

**APPROVAL BY THE GREECE-ITALY REGULATORY
AUTHORITIES**

OF

**THE GREECE-ITALY TSOs PROPOSAL OF COMMON
CAPACITY CALCULATION METHODOLOGY FOR LONG
TERM TIMEFRAME IN ACCORDANCE WITH ARTICLE 10
OF COMMISSION REGULATION (EU) 2016/1719 OF 26
SEPTEMBER 2016 ESTABLISHING A GUIDELINE ON
FORWARD CAPACITY ALLOCATION**

27 January 2020

I. Introduction and legal context

This document elaborates an agreement of the Greece-Italy Regulatory Authorities (in the following: GRIT NRAs), agreed on 27 January 2020 at Greece-Italy Energy Regulators' Regional forum, on the Greece-Italy TSOs (in the following: GRIT TSOs) proposal of common capacity calculation methodology for long term timeframe (in the following: GRIT FCA CCM), submitted as required by Article 10(1) of Commission Regulation (EU) 2016/1719 of 26 September 2016 establishing a guideline on forward capacity allocation (in the following: FCA).

This agreement of the GRIT NRAs shall provide evidence that a decision on the GRIT FCA CCM does not, at this stage, need to be adopted by ACER pursuant to Article 4(11) of FCA. It is intended to constitute the basis on which the GRIT NRAs will each subsequently approve the GRIT FCA CCM pursuant to Article 4(11) of FCA.

The legal provisions that lie at the basis of the GRIT FCA CCM, and this GRIT NRAs agreement on the above mentioned methodology, can be found in Articles 3, 4, 9, 10, 11, 12, 13, 14, 15, 23, 24 and 30 of FCA and in Article 5 of Commission Regulation (EU) 2019/942 of 5 June 2019 establishing a European Union Agency for the Cooperation of Energy Regulators (recast) (in the following: ACER Regulation (recast)). They are set out here for reference.

Article 3 of FCA

Objectives of forward capacity allocation

This Regulation aims at:

- (a) promoting effective long-term cross-zonal trade with long-term cross-zonal hedging opportunities for market participants;*
- (b) optimising the calculation and allocation of long-term cross-zonal capacity;*
- (c) providing non-discriminatory access to long-term cross-zonal capacity;*
- (d) (...)*
- (e) (...)*
- (f) ensuring and enhancing the transparency and reliability of information on forward capacity allocation;*
- (g) contributing to the efficient long-term operation and development of the electricity transmission system and electricity sector in the Union.*

Article 4 of FCA

Adoption of terms and conditions or methodologies

- 1. TSOs shall develop the terms and conditions or methodologies required by this Regulation and submit them for approval to the competent regulatory authorities within the respective deadlines set out in this Regulation. Where a proposal for terms and conditions or methodologies pursuant to this Regulation needs to be developed and agreed by more than one TSO, the participating TSOs shall closely cooperate. TSOs, with the assistance of ENTSO for Electricity, shall regularly inform the competent regulatory authorities and the Agency about the progress of the development of these terms and conditions or methodologies.
[...]*
- 5. Each regulatory authority shall be responsible for approving the terms and conditions or methodologies referred to in paragraphs 6 and 7.*
- 6. (...)*
- 7. The proposals for the following terms and conditions or methodologies shall be subject to approval by all regulatory authorities of the concerned region:
a. the capacity calculation methodology pursuant to Article 10;
[...]*

8. *The proposal for terms and conditions or methodologies shall include a proposed timescale for their implementation and a description of their expected impact on the objectives of this Regulation. Proposals on terms and conditions or methodologies subject to the approval by several or all regulatory authorities shall be submitted to the Agency at the same time that they are submitted to regulatory authorities. Upon request by the competent regulatory authorities, the Agency shall issue an opinion within three months on the proposals for terms and conditions or methodologies..*
9. *Where the approval of the terms and conditions or methodologies requires a decision by more than one regulatory authority, the competent regulatory authorities shall consult and closely cooperate and coordinate with each other in order reach an agreement. Where applicable, the competent regulatory authorities shall take into account the opinion of the Agency. Regulatory authorities shall take decisions concerning the submitted terms and conditions or methodologies in accordance with paragraphs 6 and 7, within six months following the receipt of the terms and conditions or methodologies by the regulatory authority or, where applicable, by the last regulatory authority concerned.*
10. *Where the regulatory authorities have not been able to reach an agreement within the period referred to in paragraph 9, or upon their joint request, the Agency shall adopt a decision concerning the submitted proposals for terms and conditions or methodologies within six months, in accordance with Article 8(1) of Regulation (EC) No 713/2009.*
11. *In the event that one or several regulatory authorities request an amendment to approve the terms and conditions or methodologies submitted in accordance with paragraphs 6 and 7, the relevant TSOs shall submit a proposal for amended terms and conditions or methodologies for approval within two months following the requirement from the regulatory authorities. The competent regulatory authorities shall decide on the amended terms and conditions or methodologies within two months following their submission. Where the competent regulatory authorities have not been able to reach an agreement on terms and conditions or methodologies pursuant to paragraphs 6 and 7 within the two-month deadline, or upon their joint request, the Agency shall adopt a decision concerning the amended terms and conditions or methodologies within six months, in accordance with Article 8(1) of Regulation (EC) No 713/2009. (...)*
12. (...)
13. *TSOs responsible for establishing the terms and conditions or methodologies in accordance with this Regulation shall publish them on the internet after approval by the competent regulatory authorities or, if no such approval is required, after their establishment, except where such information is considered as confidential in accordance with Article 7.*

Article 9 of FCA

Capacity calculation time frames

All TSOs in each capacity calculation region shall ensure that long-term cross-zonal capacity is calculated for each forward capacity allocation and at least on annual and monthly time frames.

Article 10 of FCA

Capacity calculation methodology

1. *No later than six months after the approval of the common coordinated capacity calculation methodology referred to in Article 9(7) of Regulation (EU) 2015/1222, all TSOs in each capacity calculation region shall submit a proposal for a common capacity calculation methodology for long-term time frames within the respective region. The proposal shall be subject to consultation in accordance with Article 6.*
2. *The approach used in the common capacity calculation methodology shall be either a coordinated net transmission capacity approach or a flow-based approach.*
3. *The capacity calculation methodology shall be compatible with the capacity calculation methodology established for the day-ahead and intraday time frames pursuant to Article 21(1) of Regulation (EU) 2015/1222.*

4. *The uncertainty associated with long-term capacity calculation time frames shall be taken into account when applying:*
 - a. *a security analysis based on multiple scenarios and using the capacity calculation inputs, the capacity calculation approach referred to in Article 21(1)(b) and the validation of cross-zonal capacity referred to in Article 21(1)(c) of Regulation (EU) 2015/1222; or*
 - b. *a statistical approach based on historical cross-zonal capacity for day-ahead or intraday time frames if it can be demonstrated that this approach may:*
 - (i) *increase the efficiency of the capacity calculation methodology;*
 - (ii) *better take into account the uncertainties in long-term cross-zonal capacity calculation than the security analysis in accordance with paragraph 4(a);*
 - (iii) *increase economic efficiency with the same level of system security.*
5. *All TSOs in each capacity calculation region may jointly apply the flow-based approach for long-term capacity calculation time frames on the following conditions:*
 - a. *the flow-based approach leads to an increase of economic efficiency in the capacity calculation region with the same level of system security;*
 - b. *the transparency and accuracy of the flow-based results have been confirmed in the capacity calculation region;*
 - c. *the TSOs provide market participants with six months to adapt their processes.*
6. *Where a security analysis based on multiple scenarios is applied for developing the capacity calculation methodology in a capacity calculation region, the requirements for the capacity calculation inputs, the capacity calculation approach and the validation of cross-zonal capacity as provided for in Article 21(1) of Regulation (EU) 2015/1222, except Article 21(1)(a)(iv) where relevant, shall apply.*
7. *When developing the capacity calculation methodology, the requirements for the fallback procedures and the requirement provided for in Article 21(3) of Regulation (EU) 2015/1222 shall be taken into account.*

Article 11 of FCA

Reliability margin methodology

The proposal for a common capacity calculation methodology shall include a reliability margin methodology which shall meet the requirements set out in Article 22 of Regulation (EU) 2015/1222.

Article 12 of FCA

Methodologies for operational security limits and contingencies

The proposal for a common capacity calculation methodology shall include methodologies for operational security limits and contingencies which shall meet the requirements set out in Article 23(1) and (2) of Regulation (EU) 2015/1222.

Article 13 of FCA

Generation shift keys methodology

The proposal for a common capacity calculation methodology shall include a methodology to determine generation shift keys which shall meet the requirements set out in Article 24 of Regulation (EU) 2015/1222.

Article 14 of FCA

Methodology for remedial actions

If remedial actions are taken into account in the long-term capacity calculation, each TSO shall ensure that those remedial actions are technically available in real time operation and meet the requirements set out in Article 25 of Regulation (EU) 2015/1222.

Article 15 of FCA

Cross-zonal capacity validation methodology

The proposal for a common capacity calculation methodology shall include a cross-zonal validation methodology which shall meet the requirements set out in Article 26 of Regulation (EU) 2015/1222.

Article 23 of FCA

Regional calculations of long-term cross-zonal capacity

1. *Where TSOs apply the statistical approach pursuant to Article 10, the process for the calculation of long-term cross-zonal capacity shall include at least:*
 - a. *a selection of historical day-ahead or intraday cross-zonal capacity data sets from a single period or a set of periods and order the data into a duration curve;*
 - b. *a calculation of capacity corresponding to the risk level for the selected data set;*
 - c. *a calculation of long-term cross-zonal capacity to be offered to forward capacity allocation taking into account a margin to reflect the difference between historical cross-zonal capacity values and forecasted long-term cross-zonal capacity values;*
 - d. *common rules to take into account available information about planned outages, new infrastructure and generation and load pattern for the long-term capacity calculation time frames.*
2. *Where TSOs apply the security analysis based on multiple scenarios pursuant to Article 10, the requirements set in Article 29 of Regulation (EU) 2015/1222, except Article 29(4) where relevant, shall apply to long-term capacity calculation time frames in capacity calculation regions.*
3. (...)
4. *Each coordinated capacity calculator shall submit the calculated long-term cross-zonal capacity (...) for validation to each TSO within the relevant capacity calculation region pursuant to Article 24.*

Article 24 of FCA

Validation and delivery of cross-zonal capacity and split cross-zonal capacity

1. *Each TSO shall validate the results of the calculation for long-term cross-zonal capacity on its bidding zone borders or critical network elements for each long-term capacity calculation time frame pursuant to Article 15.*
2. (...)
3. *Each TSO shall send its capacity validation (...) for each forward capacity allocation to the relevant coordinated capacity calculators and to the other TSOs of the relevant capacity calculation regions.*

[...]

Article 30 of FCA

Decision on cross-zonal risk hedging opportunities

[...]

7. *Where regulatory authorities decide that long-term transmission rights shall not be issued by the respective TSOs or that other long-term cross-zonal hedging products shall be made available by the respective TSOs, Articles 16, 28, 29, 31 to 57, 59 and 61 shall not apply to the TSOs of the bidding zone borders.*

Article 5 of ACER Regulation (recast)

Tasks of ACER as regards the development and implementation of network codes and guidelines

[...]

1. *Where one of the following legal acts provides for the development of proposals for terms and conditions or methodologies for the implementation of network codes and guidelines which require the approval of all the regulatory authorities of the region concerned, those regulatory authorities shall agree unanimously on the common terms and conditions or methodologies to be approved by each of those regulatory authorities:*
 - (a) *a legislative act of the Union adopted under the ordinary legislative procedure;*
 - (b) *network codes and guidelines that were adopted before 4 July 2019 and subsequent revisions of those network codes and guidelines; or*

(c) network codes and guidelines adopted as implementing acts pursuant to Article 5 of Regulation (EU) No 182/2011.

The proposals referred to in the first subparagraph shall be notified to ACER within one week of their submission to those regulatory authorities. The regulatory authorities may refer the proposals to ACER for approval pursuant to point (b) of the second subparagraph of Article 6(10) and shall do so pursuant to point (a) of the second subparagraph of Article 6(10) where there is no unanimous agreement as referred to in the first subparagraph.

The Director or the Board of Regulators, acting on its own initiative or on a proposal from one or more of its members, may require the regulatory authorities of the region concerned to refer the proposal to ACER for approval. Such a request shall be limited to cases in which the regionally agreed proposal would have a tangible impact on the internal energy market or on security of supply beyond the region.

[...]

II. The Greece-Italy TSOs proposal

The GRIT FCA CCM was consulted by the GRIT TSOs through ENTSO-E for one month from 18 December 2018 to 17 January 2019, in line with Article 10 and Article 6 of FCA¹. The GRIT FCA CCM proposal was received by the last Regulatory Authority of the Greece-Italy Capacity Calculation Region on 29 January 2019. Following a request for amendment issued by GRIT NRAs on 29 July 2019, a new version of GRIT FCA CCM was submitted by GRIT TSOs: the last concerned Regulatory Authority received it on 27 November 2019.

Article 4(11) of FCA requires GRIT NRAs to consult and closely cooperate and coordinate with each other in order to reach an agreement and make decisions on the amended version within two months following receipt of submission of the last Regulatory Authority concerned. A decision is therefore required by 27 January 2019.

For the long-term capacity calculation timeframes, CNTC is adopted in the Greece-Italy Capacity Calculation Region due to its radial (“non-meshed”) grid structure. The GRIT FCA CCM applies a statistical approach based on historical cross-zonal capacity for day-ahead or intraday timeframes of the last two years calculated in a coordinated manner in the Greece-Italy Capacity Calculation Region in order to properly take into account all sources of uncertainty related to the long-term capacity calculation timeframes.

In case a relevant reduction (due to a planned outage) or a relevant increase (due to new investments) of the cross zonal capacity is expected with respect to the historical values, GRIT TSOs are entitled to activate an ad hoc capacity calculation process (security analysis) based on multiple scenarios.

For Italian internal bidding zone borders, two yearly values (peak and off-peak) are computed for each border and direction. Each value is in principle assumed equal to the 50^o percentile of the historical curve (filtered to take into account either peak or off-peak hours): a floor value is nonetheless introduced to grant a minimum value of yearly capacity in case the 50^o percentile turns to be too low due to significant and persistent outages affecting the historical data set. This floor value is assumed equal to 10% of the maximum expected capacity²: if the ad hoc capacity calculation process is activated, the floor value is increased to take into account the positive effect of new investments (no reduction occurs in case of relevant planned outages, because the floor value is quite low yet).

¹ The public consultation is available on the ENTSO-e website:

https://consultations.entsoe.eu/markets/fca_art_10_ccr_grit/

² Maximum expected capacity is estimated as the 95^o percentile of the historical curve.

For monthly timeframe, two different values (peak and off peak) are provided for each day of the considered month and for each border and direction. In case no outages are expected for the given day, monthly capacity is in principle equal to the 95° percentile of the historical data set related to the same season: if the ad hoc capacity calculation process is activated to take into account new investments, the monthly capacity is assumed equal to the ad hoc computed capacity. In case an outage is planned for the given day, the monthly capacity is assumed equal to the 50° percentile of the historical data set considering only the relevant hours where the same element was out of service: this value may be further reduced in case the TSOs activate the ad hoc capacity calculation process and the resulting capacity value is lower than the 50° percentile.

For Greece-Italy SUD border (composed by a single HVDC), a value is defined for each delivery hour. If the HVDC is expected to be in service in that hour, the capacity is equal to the 50° percentile of the historical data set (filtered to take into account only hours where the cable was available); since the HVDC full capacity is usually offered to the market if the cable is in operation³, the 50° percentile will in principle be equal to the full HVDC capacity itself. A similar approach applies when the cable is expected to be unavailable: in such case zero capacity is usually offered to the market⁴, thus the long term capacity is in principle equal to zero.

Yearly data are provided by the 15th of December of Y-1 while monthly data are provided by the 10th day of M-1: the entire statistical curves are provided for Italian internal bidding zone borders for each border and direction⁵, while for Greece-Italy SUD border the hourly profile is provided.

The TSOs may activate the ad hoc capacity calculation process at least 30 days before the relevant deadlines for capacity reduction and at least 20 days before the relevant deadlines for capacity increase: all the computations (including the definition of the relevant scenarios) shall be concluded at least 5 days before the relevant deadlines for providing the long term capacity data.

The TSOs shall validate the long-term cross-zonal capacity values: in case a reduction is requested, the relevant TSO shall provide the updated amount of cross-zonal capacities for the considered border and the reasons for the reduction.

In case the capacity calculation process fails, Y-1 values are adopted as fallback for yearly capacity, while yearly values are considered as fallback for monthly capacity.

The proposal includes a timescale for the implementation (S2 2021 for both yearly and monthly capacity) and a description of the expected impact on the objectives of FCA, in line with Article 4(8) of FCA.

III. The Greece-Italy Regulatory Authorities position

Greece-Italy CCR, as amended by ACER Decision 04/2019, includes the Greece-Italy SUD border (DC border composed by a single DC interconnector) plus all the Italian internal bidding zone borders.

³ Some reductions may occur because of local network constraints. The statistical approach aims to catch this situation in the historical data set: nonetheless reductions are very rare and thus they are not expected to affect the 50° value.

⁴ Till 2018 curtailment of long term transmission capacity was allowed only for 45 equivalent days. In case of longer unavailability, long term transmission rights could be nominated anyway and some capacity needed to be offered in the day-ahead market to accommodate such nominations. The statistical approach catches this situation in the historical data set. Since 2019, nonetheless, the 45 equivalent days limit has been removed and in case of unavailability zero capacity is offered to the market.

⁵ These data are provided for information purpose only: a specific clause will be added, stating that there is no link between the published values and the transit limits used for allocating the specific CCC hedging products defined according to Arera Resolution 205/04.

Long term transmission rights pursuant to FCA are auctioned only on the Greece – Italy SUD border; for all the Italian internal bidding zone borders, instead, a specific hedging product is preferred, as stated by Arera in the Resolution 333/2017.

As stated by Article 30(7) of FCA, TSOs offering specific hedging products shall not apply a number of provisions included in FCA: nonetheless this exemption does not include the capacity calculation, thus long-term cross-zonal capacity shall be computed by GRIT TSOs also on all internal Italian bidding zone borders.

In their request for amendment GRIT NRAs considered the situation described above and asked to GRIT TSOs to differentiate the computation and the publication of information with respect to Greece-Italy SUD border and the other borders. Other minor issues were addressed too.

GRIT NRAs welcome the effort by GRIT TSOs to improve the GRIT FCA CCM proposal according to the amendments required by GRIT NRAs. In particular with respect to the previous version, the new document fully matches the GRIT NRAs' request by:

- a) including the reasons behind the main parameters adopted for the statistical approach; such information was indeed present in the explanatory note for the previous version, but it is moved now into the legal document;
- b) detailing the ad-hoc computation process used to deal with relevant capacity reduction or increase;
- c) aligning the implementation timeline for both yearly and monthly capacity for Greece-Italy SUD border, avoiding the overlapping between old and new computation for 2021 products;
- d) clarifying that the capacity for Greece-Italy SUD border is based on an hourly profile taking into account the expected availability of the interconnection; a statistical approach is preserved to manage potential reductions associated to network constraints;
- e) foreseeing the publication of the entire statistical curves for Italian internal bidding zone borders, for information purpose only.

Moreover, in the explanatory note the TSOs justify why they prefer to adopt a statistical approach also for Italian internal DC borders (capacity in such border is affected by external constraints and a statistical approach is more beneficial).

IV. Conclusions

The GRIT NRAs have consulted and closely cooperated and coordinated to reach agreement that **they intend to approve the GRIT FCA CCM proposal submitted by GRIT TSOs pursuant to Article 10 of FCA.**

The GRIT NRAs must make their national decisions to approve the capacity calculation methodology, on the basis of this agreement.