

Request of TenneT TSO B.V. for derogation from the minimum level of capacity to be made available for cross-zonal trade

in accordance with Article 16(9) of Regulation (EU)
2019/943 of the European Parliament and of the Council of
5 June 2019 on the internal market for electricity (recast)

13 October 2025

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

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 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”).
- (2) Article 16(9) of Regulation 2019/943 prescribes that upon request of transmission system operators in a capacity calculation region (hereinafter “CCR”), the relevant regulatory authorities may grant a derogation from Article 16(8) of Regulation 2019/943 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) TenneT applied for yearly derogations in accordance with article 16(9) of Regulation 2019/943 for the years 2020 to 2025. These applications have each been approved by ACM.
- (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 Methodologies for the CCRs in which TenneT is a represented member, as referred to in Article 21 of the CACM Regulation;
 - 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”).

A timetable summarizing the currently foreseen implementation dates of these key methodologies is depicted below:

Methodology	Status	Currently foreseen implementation date
Core DA CCM	Operational since 8 June 2022	-
Core DA CCM: coordinated validation	Methodology is submitted as part of the 3 rd amendment of the Core DAC CCM.	Implementation is in progress, and a go-live is expected in Q4 2026
SOGL 76	Implementation is ongoing	2029
CACM 35	Implementation is ongoing	2029
CACM 74	Implementation is ongoing	2029

(5) Acknowledging that only the Core DA CCM methodology has been implemented, but that the other aforementioned key methodologies from the CACM Regulation and SOGL Regulation are not yet implemented, TenneT cannot rely on these methodologies as a structural basis in order to reach the linear trajectory or the minimum capacity provided for in Article 16(8) of Regulation 2019/943 per 1 January 2026. Also, it is not foreseen that all of the key methodologies listed above will be implemented before 31 December 2026.

(6) Article 16(3) of Regulation 2019/943 prescribes that regional coordination centers (hereinafter "RCCs") shall carry out a coordinated capacity calculation in accordance with Article 16(4) and Article 16(8) of Regulation 2019/943. Article 16(3) of Regulation 2019/943 also prescribes that where RCCs conclude that those available remedial actions in the CCR or between CCRs are not sufficient to reach the linear trajectory or the minimum capacities provided for in paragraph 16(8) of Regulation 2019/943 while respecting operational security limits, they may, as a measure of last resort, set out coordinated actions reducing the cross-zonal capacities accordingly.

However, acknowledging the fact that the RCCs are not yet carrying out the coordinated capacity calculation, including validation, TenneT cannot yet rely on the RCCs to:

- a. Conclude whether or not those available remedial actions in the CCR or between CCRs are sufficient to reach the minimum capacities provided for in paragraph 16(8) of Regulation 2019/943; and
- b. Set out coordinated actions to reduce the cross-zonal capacities accordingly if necessary to respect operational security limits.

(7) Article 16(4) of Regulation 2019/943 prescribes that counter-trading and redispatching, including cross-border redispatching, shall be used to reach the minimum capacity provided for in Article 16(8) of Regulation 2019/943. 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 also not yet implemented in the CCRs in which TenneT is a represented member.

(8) In order to be compliant with the Regulation 2019/943, given the limitations that several key methodologies for managing the flows in the electricity grid are not yet implemented and operational as set out in Recital 5-7, and given that the current derogation in accordance with Article 16(9) of Regulation 2019/943 only applies until 31 December 2025, TenneT decided to apply again for a

derogation from Article 16(8) of Regulation 2019/943. This derogation is applied for on the basis of the following foreseeable ground.

(9) The ground to request a derogation is the foreseeable externality that loop flows on Dutch CNECs cannot be contained to an acceptable level as they are not under the control of TenneT, which contributes in creating an operational security risk if the minimum capacity provided for in Article 16(8) of Regulation 2019/943 would be applied:

- 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. Analysis of data on loop flows from the period January 2021 until December 2024, gathered as part of the assessment of available cross-zonal capacity for the Netherlands, shows that in this period for the majority of CNEs, loop flows frequently surpass the acceptable level of loop flows based on the 30% for loop flows, internal flows and reliability margin:

Year	#CNEs above acceptable level	#CNEs above acceptable level for more than 20% of time
2024	46	14
2023	50	27
2022	49	24
2021	54	26

- c. Loop flows are created in neighbouring bidding zones and cannot be contained by using the redispatch potential available in the Netherlands. Phase Shifting Transformers located at the North-Eastern border of the Netherlands can help to partially limit the loop flows, but based on the historical data an optimised utilisation of these transformers is not expected to be sufficient to contain the level of loop flows to an acceptable level. TenneT does not include the optimization of PSTs in its computation of adjusted MACZT target values, but aims at including it as soon as reasonably possible. In real-time operations, PSTs are actively utilized to reduce loop flows when they cause operational security issues.
- d. Considering that several Member States implemented an action plan in accordance with Article 15 of the Regulation 2019/943 among which the Federal Republic of Germany, TenneT expects that large bidding zones will continue to exert an impact on neighboring bidding zones due to their impedance. Consequently, loop flows are expected to continue to remain above an acceptable level according to Article 16(8) of Regulation 2019/943, at least for the duration of this derogation.
- e. Although the Core DA CCM has been implemented, this is not yet sufficient to respect operational security limits in cases of high loop flows. Article 20 of the Core DA CCM requires the Core TSOs to implement a “coordinated validation” process, implying there will be a process that consolidates the prediction and usage of available remedial action on Core level. This process creates the necessary visibility on the ability to maintain operational security in a coordinated way when applying the minimum 70% requirement. This is important in the Dutch context because the local remedial action potential may be insufficient

to alleviate the impact of loop flows, but there may be effective remedial actions available elsewhere to alleviate the impact of loop flows.

- f. The application of coordinated cross-border remedial actions could be an efficient solution to reduce the level of loop flows. However, the fact that both the SOGL 76 methodology and the CACM 35 methodology are not yet in place and are not expected to be in place before 31 December 2026, prevents TenneT to structurally rely on cross-border remedial actions to reduce the level of loop flows. Existing bilateral redispatching contracts do not enable an efficient use due to the manual procedures involved.
- g. Applying individual validations cannot be used as a structural measure to reduce the level of loop flows as the DA CCM Article 20(15) states that individual validations should be exceptional in nature and should not exceed 1% of MTU's per quarter which would be the case without a derogation.
- h. Regulation 2019/943 prescribes that it should be ensured that there is no undue discrimination between internal and cross-zonal exchanges. Applying a threshold higher than 30% for the sum of loop flows, internal flows and reliability margin would cause such discrimination.

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

- a. The grounds to request this derogation are foreseeable, as set out in Recital 5 to 9.
- b. The derogation is required to maintain operational security as set out in Recital 5 to 9.
- 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 Recital 4 the redispatching potential structurally available to TenneT will be used to solve congestions due to Dutch internal flows. Nonetheless, a minimum amount of loop flow pursuant to Article 4(2) is accepted despite uncertainty regarding the availability of remedial actions. If the operational security cannot be maintained (amongst others due to a lack of redispatching potential), the capacity for cross-zonal trade set in the capacity calculation process is reduced during the individual validation.
 - 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 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 Regulation (70%).

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

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 one foreseeable ground to deviate from the minimum levels of capacity to be made available for cross-zonal trade as set by Article 16(8) of Regulation 2019/943, namely loop flows above an acceptable level, as detailed in Article 4 and justified in Recital 9.
- (3) The minimum capacity available for cross-zonal trade taking into account this request for derogation, will be implemented for as long as operational security limits can be respected.
- (4) This request for derogation is made to ACM in accordance with Article 16(9) of Regulation 2019/943.
- (5) Ultimately 1 July 2026, TenneT shall submit a report to ACM detailing the developments on methodologies and projects that shall provide a long-term solution to the issue that this derogation seeks to address, in accordance with Article 16(9) of Regulation 2019/943. This report will be published for stakeholders.

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 day-ahead capacity calculation methodology for the Core CCR as referred to in Article 21 of the CACM Regulation (hereinafter referred to as “Core DA CCM”).
- (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.

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 Core day-ahead capacity calculation process.
- (2) More specifically, the methodological derogation takes the common grid models (24 in total, 1 for each hour) delivered as part of the day-ahead capacity calculation process as basis and applies the following principles:
 - a. After the initial flow-based calculation, the loop flows are calculated and the resulting minimum capacity available for cross-zonal trade is applied on the Dutch CNECs as detailed 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 capacity remains the same.
 - b. During the verification/validation 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. For this reason, the capacity domain used during the verification/validation phase shall include the application of the derogation for loop flows pursuant to Article 4.
 - c. As long as operational security limits of the transmission system can be respected, the minimum capacity resulting from the intermediate Core flow-based capacity calculation 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.
 - d. The minimum capacity available for cross-zonal trade inside the Core coordination area on each CNEC shall in any case respect commonly coordinated minimum values as defined in paragraph 6 of Article 4.

Article 4. Loop flows

- (1) The application of a 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 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-zonal 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 (hereinafter "CGM") used during the initial flow-based calculation shall be used.
- b. The zero-balanced grid model is obtained by shifting the net positions of the common grid model CGM to zero:

$$F_0 = F_{ref} - \mathbf{PTDF} \overline{NP}_{ref}$$

With:

- i. F_0 : flow derived from the zero-balanced common grid model, to approximate a situation without any commercial exchange between bidding zones within the region for which the capacity calculation is performed.
 - ii. F_{ref} : flow per CNEC in the CGM.
 - iii. $PTDF$: power transfer distribution factor matrix for all bidding zones in the region for which the capacity calculation is performed and all CNECs.
 - iv. NP_{ref} : net positions per bidding zone of the region for which the capacity calculation is performed, as 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.¹ As the capacity available for cross-zonal trade is calculated in F_0 , loop flows are defined as a share of F_0 .
 - d. For a given CNEC, LF_{calc} is equal to the sum of loop flows computed following paragraph 3c, divided by the maximum admissible power flow (F_{max}) of that CNEC according to its operational security limits.

(4) For a given CNEC, the minimum capacity to be made available for cross-zonal trade $MACZT_{min}$ is then equal to:

$$MACZT_{min} = MACZT_{target} - \max(0; LF_{calc} - LF_{accept})$$

Where $MACZT_{target}$ refers to the level of minimum capacity to be made available for cross-zonal trade on the given CNEC (70%).

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

¹ A detailed explanation of the FLD method is published in "[CIGRE Science & Engineering, issue 9 \(CSE 009\)](#)"

- (6) As a result of this derogation, the minimum capacity for cross-zonal trade inside the Core capacity coordination area (MCCC) on each CNEC shall not be below 20% of the maximum admissible power flow (Fmax) of that CNEC according to its operational security limits.
- (7) TenneT will publish data on the effects of the application of the formulas in this article as part of the regular publications on the results of the Core day-ahead capacity calculation process.
- (8) In accordance with Article 1(3), deviations from the formulas in this article will be reported to ACM along with a justification why the deviation was required in order to respect operational security limits.

Article 5. Extent and duration of the derogation

- (1) The derogation regarding loop flows in accordance with Article 4 shall be applicable to all Dutch CNECs included in the Core day-ahead capacity calculation process.
- (2) This derogation shall apply for the duration of one year, as of its approval by ACM, starting from 1 January 2026.

Article 6. Language

The reference language for this derogation request is English.

Article 7. Confidentiality

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