June 2019) and to increase capacity available for cross-zonal trade while avoiding an increase of congestions on CNECs in the future.

c. In an outage situation, the grid capacity is reduced and internal flows on the remaining critical network elements increase compared to the grid situation where the outage is not present.

d. It can occur that the available internal redispatching potential is insufficient to meet the 70% requirement while coping with the increased level of internal flows.

e. The fact that the SOGL 76 methodology and CACM 35 methodology are not yet in place prevents TenneT to structurally rely on cross-border remedial actions. Especially in situations with (locally) limited domestic redispatch potential, cross-border remedial actions can provide efficient measures to maintain operational security. Existing bilateral redispatching contracts

do not enable a structural use due to the manual procedures involved and the limited visibility on the future availability of redispatching potential.

f. Requests for derogation due to outage situations are expected to become less frequent thanks to the implementation of the methodologies listed in the previous paragraph which will give more structural redispatching possibilities.

(8) The third foreseeable ground to request a derogation is the operational security risk introduced by the development of new tools and processes. The minimum capacity available for cross-zonal trade as set by the 70% requirement or a linear trajectory in accordance with Article 15(2) of Regulation 2019/943 in case of an established and implemented action plan, would have to be applied by the development of new processes and tools to offer higher capacities for cross-zonal trade to the market in combination with the introduction of new tools and processes enabling the implementation of this request for derogation:

a. The implementation of the minimum capacity available for cross-zonal trade should lead to more capacity given to the market which is expected to require a more extensive application of remedial actions, in accordance with Article 16(4) of Regulation 2019/943. The operational experience for processes with an extensive application of remedial actions is currently limited.

b. This request for derogation, which applies a methodological approach as detailed in Article 3, leads to the need to develop additional tools to correctly account for the effect of the loop flows above an acceptable level in accordance with Article 4. The application of a linear trajectory in case of an established action plan in accordance with Article 15 of Regulation 2019/943, leads to the need to enhance these tools to correctly determine the minimum capacity available for cross-zonal trade per CNEC including time to acquire sufficient experience and stabilize the tools to ensure the quality and stability of the results, which in turn are needed to ensure operational security.

c. In general, the overall effect on capacities offered to the market and on the extent of application of remedial actions can be assessed only when the situation in all countries having an influence on each other's grid is known. As of 1st January 2020, action plans pursuant to Article 15 of Regulation 2019/943 and derogations pursuant to Article 16(9) of Regulation 2019/943 may be applied by different Member States. The application of these measures and/or their extent is currently unknown by TenneT. Therefore TenneT is not in a position to ensure that its grid operators will have the relevant and required experience to ensure operational security as of 1st January 2020.

d. While the development of these new tools is ongoing at the time of the submission of this request for derogation, the short time between the publication of Regulation 2019/943 and the entry into force of the 70% requirement, together with:

i. the discussions related to the interpretation of the Regulation 2019/943 at national, regional and European level;

ii. the discussion related to the requirements of a structural congestion report at national level;

iii. the study performed by TenneT on request of the ACM on the extent in which the 70% requirement is met for the capacity made available for cross-zonal trade in the day-ahead market

did not allow TenneT to anticipate much on the development of these tools. An additional period of 3 months is required to develop, stabilize and acquire experience with the tools and as such secure the quality and stability of the results, which in turn is needed to maintain operational security.

To mitigate the identified operational security risk, TenneT requests a transition period to acquire the required experience on the processes and to complete the implementation and testing of the tools to ensure the quality and stability of the processes and results. During this period, a so-called parallel run approach shall be applied, as described in Article 6.

(9) This request for derogation is compliant with the Regulation 2019/943, more specifically Article 16(9), since:

a. The grounds to request a derogation are foreseeable, as developed in paragraph 4 to 8.

b. The derogation is required to maintain operational security as set out in paragraph 4 to 8.

c. The extent of the derogation is strictly limited to what is necessary:

i. Acknowledging the limitations by the absence of the CACM and SOGL methodologies listed in paragraph 4, the redispatch potential structurally available to TenneT will be used to solve congestions in the day-ahead timeframe after the day-ahead market coupling took place. Only if the operational security cannot be maintained (amongst others due to a lack of redispatch potential), the capacity for cross-zonal trade set in the capacity calculation process is reduced.

ii. The methodological approach described in 3.9.4 allows taking assumptions as late as possible in the capacity calculation process, that is, with the most accurate information related to the grid situation. This approach reduces the extent of the derogation compared to an approach where fixed values would have been defined and included directly in the derogation. The methodological approach avoids under- or overestimating the actual need for a derogation. Indeed, a fixed value approach would lead to unnecessary security margins considering the variety of situations to be covered, the intrinsic uncertainty of grid operation and the lack of visibility on the intentions of neighbouring Member States regarding their approach for implementing Article 16 of Regulation 2019/943, and possibly Article 15 of the same regulation. Given the fact that loop flows follow a variable pattern by nature, the inefficiency of a fixed value approach would be significant and structural.

d. The derogation avoids undue discrimination between internal and cross-zonal exchanges: the methodological approach as described in Article 3 ensures that, even in presence of loop flows above an acceptable threshold, the accepted level of internal flows accounted for in the capacity calculation is reduced in order to avoid discrimination between internal and cross-zonal exchanges in case the minimum capacity available for cross-zonal trade is below the level as set by the 70% requirement or as set by a linear trajectory in accordance with Article 15(2) of Regulation 2019/943 in case of an established and implemented action plan.

SUBMITS THE FOLLOWING REQUEST FOR DEROGATION FROM THE IMPLEMENTATION OF THE MINIMUM LEVEL OF CAPACITY TO BE MADE AVAILABLE FOR CROSS-ZONAL TRADE FOR APPROVAL TO THE AUTHORITY FOR CONSUMERS AND MARKETS

3.9.2 Article 1. Subject matter and scope

(1) This request for derogation is a request of TenneT to derogate from the implementation of the minimum capacity available for cross-zonal trade as established in Article 16(8) and in accordance with Article 16(9) of the Regulation 2019/943.

(2) This request for derogation is based on three different reasons to deviate from the 70% requirement: (i) loop flows above an acceptable level, as detailed in 3.9.5 and justified in paragraph 6 of the whereas section, (ii) outages, as detailed in 3.9.6 and justified in paragraph 7 of the whereas section and (iii) new processes and tools, as detailed in Article 6 and justified in paragraph 8 of the whereas section.

(3) The minimum capacity available for cross-zonal trade as defined by this request for derogation will be implemented for as long as operational security limits can be respected. In case this derogation

shall coincide with an established and implemented action plan, the Dutch State shall ensure that, in accordance with Article 15(2) of Regulation 2019/943, without prejudice to derogations granted under Article 16(9) of Regulation 2019/943, the cross-zonal trade capacity is increased on an annual basis until the minimum capacity provided for in Article 16(8) of Regulation 2019/943 is reached. Deviations will be reported to ACM on a monthly basis along with a justification why the deviation was required in order to respect operational security limits.

(4) This request for derogation is subject to approval by ACM in accordance with Article 16(9) of the Regulation 2019/943.

3.9.3 Article 2. Definitions and interpretation

(1) For the purpose of this request for derogation, the terms used in this document shall have the meaning of the definitions included in Article 2 of the Regulation 2019/943, Article 2 of the CACM Regulation, Article 2 of the Core DA CCM and the Central-Western Europe (hereinafter referred to as "CWE") Flow-Based Market Coupling Approval Package.

(2) In this derogation request, unless the context requires otherwise:

a. the singular indicates the plural and vice versa;

b. the table of contents, headings and examples are inserted for convenience only and do not affect the interpretation of this derogation request;

c. any reference to legislation, regulations, directive, order, instrument, code or any other enactment shall include any modification, extension or re-enactment of it then in force.

3.9.4 Article 3. Methodological approach for derogation

(1) The approach used in this request for derogation defines principles and calculation rules including, where needed, mathematical formulas. These principles and calculation rules are applied to the day-ahead capacity calculation process as applied in the CWE coordination area.

(2) More specifically, the methodological derogation takes the common grid models (24 in total, 1 for each hour) delivered as part of the CWE day-ahead capacity calculation process as basis and applies the following principles:

a. During the qualification phase, the loop flows are calculated and the resulting minimum capacity available for cross-zonal trade is applied to the Dutch CNECs as per the calculation rules explained in 3.9.5. For the avoidance of doubt, if the loop flows are below the acceptable level defined in paragraph 2 of 3.9.5, the minimum capacity remains equal to the 70% requirement or a lower capacity as defined by a linear trajectory in case of an established and implemented action plan in accordance with Article 15 of Regulation 2019/943.

b. During the verification phase, operational security limits are assessed. This implies the detection of congestion and the relieve of congestion through the application of remedial actions, non-costly and costly. For this reason, the capacity domain used during the verification phase shall include the application of a derogation on loop flows pursuant to 3.9.5.

c. As long as operational security limits of the transmission system can be respected, the minimum capacity resulting from the qualification phase is provided to the day-ahead market. If operational security limits of the transmission system cannot be respected, the available capacity for cross-zonal trade is reduced to a level that respects these operational security limits.

3.9.5 Article 4. Loop flows

(1) The application of a derogation for loop flows above an acceptable level entails the following steps:

d. Step 1: define the acceptable level of loop flows LF_{accept} per CNEC, as further detailed in paragraph 2.

e. Step 2: calculate the loop flows LF_{calc} per CNEC, as further detailed in paragraph 3.

f. Step 3: define the minimum capacity for cross-zonal trade taking into account the results of the previous steps, as further detailed in paragraphs 4 to 6.

(2) Article 16(8) of Regulation 2019/943 prescribes that the total amount of 30% can be used for the reliability margins, loop flows and internal flows on each critical network element. This derogation defines the acceptable level of loop flows (LF_{accept}) for the different types of critical network elements as follows:

a. Cross-border critical network elements: the acceptable level of loop flows is equal to the difference between 30% of the capacity of a CNEC respecting their operational security limits and the corresponding reliability margins of these CNECs.

b. Internal critical network elements: in order to avoid discrimination between internal and loop flows, it is considered that the acceptable level of loop flows is equal to half of the difference between 30% of the capacity of a CNEC respecting their operational security limits and the corresponding reliability margins of these CNECs.

(3) The loop flows LF_{calc} are calculated in the day-ahead capacity calculation process as follows:

a. The common grid model enriched with the coordinated application of preventive remedial actions as established during the qualification phase shall be used.

b. The zero-balanced grid model is obtained by shifting the CWE net positions of the common grid model to zero:

$$F_{0,CWE} = F_{ref} - \mathbf{PTDF}_{\boldsymbol{CWE}} \overrightarrow{NP}_{ref,CWE}$$

With:

i. $F_{0,CWE}$[11]: flow derived from a zero-balanced common grid model, to approximate a situation without any commercial exchange between bidding zones within the CWE region.

ii. F_{ref} : flow per CNEC in the CGM.

iii. $PTDF_{CWE}$: power transfer distribution factor matrix for all bidding zones in the CWE region and all CNECs.

iv. $NP_{ref,CWE}$: CWE net positions per bidding zone in the CWE region included in the CGM.

c. Apply flow decomposition to derive the loop flows and internal flows on each CNEC using Full Line Decomposition (FLD) method[12]

[11] As the capacity available for cross-zonal trade is calculated in $F_{0,CWE}$, loop flows should be defined as a share of $F_{0,CWE}$.

[12] A detailed explanation of the FLD method is published in "CIGRE Science & Engineering, issue 9 (CSE 009)"

d. For a given CNEC, LF_{calc} is equal to the sum of loop flows computed following paragraph c, divided by the maximum capacity of that CNEC according to their operational security limits.

(4) For a given CNEC, the total minimum capacity available for cross-zonal trade is then equal to:

$$minimum\ Capacity = 70\% - max(0; LF_{calc} - LF_{accept})$$

Where 70% may be lowered in line with a defined linear trajectory in case of an established and implemented action plan in accordance with Article 15(2) of Regulation 2019/943, or in case of a granted derogation[13] on the basis of insufficient time available to establish and implement an action plan.

(5) The minimum capacity for cross-zonal trade to be made available for commercial exchanges inside the CWE coordination area (MCCC), results from the minimum capacity as defined in previous paragraph reduced by cross-zonal flows assumed to result from commercial exchanges outside the CWE coordination area (MNCC) following the method as defined in Article 17(4) of the Core DA CCM within the context of the CWE coordination area.

(6) As a result of this derogation, the minimum capacity for cross-zonal trade on each CNEC shall not be below 20% of the maximum capacity of that CNEC according to their operational security limits.

3.9.6 Article 5. Outages

(1) In principle, even when one or several critical network elements are in outage, TenneT shall aim to apply the same minimum capacity available for cross-zonal trade as defined pursuant to 3.9.5, by using if needed non-costly and costly remedial actions.

(2) In case operational security limits cannot be respected when one or several critical network elements are in planned outage, the available capacity for cross-zonal trade of critical network elements is reduced to the level that respects these operational security limits. In case of a reduction, this will be reported to ACM along with a justification in accordance with Article 1(3).

3.9.7 Article 6. New processes and tools

(1) A parallel run will be set up for the day-ahead capacity calculation process in CWE, which means that:

a. TenneT will develop and execute new processes and utilise local tools for the calculation of the minimum capacity for cross-zonal trade on its CNECs in accordance with this request for derogation and the 70% requirement or a lower value as defined by a linear trajectory in case of an established action plan in accordance with Article 15 of Regulation 2019/943.

b. TenneT will train their operators in order to ensure that sufficient experience with the new processes and tools is acquired to ensure operational security.

c. The capacity calculation process is run on the basis of a dataset of TenneT, combined with the datasets provided by the other TSOs in CWE:

i. For those TSOs that would also apply a parallel run, the dataset specific for the parallel run will be used. This allows, via the parallel run, to test the combined effect of the implementation of the minimum capacity requirements.

ii. For those TSOs that do not apply a parallel run, the dataset provided to the operational day-ahead flow-based process in CWE will be used.

[13] This derogation request is provided as a separate document

(2) The progress on the implementation process as well as the results of the capacity calculation process of the parallel run will be reported by TenneT to the ACM on a monthly basis during the parallel run.

(3) During the parallel run, TenneT will continue to apply the currently approved methodology and practices in the CWE region to the operational day-ahead capacity calculation process in CWE. For the avoidance of doubt, the current methodology in the CWE region includes the application of a minimum capacity for cross-zonal trade on each CNEC within the CWE region equal to 20% of the maximum capacity according to the operational security limits.

3.9.8 Article 7. Extent and duration of the derogation

(1) This request for derogation is applicable to all Dutch CNECs participating to the CWE day-ahead capacity calculation process.

(2) The derogation regarding loop flows in accordance with Article 4 and regarding outages in accordance with Article 5 is requested for one year. However, since these concerns are reoccurring, this request may be resubmitted at the end of the first derogation period. The derogation regarding the parallel run in accordance with Article 6 is requested for 3 months.

(3) This derogation will apply, as of its approval by ACM, starting from 1 January 2020.

3.9.9 Article 8. Language

(1) The reference language for this derogation request shall be English.

3.9.10 Article 9. Confidentiality

(1) The information provided by TenneT to ACM for this derogation request does not have to be treated as confidential unless stated or agreed otherwise.

3.10. Derogation request of CEPS from Article 16 (8) of Regulation (EU) 2019/943 of the European Parliament and of the Council on the internal market for electricity pursuant to Article 16(9) of the Regulation

3.10.1 Chapter 1: Introduction

The purpose of this request is to obtain derogation from the Article 16 (8) of Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity (hereafter referred to as the 'Regulation').

Regulation (EU) 2015/1222 (hereafter referred to as the 'CACM') introduced an obligation to implement Flow-based (hereafter referred to as the 'FB') or Coordinated net transmission capacity (hereafter referred to as the 'cNTC') calculation approaches by Transmission System Operators.

The Core capacity calculation region (hereafter referred to as the 'CORE') has been adopting and implementing FB Day-ahead capacity calculation methodology based on the CACM. Go-live of the FB project in CORE is scheduled on 1 December 2020.

Regulation prescribes in Article 16 (8) that Transmission System Operators (hereafter referred to as the 'TSOs') shall, as from 1 January 2020, reach the following minimum levels of capacity:

a) For borders using a coordinated net transmission capacity approach, the minimum capacity shall be 70 % of the transmission capacity respecting operational security limits after deduction of contingencies, as determined in accordance with the capacity allocation and congestion management guideline adopted on the basis of Article 18(5) of Regulation (EC) No 714/2009;

b) For borders using a flow-based approach, the minimum capacity shall be a margin set in the capacity calculation process as available for flows induced by cross-zonal exchange. The margin shall be 70% of the capacity respecting operational security limits of internal and cross-zonal critical network elements, taking into account contingencies, as determined in accordance with the capacity allocation and congestion management guideline adopted on the basis of Article 18(5) of Regulation (EC) No 714/2009;

And the total amount of 30 % can be used for the reliability margins, loop flows and internal flows on each critical network element.

A suggested compliance monitoring of the Article 16 of Regulation 2019/943 was provided by ACER in its Recommendation No 01/2019 (hereafter referred to as the 'Recommendation'). This document was published as a support for national regulatory authorities in order to demonstrate without obligation one of the possible approaches in compliance monitoring.

However, until implementation of FB CEPS will be using a capacity calculation methodology (approved by the Czech NRA) which is not in line with CACM. Fundamental parameters of the current methodology are also different from the assumptions and parameters introduced in the Recommendation. That is why CEPS applied for a derogation, mainly due to the following reasons:

- Nonexistence of coordinated capacity calculation and allocation at regional level.
- Missing operational agreements with adjacent TSOs that allow reduction of loop flows using coordinated remedial actions while ensuring adequate cost sharing.
- Date of entry into force of the Regulation is too ambitious to allow proper development and thorough testing of significant methodological changes in the current capacity calculation methodology and capacity allocation method.
- The monitoring according to the ACER Recommendation does not allow compliance with the Regulation without jeopardizing operational security.
- The level of available capacity for cross-border market transactions cannot be clearly determined.

3.10.2 Chapter 2: Reasoning

a) Nonexistence of coordinated capacity calculation and allocation on a regional level

The Czech transmission system is a part of a highly interconnected synchronous region of continental Europe. A highly interdependent transmission system contributes to increase of supply security, but also causes flows arising from cross-border exchanges to affect the use of cross-border capacity of other bidding zones. Individually calculated transmission capacities are inherently highly uncertain due to the fact that input data from other bidding zones and surrounding TSOs is only estimated, without sufficient knowledge of their local conditions.

If TSOs are not involved in coordinated capacity calculation with data sharing at regional level, they do not have access to the network models of other TSOs, information on outages, expected production and consumption status and resulting distribution of production and consumption, future trade exchanges on other TSOs' borders and other parameters necessary for capacity calculation. The prediction errors of these parameters currently cause volatility of up to tens of percent of capacity on some elements of the transmission system. Deviations in the prediction of the amount of loop and internal flows, or the amount of expected trade exchanges, also reach tens of percent of maximum capacity. CEPS itself is not able to significantly reduce these uncertainties, because they arise mainly due to the unavailability of relevant business and technical data from the surrounding bidding zones.

Art. 20 of CACM requires the CORE region to implement a flow-based capacity calculation methodology which takes into account the fact that electricity can flow in different ways and which optimizes available capacity in highly interdependent networks. Based on ACER Decision 2/2019, the Flow-based methodology is to be implemented as of 1st December 2020. Along with this, the target capacity allocation model - implicit allocation - should be implemented.

By introducing this capacity calculation methodology, it should be possible to achieve a significant reduction in inaccuracies and uncertainties and it is a necessary (but not sufficient) condition for ensuring compliance with Article 16 (8) of the Regulation. Coordination will establish common procedures and methodologies (e.g. developing a common grid model) to remove uncertainties due to ignorance of the expected state of neighboring transmission systems, a coordinated approach to risks and reliability margins, or shared and coordinated procedures to identify remedial actions.

Until a coordinated capacity calculation is established and properly verified, CEPS is not able to ensure compliance with Article 16 (8) of the Regulation, as it is technically impossible to reduce uncertainties arising from insufficient data exchange and coordination of procedures on a regional level.

b) Missing operational agreements with adjacent TSOs that allow reduction of loop flows using coordinated remedial actions while ensuring adequate cost sharing

The volume of loop flows on some elements exceeds 30 % of the transmission capacity. At the moment there is no contractual or legal framework under which CEPS could enforce a reduction of loop flows on its cross-border lines to surrounding TSOs. Moreover, CEPS has only limited technical (reconfiguration of the system, phase shifting transformers) or commercial (redispatching, counter-trading) means, which could contribute to increase of capacities. Efficiency of these resources is, however, limited (e.g. redispatching at the CZ-AT border has only 63 % efficiency in certain operating settings and is often limited by resource availability and duration).

Article 16 (4) of the Regulation requires that safety standards for safe operation are respected and that minimum capacity is ensured in accordance with Article 16 (8) of the Regulation. Counter-trading and redispatching, including cross-border redispatching, are used to maximize available capacities to achieve the minimum capacity according to Article 16 (8) of the Regulation. The methodology for

coordinated redispatching and coordinated counter-trading in CORE in accordance with Article 35 of the CACM and the methodology for common reimbursement of redispatching and counter-trading costs in accordance with Article 74(1) of the CACM has not yet been approved and ACER has approved the extension of the approval date 27 March 2020. Similarly, the regional specific provisions for the capacity calculation regions for regional coordination of operational security in accordance with Article 76 of the SO GL Regulation will not be submitted until December 2019 to each national regulatory authority and its approval is expected in June 2020 at the earliest.

Until then, CEPS may use cross-border remedial actions within the framework of the Multilateral Remediation Agreement (MRA) of Central European Security Cooperation between Transmission System Operators (TSOs). Within this cooperation, CEPS is a subject to the maximum cost limit approved by the NRA. Once the limit is reached, CEPS automatically withdraws from this cooperation. Each TSO participates voluntarily, so it is not possible to control or predict in the short and medium term what resources are available to achieve the required minimum capacity while ensuring operational security.

Without valid operational agreements or binding regional methodologies that enable reduction of loop flows through coordinated remedial actions and ensure adequate cost sharing, CEPS cannot ensure compliance with Article 16 (8) of the Regulation while maintaining operational security.

c) Date of entry into force of the Regulation is too ambitious to allow proper development and thorough testing of significant methodological changes in the current capacity calculation methodology and capacity allocation method

As mentioned in the Chapter a), CEPS faces significant uncertainties in the input data determination when calculating capacities. The current capacity calculation methodology approved by the Czech NRA is based on a principally different capacity determination procedure and uses input data other than the monitoring in accordance with Recommendation:

- The CEPS methodology is oriented more on the border than on individual network elements (CNECs). PTDFs are determined using border-like approach as well as the maximum possible exchanges, including the N-1 criterion.
- The statistical approach (parallel (transit) and loop flows) is used with reliability margins. Thus, the CEPS methodology does not determine either magnitude of flows induced by market transactions on other than Czech borders (MNCC – margin from non-coordinated capacity calculation), or magnitude of flows given by basic exchanges in the Czech Republic or loop flows from surrounding bidding zones.
- The outcome of the current CEPS methodology does not provide information on the percentage of MACZT (margin available for cross-zonal trade) introduced by Recommendation.
- Based on the input data used to calculate capacities, the CEPS methodology does not allow determination of the MACZT value in the capacity calculation as foreseen by the ACER Recommendation and to determine whether the resulting capacity offered meets the requirements of Article 16 (8) of the Regulation.
- In the current CEPS methodology, it is not possible to clearly determine which element (CNEC) was the limiting one and thus limited the offered capacity.
- At present, CEPS does not calculate capacity per element in the capacity calculation process, but uses the TTC concept (non-simultaneous values). Thus, it cannot be determined whether it is theoretically possible to reach MACZT = 100 % of capacity.

Therefore, using the current CEPS methodology can neither monitor and check whether CEPS fulfills its obligations in accordance with Article 16 (8) of the Regulation, nor can it identify a critical element limiting the capacity calculation for a given coordination area, since capacity calculation is performed using border-like approach. CEPS would have to develop and properly test and NRA would have to

approve by 1st January 2020 a new capacity calculation methodology. This is not feasible from a technical and time point of view.

The current method of capacity allocation (individual bidding zone borders allocation) does not allow a significant increase in the capacities offered, as the method of allocating cross-border capacities does not take into account the physical nature of the market transactions. Electricity flows induced by market transactions on the bidding zone borders of the Czech Republic are very highly interdependent. Separate allocation on individual cross-border profiles thus implies that the link between the different borders must be taken into account in the calculation of capacities so that the resulting trade exchanges from the allocation of capacities may not endanger operational security. This is also apparent from Article 20 (2) of the CACM, which requires a methodology for calculating capacities in CORE and hence a method for capacity allocation based on physical flows (FB).

The methodology currently being developed for capacity calculation and capacity allocation in CORE, i.e. Flow-based Market Coupling, should eliminate most of the above-mentioned differences and drawbacks.

The development of a new capacity calculation and capacity allocation methodology by CEPS, which would similarly solve the above-mentioned differences and drawbacks and its proper testing and approval by the Czech NRA by 1 January 2020, is not feasible. Moreover, a hypothetical new CEPS methodology would only serve for a transitional period until the implementation of the daily capacity calculation methodology in accordance with CACM in CORE, scheduled for 1 December 2020.

d) The monitoring according to the ACER Recommendation does not allow compliance with the Regulation without jeopardizing operational security

The monitoring according to the ACER Recommendation does not take into account the specifics of the Czech Republic. In order for CEPS to comply with the obligations of Article 16 (8) of the Regulation pursuant to the ACER Recommendation, CEPS would have to offer capacities that could threaten operational security, for the following reasons:

The coordination area cannot be only one bidding zone border due to the highly interdependent borders

The Coordination Area is an area where coordinated capacity calculation takes place. These should be, in accordance with CACM, regions for capacity calculation, in the case of CEPS - CORE. However, as long as the Flow-based method is not implemented, the NRAs should determine these coordination areas in coordination with the TSO, following the procedure outlined in Recommendation. Pursuant to Article 59 (1) (a): (h) Directive 2019/944 has a national regulatory authority and obligation to ensure that TSOs make interconnector capacities as accessible as possible in accordance with Article 16 of the Regulation as far as possible, but the way and method of ensuring compliance with this obligation depends solely on its decision.

However, Recommendation does not respect this and requires establishment of a coordination area in the Czech Republic on only one bidding zone border and evaluates the individual bidding zone borders independently. However, this method of assessing the offered capacities does not take into account the physical interdependence of market exchanges and does not consider that the allocation of any combination of offered capacities must not jeopardize operational security. Market exchanges at individual bidding zone borders significantly affect the elements at the surrounding bidding zone borders. The impact is so great that it cannot be included in reliability margins and must be taken into account in the capacity calculation and the allocation. Since the capacity allocation method does not take this into account (capacity allocation per bidding zone border), this must be taken into account in the capacity calculation methodology. Therefore, the current methodology takes this into account as it considers all bidding zone borders within the Czech Republic as one coordination area.

In order to fulfill the obligations resulting from Article 16 (8) of the Regulation, CEPS would have to offer, according to Recommendation, a capacity that is limited only by elements at each given bidding zone border. The effect of the other bidding zone borders is limited to the expected flows induced by market transactions (i.e. not the maximum possible flows). This would lead to a situation where, for some combination, the effect of the allocated capacities would be higher than the thermal limit of the cross-border line and the operational security would be endangered. A reserve of 30 % of capacity in the interdependent system is not sufficient to cover this systematic impact.
For these reasons, offering capacities that comply with the Regulation while considering evaluation according to Recommendation would result in a threat to operational security.

Full netting of predicted market transactions jeopardizes operational security
The Recommendation states that the impact of predicted market transactions (MNCC) should be fully considered in the capacity calculation and should be offered in the opposite direction (i.e. predicted market transactions should be treated as confirmed – the same way as schedules). However, there are situations at the Czech bidding zone borders where the impact of predicted market transactions exceeds 30 % of the thermal capacity of the CNECs. If CEPS was to take full account of the MNCC, the capacity offered could be higher than the thermal capacity of the line.
The prediction of market transactions is also affected by an error in hundreds of MW, and in some cases when the market situation changes substantially, there can be prediction errors in thousands of MW. Such errors represent tens of % of the thermal capacity of CNECs. The uncertainty of the prediction of these market transactions may also exceed 30 % of the transmission capacity.
Thus, there may be situations where, in fact, the impact of MNCC is significantly lower and the flow resulting from market transactions is greater than the thermal capacity of the cross-border line – possibly jeopardizing operational security. As mentioned in the Chapter b), CEPS currently has very limited tools to change the level of cross-border flows. There are also insufficient coordinated mechanisms between TSOs to ensure reliable and available measures to limit or affect these flows. For these reasons, offering capacities in line with the Recommendation, i.e. full netting of predicted market transactions without taking into account their uncertainty, would jeopardize operational security.
If used for the evaluation of the ACER Recommendation, CEPS cannot fulfill the obligations of Article 16 (8) of the Regulation without compromising operational security while using the current CEPS capacity calculation Methodology.

e) The level of available capacity for cross-border market transactions cannot be clearly determined

CEPS believes that the obligation imposed by Article 16 (8) of the Regulation is factually (in content) unclear. Based on the text of the Regulation, it is not possible to clearly determine how CEPS should assess whether it complies with the requirements of Article 16 (8) of the Regulation, in particular for the following reasons:

i) The Article 16 (8) (a) and (b) of the Regulation indirectly refers to the CACM when using the terms defined in the CACM ("for borders using the coordinated net transmission capacity approach" and "for borders using the physical flow approach"). For the CORE the Flow-based approach is defined as the target solution. As the implementation of this coordinated approach is planned and agreed by ACER until 1st December 2020 (based on ACER Decision 2/2019), CEPS is not obliged to follow the coordinated approach until then. Thus, it is not possible to determine objectively the amount and method of calculating the required quantities to assess compliance. In particular, these are contingency, reliability margins, loop flows and internal flows on each critical network element.

ii) The obligation imposed by Article 16 (8) of the Regulation is factually unclear as there is no precise definition of the capacity from which that obligation is to be fulfilled. The Regulation freely uses the term capacity without unambiguous specification whether it is thermal capacity (i.e. maximum possible load of the CNEC) or network capacity, capacity for market transactions, transmission capacity, interconnection capacity etc. These terms are not defined in the Regulation and thus it is not possible to determine unequivocally how the obligation stated in Article 16 (8) of the Regulation is to be fulfilled (or how the minimum capacity should be determined - calculated).

The purpose of the Recommendation is to provide the national regulatory authorities with an appropriate way and procedure to monitor compliance with Article 16 (8) of the Regulation, and by which compliance with the Regulation is likely to be enforced. The Recommendation is one of the possible interpretations that NRAs can follow. ACER is competent to issue recommendations in accordance with Article 6 (2) of the ACER Regulation to assist NRAs and market participants in sharing best practices. These recommendations are not binding (as confirmed by ACER itself and stated by ACER itself), nor is there any requirement in the ACER Regulation that TSOs or national regulatory authorities must comply with them. In accordance with Article 59 (1) (g) of the ACER Regulation the national regulatory authority shall comply with and implement any relevant legally binding decisions of ACER, but not the recommendations of ACER.

Furthermore, Article 1 of the Recommendation states that the requirements of Article 16 (8) of the Regulation are too general and therefore further clarification of how the TSOs and National Regulatory Authorities should implement them is needed, which may be determined by amending the CACM. However, in the opinion of ACER pending the revision of CACM, the TSOs and NRAs need detailed guidance on how to implement the requirements of Article 16 (8) of the Regulation in a harmonized and consistent way. ACER issued the Recommendation for a transitional period in which acknowledges that Article 16 (8) of the Regulation is unclear.

In this case, ACER acts beyond its competences by claiming the authority to interpret EU law which it does not have. In this case it is the extension of the Article 16 (8) of the Regulation. The jurisdiction to interpret EU law lies solely with the Court of Justice of the European Union. In the view of CEPS, the competences of ACER are also exceeded by the fact that Article 4.2 of the Recommendation reserves the right to define coordination areas along with national regulatory authorities. ACER cannot itself extend its competences beyond the competences set out in the ACER Regulation.

Until a clear and legally binding interpretation of the content of the obligation imposed in Article 16 (8) of the Regulation, the NRA should not in any way evaluate and penalize CEPS for failing to fulfill this obligation, since the content of the obligation is unknown and cannot be enforced. For this reason, NRA should also grant CEPS the derogation pursuant to Article 16 (9) of the Regulation.

3.10.3 Chapter 3: Conclusion

In view of the facts mentioned in the Chapter 2, CEPS requests from the Czech NRA a derogation pursuant to Article 16 (9) of the Regulation for a period of one year from 1st January 2020 to 31 December 2020.

3.11. Derogation request of TRANSELECTRICA from Article 16 (8) of Regulation (EU) 2019/943 of the European Parliament and of the Council on the internal market for electricity pursuant to Article 16(9) of the Regulation

Article 16(8) of Regulation (EU) 2019/943 on the internal market for electricity (hereinafter referred to as Regulation (EU) 2019/943) provides that TSOs shall not limit the volume of interconnection capacity to be made available to market participants as a means of solving congestion inside their own bidding zone or as a means of managing flows resulting from transactions internal to bidding zones. Furthermore the said Article provides that such requirement shall be considered to be complied with where a minimum level of available capacity for cross-zonal trade is reached. This level is defined as 70% of the transmission capacity respecting operational security limits after deduction of contingencies.

This letter is a request for a one-year derogation in accordance with Article 16(9) of Regulation (EU) 2019/943 and addresses the forseeable grounds related to the operational security within the Romanian Power System, justifying the request for derogation. The considerations supporting the request for derogation are as follows:

3.11.1 Absence of the coordinated capacity calculation in the Core and SEE CCRs

According to Article 16(8) of Regulation (EU) 2019/943 a minimum level of cross-zonal capacity shall apply to borders where either a coordinated net transmission capacity or a flow-based approach is used. Furthermore Article 16(8) provides that the minimum level of cross-zonal capacity shall be determined in accordance with Regulation (EU) 2015/2022 establishing a guideline on capacity allocation and congestion management (hereinafter referred to as Regulation (EU) 2015/1222). Calculation and monitoring of the required minimum level of crozz-zonal capacity are to be performed for day-ahead and intra-day time frames as per Article 14 of Regulation (EU) 2015/1222. ACER recommendation no. 1/2019 on the implementation of the minimum margin available for cross-zonal trade pursuant to Article 16(8) of Regulation (EU) 2019/943 (hereinafter referred to as ACER recommendation no. 1/2019) provides, as a general rule, that the minimum level of cross-zonal capacity shall be monitored for the day-ahead time frame.

Capacity calculation methodologies for the day-ahead time frame in both CCR Core (RO-HU border) and CCR SEE (RO-BG border), developed in accordance with Regulation (EU) 2015/1222, were approved by ACER, respectively by the relevant national regulatory authorities and shall be implemented by the end of 2020.

The cross-border capacity calculation methodology currently applied by Transelectrica is based on a NTC calculation method that is not compliant with the requirements of Regulation (EU) 2015/1222. The current NTC calculation method is performed on a montly basis with daily time resolution based on Transelectrioca’s own scenarios in RO interface. Only limited regional coordination is achieved i.e. a common grid model being updated on a monthly basis and bilateral agreement on the minimum values derived individually by the two neighboring TSOs at each border. Cross-zonal capacity values for day-ahead and intra-day time frames are derived from the monthly calculation. A significant level of uncertainty is associated with the results of the calculation method currently applied by Transelectrica as calculation

inputs are set long before real time. Applying a minimum cross-zonal capacity requirement to a calculation method that doesn't incorporate sufficient cross-zonal coordination is likely to increase the risk of real-time violation of the operational security constraints.

3.11.2 Physical power flows generated by cross-border trades with non-EU countries

ACER recommendation no. 1/2019 provides that consideration of third (i.e. non EU member) country flows in capacity calculation and in the calculation of the margin available for cross-zonal trade should be possible on the condition that an agreement has been concluded by all TSOs of a CCR with the TSO of the third country. Moreover, ACER recommendation no. 1/2019 provides that such agreement should also cover cost-sharing of remedial actions.

Cross-border exchanges on RO's non-EU borders have a significant impact on cross-border capacity available on RO's EU borders. Capacity on RO-HU border (Core CCR) is impacted by cross-border flows on RO-RS and RO-UA borders. This dependency is due to RO and HU sharing borders with both RS and UA. Capacity on RO-BG border (SEE CCR) is impacted by cross-border flows on RO-RS and BG-RS borders.

Application of Article 16(8) of Regulation (EU) 2019/943 without paying due consideration to the cross-border flows on RO's non-EU borders would lead to artificial oversized cross-zonal capacity on RO-HU and RO-BG borders generating significant security risks.

3.11.3 Redispatching and contertrading

According to Article 16(4) of Regulation (EU) 2019/943 redispatching and countertrading shall be used to maximise available capacities to reach the minimum capacity provided for in Article 16(8). A coordinated process for redispatching and countertrading shall be applied to enable such maximisation, following the implementation of a redispatching and counter-trading cost-sharing methodology. Redispathing, countertrading and cost-sharing methodologies developed in accordance with Regulation (EU) 2015/1222 shall be implemented once the CCR coordinated capacity calculation becomes operational.

Application by CNTEE Transelectrica SA in the year 2020 of an individual redispatching process aimed at achieving the minimum level of cross-zonal capacity as per Article 16(8) of Regulation (EU) 2019/943 is not feasible. On one hand there is no operational experience of running a redispatching process for the purpose of increasing cross-zonal capacity, on the other hand there are not enough software tools available in order to assess the impact of such costly remedial actions.