

Derogation request of APG

**from the obligation under Article 16(8) pursuant to
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 for the
Capacity Calculation Region Italy North**

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 for borders using a coordinated net transmission capacity approach 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”).
- (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 Italy North CCR as referred to in Article 21 of the CACM Regulation (“Italy North CCM”).
 - b. The Coordinated Redispatching and Countertrading Methodology for the Italy North CCR as referred to in Article 35 of the CACM Regulation (“CACM 35”).
 - c. The Redispatching and Countertrading Cost-Sharing Methodology for the Italy North CCR as referred to in Article 74 of the CACM Regulation (“CACM 74”).
 - d. The operational security coordination methodology for the Italy North 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.
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 border between Italy and Austria.

Article 1 Subject Matter and Scope

- 1.1. 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 Italy North bidding zone border between Italy and Austria.
- 1.2. 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.

Article 2 Definitions and abbreviations

CC	Capacity Calculation
CCR	Capacity Calculation Region
CEP	Clean Energy Package
CGM	Common Grid Model
CNE(C)	Critical Network Element (with Contingency)
IN	Italy North
D-2	Two-Days Ahead
IN	Italian North
MACZT	Margin Available for Cross-Zonal Trade
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

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 70% capacity criterion, 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 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 the Austrian border of the IN CCR (AT/IT).

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 capacity calculation area
3.2	Insufficient redispatch potential to guarantee the 70% capacity criterion
3.3	Absence of consideration of flows of 3rd countries in the evaluation of the minimum margin
3.4	Current usage of CNEC capacity > 30% by loop flows and PST flows
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.

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

Referring to Point (4) of the Introduction key methodologies concerning a capacity calculation and validation broadly coordinated in the IN region for the day ahead and intraday timeframe respecting all requirements of 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.

Coordinated Capacity Calculation at NTC border: 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 CNTC methods (at AT/IT, FR/IT, CH/IT, SI/IT) 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 CNTC methodology assumes penta lateral stepwise increase/decrease of power generation in all countries and monitoring of the n-1 security criteria relevant for the CCR only in import direction. By that process the total values of cross-zonal capacity are calculated for the whole Italian North border (and not per CNEC). That currently applied method, which is not fully 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 Validation at CNTC border (AT/IT) and for the whole IN CCR: The new methods and processes of capacity calculation in line with the requirements of the Regulation 2019/943 (see Capacity Calculation paragraph 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 on its southern border (AT/IT) or the TTC in the IN CCR that would comply with the newly designed 70% criteria on at least one limiting CNEC. 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 to 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 3.2).

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.

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 evaluation of the minimum Margin ¹

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

¹ Argumentation is valid for all APG CNECs and the border with Italy, but especially relevant for the consideration of CH flows and resulting remedial actions in the calculation of the whole IN CCR capacity calculation

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 and applied remedial action of APG and the IN CCR are significantly influenced by the import/export and CNECs of Switzerland, a non-consideration of schedules and flows from/to Switzerland during the determination of MCCCs would significantly impact certain APG CNECs and also bring uncertainties for the whole CC process. An agreement with Switzerland regarding the capacity calculation principles and rules taking into account the Regulation 2019/943 is currently being developed within the IN CCR in coordination with the European Commission, ACER and the NRAs. Because the implementation of the requirements of Regulation 2019/943 in the CC Process is depending on the final contractual framework between the IN TSOs and Swissgrid, 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, it would be necessary to artificially increase available capacity/RAM on some CNECs. **A further artificial increase of capacity/RAM would increase the risk for operational security risk and endanger network security.**

3.4. Usage of CNECs capacity >30% by loop or PST flows

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 elements. **This inevitably leads to the fact that 70% margin available for cross-zonal trade cannot be fully given to the market 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 implemented coordinated capacity calculation methods according to the CACM Regulation in the different CCRs. Additional reasons are the pending implementation of proper methods for operational security and remedial action coordination within the IN CCR and the non-existence of adequate cross-CCR coordination, as for example between Italy North and Core 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. 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 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, 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.

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 and the TSOs of the IN CCR plan to develop the necessary methods and concepts, as well as the IT tools in line with the relevant key methodologies according to the CACM Regulation and the SOGL (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

According to the current planning at the end of 2020 the implementation of the IN CCM and the development/testing of the respective IT-tools, will be finished. The new calculation tools should enable IN TSOs to calculate the highest possible NTCs in a more coordinated and accurate manner across the CCR under consideration of reliably maintaining operational security. Furthermore the IN TSOs will work on a methodology and develop tools to respect the 70% requirements. Additionally, before the start of operation additional operators training will take place.

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

Until the implementation of IN CCM (in line with the approved methodology foreseen for Q4/2020), 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 IN TSOs to implement capacity validation requirements in line with IN 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 Italy North methodologies according to Articles 35 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 of 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 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, its optimized application. APG will actively work with the other IN TSOs to submit the open methodology proposals and their implementation related to coordinated redispatch and countertrading methodology (incl. cost-sharing methodology) in line with Articles 35 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 impact originating from 3rd countries on the evaluation of the 70% criterion, APG is actively involved in the IN CCR development of contractual framework between the IN TSOs and Swissgrid.
- These investigations and developments are currently done in close coordination with the European Commission, ACER and the NRAs of the Swiss neighboring countries.

4.5 Mitigation of CNEC capacity usage >30% by loop flows and PST flows

This foreseeable ground for derogation cannot be solved solely by APG. The currently implemented CNTC approach, without consideration of monitoring elements and market-most likely corners, leads often to large volume of PST induced loop flows, significantly influencing the grid of APG, causing respectively aggravating congestions and limiting the available margin on CNECs. An appropriate solution for this issues is currently not yet in place, but foreseen with the implementation of the methodologies according to Articles 21, 35 of the CACM Regulation as well as Articles 75 and 76 SOGL. Besides the ongoing developments of the operational security coordination methodology for the Italy North CCR as referred to in Article 76 of the SOGL Regulation, APG and the TSOs of the IN CCRs are evaluating intermediate improvement of the existing procedures to better coordinate and especially limit loop-flows induced by PSTs. Moreover 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, which requires a close coordination between CCRs.

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. It is planned that a new methodology for determination of the reliability margin will be implemented in Q4/2020 and the currently applied reliability margin will be regularly reassessed.

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 and IN TSOs will develop and publish the methodologies and projects that will provide a 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 within the IN 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 IN 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.

Article 6 Proportionality regarding maintaining the operational security

In light of the foreseeable grounds outlined in Article 3, such as missing capacity calculation and validation tools, lack of consideration of third country flows, lack of available redispatch resources and as well as high loop flows, it is not possible for APG to fulfill the 70% criterion from 1 January 2020 without endangering operational security.

Until the go-live of the respective methods and tools mentioned above (see Article 4), APG has to continue to apply the current methodologies and practices for capacity calculation, in order to maintain operational security, while APG shall make its best efforts to offer on the AT/IT border NTC values that are at least on the same level (on average per direction) as in the last three years.

With the go-live of the new capacity calculation methodologies (including enhancement for the Regulation 2019/943) and respective IT tools, IN TSOs will report the achieved MACZT to IN NRAs. With the go-live of the validation tools APG will assess together with the IN TSOs, in coordination with E-Control, the possibilities to increase cross-zonal capacities considering the 70% criterion, while ensuring operational security.

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).

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 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.

The methodological approaches currently in development and related IT tools, as described in Article 6, will aim at an increased transparency that undue discrimination between internal and cross-zonal exchanges is avoided and the 70% margin for cross-zonal trade is made available to the market as long as operational security can be guaranteed.

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 the IN CCR border of APG, which will be made available for cross-zonal exchanges. The derogation does not provide any grounds for the curtailment of any already allocated capacities. Curtailments of already allocated capacities remain subject to respective Network Codes/Guidelines.

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 border AT/IT for the a period of one year.