

**APPROVAL BY THE ITALY NORTH REGULATORY  
AUTHORITIES**

**OF**

**THE ITALY NORTH TSOs PROPOSALS FOR A D-2 AND  
INTRADAY COMMON CAPACITY CALCULATION  
METHODOLOGY IN ACCORDANCE WITH ARTICLE 21  
OF COMMISSION REGULATION 2015/1222 OF 24 JULY  
2015 ESTABLISHING A GUIDELINE ON CAPACITY  
ALLOCATION AND CONGESTION MANAGEMENT**

**25 October 2019**

## I. Introduction and legal context

This document elaborates an agreement of the Italy North Regulatory Authorities (in the following: IN NRAs), agreed on 25 October 2019 at Italy North Energy Regulators' Regional forum, on the Italy North TSO proposals for a D-2 and intraday common capacity calculation methodology (in the following: IN CCM), submitted as required by Article 20(2) and in accordance with Article 21 of Commission Regulation 2015/1222 of 24 July 2015 establishing a Guideline on Capacity Allocation and Congestion Management (in the following: CACM).

This agreement of the IN NRAs shall provide evidence that a decision on the IN CCM does not, at this stage, need to be adopted by ACER pursuant to Article 9(12) of CACM. It is intended to constitute the basis on which the IN NRAs will each subsequently issue a national decision to approve the IN CCM pursuant to Article 9(12) of CACM.

The legal provisions that lie at the basis of the IN CCM, and this IN NRAs agreement on the above mentioned methodology, can be found in Articles 3, 8, 9, 14, 20, 21, 22, 23, 24, 25, 26, 29, 30, 46 and 58 of CACM and in Article 5 of the Regulation (EU) 2019/942 of the European Parliament and of the Council of 5 June 2019 establishing a European Union Agency for the Cooperation of Energy Regulators (recast) (in the following: recast ACER Regulation). They are set out here for reference.

### CACM

#### Article 3

##### **Objectives of capacity allocation and congestion management cooperation**

*This Regulation aims at:*

- (a) *Promoting effective competition in the generation, trading and supply of electricity;*
- (b) *Ensuring optimal use of the transmission infrastructure;*
- (c) *Ensuring operational security;*
- (d) *Optimising the calculation and allocation of cross-zonal capacity;*
- (e) (...);
- (f) (...);
- (g) *Contributing to the efficient long-term operation and development of the electricity transmission system and electricity sector in the Union;*
- (h) (...);
- (i) (...);
- (j) (...).

#### Article 8

##### **TSOs' tasks related to single day-ahead and intraday coupling**

1. *In Member States electrically connected to another Member State all TSOs shall participate in the single day-ahead and intraday coupling.*

2. *TSOs shall:*

*[...]*

*(c) establish and perform capacity calculation in accordance with Articles 14 to 30;*

*[...]*

*(e) calculate and send cross zonal capacities and allocation constraints in accordance with Articles 46 and 58;*

*[...]*

## **Article 9**

### **Adoption of terms and conditions or methodologies**

1. TSOs and NEMOs 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 or NEMO, the participating TSOs and NEMOs shall closely cooperate. TSOs, with the assistance of ENTSO for Electricity, and all NEMOs shall regularly inform the competent regulatory authorities and the Agency about the progress of developing these terms and conditions or methodologies.  
[...]
5. Each regulatory authority shall approve the terms and conditions or methodologies used to calculate or set out the single day-ahead and intraday coupling developed by TSOs and NEMOs. They shall be responsible for approving the terms and conditions or methodologies referred to in paragraphs 6, 7 and 8.
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 common capacity calculation methodology in accordance with Article 20(2);  
[...]
8. (...)
9. 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.
10. 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, 7 and 8, 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.
11. (...)
12. 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, 7 and 8, the relevant TSOs or NEMOs 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. If the relevant TSOs or NEMOs fail to submit a proposal for amended terms and conditions or methodologies, the procedure provided for in paragraph 4 of this Article shall apply.

13. TSOs or NEMOs responsible for developing a proposal for terms and conditions or methodologies or regulatory authorities responsible for their adoption in accordance with paragraphs 6, 7 and 8, may request amendments of these terms and conditions or methodologies. The proposals for amendment to the terms and conditions or methodologies shall be submitted to consultation in accordance with the procedure set out in Article 12 and approved in accordance with the procedure set out in this Article.
14. TSOs and NEMOs 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 13.

## **Article 14**

### **Capacity calculation time-frames**

1. All TSOs shall calculate cross-zonal capacity for at least the following time-frames:
  - (a) day-ahead, for the day-ahead market;
  - (b) intraday, for the intraday market.
2. For the day-ahead market time-frame, individual values for cross-zonal capacity for each day-ahead market time unit shall be calculated. For the intraday market time-frame, individual values for cross-zonal capacity for each remaining intraday market time unit shall be calculated.
3. For the day-ahead market time-frame, the capacity calculation shall be based on the latest available information. The information update for the day-ahead market time-frame shall not start before 15:00 market time two days before the day of delivery.
4. All TSOs in each capacity calculation region shall ensure that cross-zonal capacity is recalculated within the intraday market time-frame based on the latest available information. The frequency of this recalculation shall take into consideration efficiency and operational security.

## **Article 20**

### **Introduction of flow-based capacity calculation methodology**

1. For the day-ahead market time-frame and intraday market time-frame the approach used in the common capacity calculation methodologies shall be a flow-based approach, except where the requirement under paragraph 7 is met.
2. No later than 10 months after the approval of the proposal for a capacity calculation region in accordance with Article 15(1), all TSOs in each capacity calculation region shall submit a proposal for a common coordinated capacity calculation methodology within the respective region. The proposal shall be subject to consultation in accordance with Article 12. [...]
3. The TSOs from the capacity calculation region where Italy, as defined in point (c) of point 3.2 of Annex I to Regulation (EC) No 714/2009, is included, may extend the deadline without prejudice to the obligation in paragraph 1 for submitting the proposal for a common coordinated capacity calculation methodology using flow-based approach for the respective region pursuant to paragraph 2 up to six months after Switzerland joins the single day-ahead coupling. The proposal does not have to include bidding zone borders within Italy and between Italy and Greece.

[...]

7. TSOs may jointly request the competent regulatory authorities to apply the coordinated net transmission capacity approach in regions and bidding zone borders other than those referred to in paragraphs 2 to 4, if the TSOs concerned are able to demonstrate that the application of the capacity calculation methodology using the flow-based approach would not yet be more efficient compared to the coordinated net transmission capacity approach and assuming the same level of operational security in the concerned region.

## **Article 21**

### **Capacity calculation methodology**

1. *The proposal for a common capacity calculation methodology for a capacity calculation region determined in accordance with Article 20(2) shall include at least the following items for each capacity calculation time-frame:*
  - (a) *methodologies for the calculation of the inputs to capacity calculation, which shall include the following parameters:*
    - (i) *a methodology for determining the reliability margin in accordance with Article 22;*
    - (ii) *the methodologies for determining operational security limits, contingencies relevant to capacity calculation and allocation constraints that may be applied in accordance with Article 23;*
    - (iii) *the methodology for determining the generation shift keys in accordance with Article 24;*
    - (iv) *the methodology for determining remedial actions to be considered in capacity calculation in accordance with Article 25.*
  - (b) *a detailed description of the capacity calculation approach which shall include the following:*
    - (i) *a mathematical description of the applied capacity calculation approach with different capacity calculation inputs;*
    - (ii) *rules for avoiding undue discrimination between internal and cross-zonal exchanges to ensure compliance with point 1.7 of Annex I to Regulation (EC) No 714/2009;*
    - (iii) *rules for taking into account, where appropriate, previously allocated cross-zonal capacity;*
    - (iv) *rules on the adjustment of power flows on critical network elements or of cross-zonal capacity due to remedial actions in accordance with Article 25;*
    - (v) *(...)*
    - (vi) *for the coordinated net transmission capacity approach, the rules for calculating cross-zonal capacity, including the rules for efficiently sharing the power flow capabilities of critical network elements among different bidding zone borders;*
    - (vii) *(...)*
  - (c) *a methodology for the validation of cross-zonal capacity in accordance with Article 26.*
2. *For the intraday capacity calculation time-frame, the capacity calculation methodology shall also state the frequency at which capacity will be reassessed in accordance with Article 14(4), giving reasons for the chosen frequency.*
3. *The capacity calculation methodology shall include a fallback procedure for the case where the initial capacity calculation does not lead to any results.*
4. *[...]*

## **Article 22**

### **Reliability margin methodology**

1. *The proposal for a common capacity calculation methodology shall include a methodology to determine the reliability margin. The methodology to determine the reliability margin shall consist of two steps. First, the relevant TSOs shall estimate the probability distribution of deviations between the expected power flows at the time of the capacity calculation and realised power flows in real time. Second, the reliability margin shall be calculated by deriving a value from the probability distribution.*
2. *The methodology to determine the reliability margin shall set out the principles for calculating the probability distribution of the deviations between the expected power flows at the time of the capacity calculation and realised power flows in real time, and specify the uncertainties to be taken into account in the calculation. To determine those uncertainties, the methodology shall in particular take into account:*
  - (a) *unintended deviations of physical electricity flows within a market time unit caused by the adjustment of electricity flows within and between control areas, to maintain a constant frequency;*

- (b) uncertainties which could affect capacity calculation and which could occur between the capacity calculation timeframe and real time, for the market time unit being considered.
3. In the methodology to determine the reliability margin, TSOs shall also set out common harmonised principles for deriving the reliability margin from the probability distribution.
  4. On the basis of the methodology adopted in accordance with paragraph 1, TSOs shall determine the reliability margin respecting the operational security limits and taking into account uncertainties between the capacity calculation time-frame and real time, and the remedial actions available after capacity calculation.
  5. For each capacity calculation time-frame, the TSOs concerned shall determine the reliability margin for critical network elements, where the flow-based approach is applied, and for cross-zonal capacity, where the coordinated net transmission capacity approach is applied.

#### **Article 23**

##### **Methodologies for operational security limits, contingencies and allocation constraints**

1. Each TSO shall respect the operational security limits and contingencies used in operational security analysis.
2. If the operational security limits and contingencies used in capacity calculation are not the same as those used in operational security analysis, TSOs shall describe in the proposal for the common capacity calculation methodology the particular method and criteria they have used to determine the operational security limits and contingencies used for capacity calculation.
3. If TSOs apply allocation constraints, they can only be determined using:
  - (a) constraints that are needed to maintain the transmission system within operational security limits and that cannot be transformed efficiently into maximum flows on critical network elements; or
  - (b) constraints intended to increase the economic surplus for single day-ahead or intraday coupling.

#### **Article 24**

##### **Generation shift keys methodology**

1. The proposal for a common capacity calculation methodology shall include a proposal for a methodology to determine a common generation shift key for each bidding zone and scenario developed in accordance with Article 18.
2. The generation shift keys shall represent the best forecast of the relation of a change in the net position of a bidding zone to a specific change of generation or load in the common grid model. That forecast shall notably take into account the information from the generation and load data provision methodology.

#### **Article 25**

##### **Methodology for remedial actions in capacity calculation**

1. Each TSO within each capacity calculation region shall individually define the available remedial actions to be taken into account in capacity calculation to meet the objectives of this Regulation.
2. Each TSO within each capacity calculation region shall coordinate with the other TSOs in that region the use of remedial actions to be taken into account in capacity calculation and their actual application in real time operation.
3. To enable remedial actions to be taken into account in capacity calculation, all TSOs in each capacity calculation region shall agree on the use of remedial actions that require the action of more than one TSO.
4. Each TSO shall ensure that remedial actions are taken into account in capacity calculation under the condition that the available remedial actions remaining after calculation, taken together with the reliability margin referred to in Article 22, are sufficient to ensure operational security.
5. Each TSO shall take into account remedial actions without costs in capacity calculation.
6. Each TSO shall ensure that the remedial actions to be taken into account in capacity calculation are the same for all capacity calculation time-frames, taking into account their technical availabilities for each capacity calculation timeframe.

## **Article 26**

### **Cross-zonal capacity validation methodology**

1. *Each TSO shall validate and have the right to correct cross-zonal capacity relevant to the TSO's bidding zone borders or critical network elements provided by the coordinated capacity calculators in accordance with Articles 27 to 31.*
2. *Where a coordinated net transmission capacity approach is applied, all TSOs in the capacity calculation region shall include in the capacity calculation methodology referred to in Article 21 a rule for splitting the correction of cross-zonal capacity between the different bidding zone borders.*
3. *Each TSO may reduce cross-zonal capacity during the validation of cross-zonal capacity referred to in paragraph 1 for reasons of operational security.*
4. *Each coordinated capacity calculator shall coordinate with the neighbouring coordinated capacity calculators during capacity calculation and validation.*
5. *Each coordinated capacity calculator shall, every three months, report all reductions made during the validation of cross-zonal capacity in accordance with paragraph 3 to all regulatory authorities of the capacity calculation region. This report shall include the location and amount of any reduction in cross-zonal capacity and shall give reasons for the reductions.*

[...]

## **Article 29**

### **Regional calculation of cross-zonal capacity**

[...]

8. *Each coordinated capacity calculator applying the coordinated net transmission capacity approach shall:*
  - (a) *use the common grid model, generation shift keys and contingencies to calculate maximum power exchange on bidding zone borders, which shall equal the maximum calculated exchange between two bidding zones on either side of the bidding zone border respecting operational security limits;*
  - (b) *adjust maximum power exchange using remedial actions taken into account in capacity calculation in accordance with Article 25;*
  - (c) *adjust maximum power exchange, applying rules for avoiding undue discrimination between internal and cross-zonal exchanges in accordance with Article 21(1)(b)(ii);*
  - (d) *apply the rules set out in accordance with Article 21(1)(b)(vi) for efficiently sharing the power flow capabilities of critical network elements among different bidding zone borders;*
  - (e) *calculate cross-zonal capacity, which shall be equal to maximum power exchange adjusted for the reliability margin and previously allocated cross-zonal capacity*

[...]

## **Article 30**

### **Validation and delivery of cross-zonal capacity**

1. *Each TSO shall validate the results of the regional capacity calculation for its bidding zone borders or critical network elements, in accordance with Article 26.*
2. (...)
3. *Each coordinated capacity calculator shall provide the validated cross-zonal capacities and allocation constraints for the purposes of allocating capacity in accordance with Articles 46 and 58.*

## **Article 46**

### **Provision of input data**

1. *Each coordinated capacity calculator shall ensure that cross-zonal capacity and allocation constraints shall be provided to relevant NEMOs in time to ensure the publication of cross-zonal capacity and of allocation constraints to the market no later than 11.00 market time day-ahead.*

[...]

## **Article 58**

### **Provision of input data**

1. *Each coordinated capacity calculator shall ensure that cross-zonal capacity and allocation constraints are provided to the relevant NEMOs no later than 15 minutes before the intraday cross-zonal gate opening time.*

[...]

It's also worth mentioning the provisions of the Regulation

## **Recast ACER Regulation**

### **Article 5**

#### **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 Italy North TSOs proposals

The IN CCM constitutes of two separate proposals, one related to the D-2 common capacity calculation (relevant for day-ahead market) and the other to intraday capacity calculation. Both proposals were consulted by the IN Italy TSOs through the website of ENTSO-E for one month from 23 February 2018 to 23 March 2018, in line with Article 20 and Article 12 of CACM<sup>1</sup>. The final IN CCM proposals were received by the last Regulatory Authority of the Italy North Capacity Calculation Region on 24 May 2018. On 23 November 2018 IN NRAs agreed on a first request for amendment. The last Regulatory Authority sent this request on 18 December 2018. The revised proposals were received by the last Regulatory Authority on 18 March 2018. On 17 May 2019 IN NRAs agreed on a second request for amendment. The last Regulatory Authority sent this request on 11 June 2019. A new version of the IN CCM was thus prepared by the TSOs. The last Regulatory Authority received it on 12 September 2019. After the formal submission, the TSOs identified a mistake in the intraday proposal, and, consequently, a corrected version was made available on 23 September 2019.

Article 9(12) of CACM requires IN NRAs to consult and closely cooperate and coordinate with each other in order to reach an agreement and take a decision within two months following receipt of submissions of the last Regulatory Authority concerned. A decision is therefore required by 12 November 2019.

The IN CCM is based on a Coordinated Net Transmission Capacity (in the following: CNTC) approach:

- a) the cross-zonal capacity is computed by increasing the generation on the export side and by decreasing the generation on the import side; increase and decrease in each node are set according to the Generation Shift Keys (in the following: GSK), defined by each TSO;
- b) the D-2 process starts in D-2 and it is based on D-2 regional Common Grid Models; the intraday capacity calculation process is performed twice based on D-1 and Intraday Common Grid Models; a first computation is run in the afternoon of D-1 (for all the market time units of day D) and a second computation in the early morning of D (related to the market time units 17-24 of day D);
- c) the reliability margin is computed on the basis of the statistical distribution of the unintended deviations; a risk level will be set by IN TSOs one year after approval of the IN CCM; in the meanwhile, a fixed predefined value will be used, based on the historical performance;
- d) only network elements significantly influenced by cross-zonal power exchanges are included in the list of contingencies and network constraints; a sensitivity threshold equal to 5% is assumed and any change to this threshold requires an amendment of the proposal;
- e) when computing capacity for export from Italy North bidding zone some further elements (so called monitored network elements – MNE) are taken into account during the optimization of the remedial actions; this concept applies for 18 months after the implementation of the capacity calculation in the export direction from Italy North bidding zone; the TSOs shall assess the avoided costs of remedial actions due to the MNE concept against the loss of social welfare due to the reduction of the cross-zonal capacity; the results shall be submitted to IN NRAs by 12 months after the implementation of the capacity calculation in export direction from Italy North bidding zone, along with a proposal to keep or phase out the MNE concept;

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<sup>1</sup> The public consultations are available on the ENTSO-e website:  
<https://consultations.entsoe.eu/markets/italy-north-tso-proposal-id-ccm/> and  
<https://consultations.entsoe.eu/markets/italy-north-tso-proposal-da-ccm/>

- f) specific allocation constraints are introduced to take into account the operational constraints related to the control of voltage profiles and dynamic stability of the Italian power system; the relevant parameters used to set the maximum available import to the Italian power system are published; the allocation constraints will be implemented as a specific constraint within the day-ahead and intraday coupling algorithm; in the meanwhile, reduction of the cross-zonal capacity by the level of the allocation constraint is accepted, but the full and unconstrained capacity will be published for sake of transparency; a study on allocation constraints, exploring and assessing alternative measures, is due by 18 months after the implementation of the CCM, along with a proposal to keep or phase out these constraints.;
- g) both preventive and curative remedial actions are defined; costly curative remedial actions are allowed, in accordance with national legislation; only SPS (Special Protection Schemes) will act in a curative stage, after tripping of grid elements;
- h) the intraday cross-zonal capacity computed by the coordinated capacity calculator is constrained to be within a predefined limiting band (so called selection phase); this phase will be abandoned no later than Q4 2019; no selection phase is included in the proposal for the day-ahead calculation;
- i) the computed cross-zonal capacities are then validated by each TSO: in particular, TSOs listed all the conditions endangering operational security that may lead to a reduction of the cross-zonal capacity; the final values for cross-zonal capacity is the minimum value sent by either TSO during the validation process;
- j) in case the capacity calculation process is not able to produce a result, the TSOs validate the latest coordinated cross-zonal capacities; in such cases, the latest available coordinated values in the long-term timeframe are used as a fallback for the day-ahead timeframe, while the latest available coordinated values relevant for the day-ahead timeframe are used as a fallback for the intraday timeframe;
- k) capacity will be computed for both flow directions; for export capacity (exports from Italy North bidding zone), the values will be referred to the borders where export is most likely to occur;
- l) the D-2 calculation of cross-zonal capacities for import to Italy North bidding zone will be implemented as soon as approved by IN NRAs; the TSOs intend to adapt the current D-2 CNTC methodology in force since February 2016, (modification of all necessary current procedures and in particular, abandoning the selection phase currently in force);
- m) the intraday calculation of cross-zonal capacities for import to Italy North is currently in the testing phase; the go live is expected no later than the end of 2019; only reliability margin and the CNEC selection are expected one year after the approval, if approved by IN NRAs; the early morning D recalculation will be implemented from the go live, while the run in afternoon D-1 is postponed until the intraday market model (continuous trading coupled with implicit auctions) is implemented in the CCR Italy North;
- n) the computation of the export capacity from Italy North bidding zone is to be implemented by September 2020 for both D-2 and intraday timeframes; in the meanwhile, IN TSOs will continue using the values computed on a yearly basis;
- o) the implementation of the allocation constraints within the market coupling algorithm depends on the approval of the specific request for change to be submitted according to the algorithm management procedure; such a request will be submitted as soon as IN CCM is approved by IN NRAs;
- p) a new version of IN CCM will be submitted by the end of November 2019, addressing the provisions introduced by the Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity (recast) (in the following: recast electricity regulation).

The proposals include timescales for their implementation and a description of their expected impact on the objectives of CACM, in line with Article 9(9) of CACM.

Moreover, the proposal includes a timeline for the submission of a flow-based approach, as required by Article 20 of CACM Regulation.

### III. The Italy North Regulatory Authorities position

The position illustrated below refers to the D-2 proposal as originally submitted following the second request for amendments and to the intraday proposal as circulated on 23 September 2019 after correction of a mistake.

IN NRAs welcome the effort by IN TSOs to address widely the remarks included in the second request for amendment and the fact that the new methodologies, once approved, enter in force by the end 2019. This entry into force applies for both D-2 and intraday computation, granting a quick transition towards a coordinate capacity calculation in line with CACM requirements.

IN NRAs are nonetheless concerned that the current IN CCM does not include any provisions related to the recast electricity regulation. In particular, this applies to the 70% target capacity as stated by Article 16(8). A proper inclusion of such provisions would be, in fact, of utmost importance since the 70% target capacity will become compulsory on 1<sup>st</sup> January 2020. Furthermore, IN NRAs need to be enabled to monitor the level of cross-zonal capacity offered to the market to assess compliance.

For this reason, IN NRA support the commitment by IN TSOs to submit a new version of IN CCM by the end of November 2019, coherent with the recast electricity regulation. Moreover, IN NRAs expect TSOs to include in this new version enhancements regarding transparency, aimed to provide IN NRAs with information about the status of the network as associated to the computation process and to enable IN NRAs to fulfil their obligations in terms of monitoring and compliance assessment

Given the points above, IN NRAs approve the current version of the IN CCM, IN NRAs nevertheless see some further necessary enhancements towards compliance with the recast electricity regulation. An approval at this stage will:

- a) allow TSOs to start using the new methodology, resulting in more transparency towards market participants with respect to the application of the allocation constraints and with the respect to the phase out of the band used so far in the selection phase;
- b) allow TSOs to submit a request for change to the market coupling algorithm, with the aim to overcome the computation constraints (i.e. ex-ante reduction of the capacity) currently used to cope with voltage and stability issues on the Italian power system and to introduce proper allocation constraints considered within the market clearing process;
- c) set the legal basis on top of which IN TSOs may launch a public consultation on the revised IN CCM coherent with the recast electricity regulation; the presence of an approved methodology is, in fact, a prerequisite for the TSOs to start the amendment process according to Article 9(13) of CACM;

In the meanwhile, IN NRA would like to share with IN TSOs some issues that shall be addressed in the amendment of the methodology by the end of November 2019.

#### Review of the CNE list

In the previous versions of IN CCM, a yearly review of the CNE list was foreseen (see for example Article 6(5) of February version of D-2 proposal). In the current version this review is no longer addressed.

IN NRAs deem a periodical review of CNE of utmost importance to take into account the changes in network flows due to a modified market environment and/or to new investments and/or to a different topological network configuration. IN TSOs are thus requested to address this issue in the revised methodology, providing in the explanatory note the reasons behind the choice of frequency for such a review. The frequency of a review shall not be no less than once per calendar year.

#### Allocation constraint and capacity computation

Article 10(6)(c) of D-2 proposal states *“In case the CGM is secure, adjustment of exchanges between Italy and the concerned countries while respecting the allocation constraint”*.

IN NRAs consider this statement incoherent with the remaining part of the methodology. The iterative process shall be run independently of the allocation constraints<sup>2</sup>. The latter, in fact, applies at the end of the process, either by reducing the calculated capacity before providing it to the market or by reflecting any limitation in an allocation constraint to be considered within the market coupling process.

Since this statement has been included since the first version of the IN CCM, IN NRAs feel that:

- a) IN TSOs included it at the beginning, when the allocation constraint was meant to limit the capacity and the computation of the unconstrained capacity not foreseen<sup>3</sup>;
- b) IN TSOs accidentally left it in the proposal during the subsequent releases.

IN TSOs are requested to rectify this situation when revising the methodology.

## Transparency

IN NRAs deem of utmost importance to achieve a proper level of transparency in the capacity calculation. The information currently made available are, in fact, not enough to enable IN NRAs to properly assess the compliance of TSOs to 70% provisions and fulfil their own obligations in terms of monitoring.

Moreover, as stated in Article 20(3) of CACM, the target for Italy North CCR is a flow-based capacity calculation methodology. IN NRAs are aware that IN TSOs will submit a flow-based proposal at a later stage. Nonetheless, IN NRAs deem it relevant for their monitoring exercises that the TSOs start publishing some detailed information about flows already at this stage.

For the above-mentioned reasons, IN NRAs request the publication of the data listed below.

### General data

- a) a detailed description of the regional common grid model adopted for the computation, with all the parameters, as resistance, reactance and susceptance of each network element (i.e. a static grid model)<sup>4</sup>.
- b) a preliminary list of Critical Network Elements and Contingencies (CNECs) that may be considered in the capacity calculation process, with:
  - Clear name of both CNE and Contingency;
  - EIC code of both CNE and Contingency;

IN TSOs should publish this data on a regular basis, starting from the implementation of IN CCM, and make sure that information available to market participants and NRAs is up-to-date.

### Capacity calculation data

For every market time unit and separately for day-ahead and intraday capacity calculation,

- a) list of all the CNECs considered in the capacity calculation process, with:
  - Timestamp of the associated MTU;
  - Clear name of both CNE and Contingency;
  - EIC code of both CNE and Contingency;
  - Sensitivity to cross-zonal exchanges as computed according to the Annex to IN CCM;
  - Zone to zone PTDF for all the different borders (Italy – France, Italy – Switzerland, Italy – Austria, Italy - Slovenia) computed in the base case scenario (PTDF<sub>REF</sub>)

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<sup>2</sup> The unconstrained capacity shall be provided to market participants, as clearly stated, for example, by Article 6(12) of D-2 proposal.

<sup>3</sup> IN NRAs remind that the computation of the unconstrained capacity was included in the first request for amendments.

<sup>4</sup> The data should be published following the examples provided in the two following links :

- [First example of CGM description](#);
- [Second example of CGM description](#).

- Maximum flow on critical network element, as referred to in Articles 23(3)(a) and 29(7)(a) of the CACM Regulation (' $F_{max}$ ');
  - Reference flow in base case (' $F_{ref}$ '); the base case is the starting point of the capacity calculation process;
  - Final flow at the end of the capacity calculation process (' $F_{ntc}$ ');
  - Zone to zone PTDF for all the different borders (Italy – France, Italy – Switzerland, Italy – Austria, Italy - Slovenia) computed at the end of the capacity calculation process ( $PTDF_{NTC}$ );
  - Margin available for cross-zonal trade within the CCR Italy North resulting 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) (MCCC)<sup>5</sup>
  - 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 CCR Italy North (MNCC)<sup>6</sup>
  - Binary Indicator whether CNEC was limiting the NTC domain or not (TRUE, FALSE)
  - Flow reliability margin ('FRM')
  - Flow resulting from long-term nomination (' $F_{LTN}$ ')
  - Remaining available margin ('RAM')
  - If applicable, adjustment for reaching the MACZT target (referred to as 'AMR' in the following)<sup>7</sup>
- b) the forecast information contained in the regional common grid model used for the capacity calculation in terms of:
- vertical load for each bidding zone
  - production for each bidding zone
  - net position for each bidding zone;
- c) Long-term nominations on each bidding zone border;
- d) Adjustment to NTC values to match 70% provisions.

IN NRAs are aware that long term nominations are already published on ENTSO-E transparency platform and that vertical load, production and net position are published on Jao web site , nonetheless all these information are included in the list for sake of completeness and in order to harmonize the publication timings with all the other data.

IN NRAs are also aware that some data about CNEC are included in the report mentioned in Article 6(4) of IN CCM: nonetheless this report is reserved to IN NRAs, but more transparent information shall be granted also to market participants.

FRM,  $F_{LTN}$ , AMR and RAM shall be populated only when a flow-based approach is effectively implemented in Italy North CCR; in the meanwhile these values shall be set to 0.

IN NRAs expect all other data to be provided as follows:

- i) from 1<sup>st</sup> January 2020 for group a) data on limiting CNECs and group c) data for all MTUs, except for those that are not yet relevant to the foreseen CNTC ;
- ii) from 1<sup>st</sup> July 2020, for group a) data on non-limiting CNECs and group b) data, but MCCC, for all MTUs, except for those that are not yet relevant to the foreseen CNTC;
- iii) from 1<sup>st</sup> January 2021 or once a proper methodology to compute these margins is developed by IN TSOs according to what is stipulated in ACER Recommendation 01/19 -whichever comes first- for MCCC on non-limiting CNECs for all MTUs;
- iv) Group d) data shall be provided once IN TSOs implement proper adjustment to take into account the 70% provisions in the recast electricity regulation,.

<sup>5</sup> In line with ACER Recommendation 01/19 for limiting CNECs; for non-limiting CNECs MCCC shall be computed according to the specific methodology IN TSOs shall develop and include in IN CCM:

<sup>6</sup> In line with Acer Recommendation 01/19

<sup>7</sup> This adjustment depends on how IN TSOs intend to implement the 70% provisions for MTUs where the capacity calculation leads to a lower margin;

Until 31<sup>st</sup> December 2020, all data can be included in the quarterly report mentioned in Article 6(4) of IN CCM. IN TSOs are strongly recommended to submit the first release by 12<sup>th</sup> April 2020<sup>8</sup> and further releases by 10 working days after the end of each quarter.

From 2021, IN TSOs shall upload data on existing platforms on a daily basis at the latest one hour before the day-ahead market gate closure time for D-2 process and no later than one hour after the conclusion of each run of capacity recalculation for intraday process. IN TSOs shall allow for data retrieval via an API (application program interface) and shall use at least Extensible Markup Language (XML).

#### Post SDAC data

- a) for every MTU and for every CNEC
- Time stamp of associated MTU;
  - EIC code of the CNE and Contingency;
  - expected flow resulting from the single day-ahead market coupling clearing process;
  - decomposition of these flows into cross-zonal trade flows, internal flows, PST flows, loop- and transit flows<sup>9</sup>;

All data, but decomposition, shall be provided starting from 1<sup>st</sup> July 2020. Decomposition of flows shall be provided once a proper cost sharing methodology based on polluter pays principle has been approved by IN NRAs.

From 2021, IN TSOs shall seek to upload data on existing platforms with the same features (access via API and in a XML language): data shall be made available in a reasonable timing after the day-ahead market coupling gate closure time aligned with European best standards.

### **Conclusions**

IN NRAs have consulted and closely cooperated and coordinated to reach agreement that **they approve the IN CCM submitted by IN TSOs pursuant to Articles 20 and 21 of CACM.**

IN NRAs must make their national decisions to approve IN CTRD methodology, on the basis of this agreement.

IN NRAs await receipt of a revised methodology of IN CCM, addressing the provisions of the recast electricity regulation and all aspects brought forward above, by the end November 2019 at the latest. Cooperation with the TSOs while drafting this new version would be much welcomed.

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<sup>8</sup> IN CCM links the submission of the first release to the go-live of the export capacity foresees in S2 2020; IN NRAs need nonetheless a proper set of data in advance to deal with 70% monitoring tasks.

<sup>9</sup> For details about the different kind of flows, please refer to the RFA for cost sharing issued by IN NRAs on 23<sup>rd</sup> November 2018.