

**Complementary Regional Auctions proposal for Italy North
Capacity Calculation Region in accordance with Article 63 of the
Commission Regulation (EU) 2015/1222 of 24 July 2015
establishing a Guideline on Capacity Allocation and Congestion
Management**

EXPLANATORY NOTE

18th February 2019

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2. INTRODUCTION

Article 63 of the Commission Regulation 2015/1222 establishing a Guideline on Capacity Allocation and Congestion Management (hereinafter referred to as 'CACM Regulation') requires that, by 18 months after the entry into force of this Regulation, the relevant NEMOs and TSOs on bidding zone borders may jointly submit a common proposal for the design and implementation of complementary regional intraday auctions. The proposal shall be subject to consultation in accordance with Article 12.

This document is an explanatory note accompanying the common proposal developed by all Transmission System Operators (hereafter referred to as "TSOs") and Nominated Electricity Market Operator (hereafter referred to as "NEMOs") of Italy North Capacity calculation Region (CCR) (hereafter referred to as "Italy North CCR") regarding the complementary regional intraday auctions.

Both the common proposal and the explanatory note have been drafted considering that:

- TSOs and NEMOs within Italian Borders made a public consultation on a draft of the CRIDA proposal from December 6th 2016 until January 13th 2017;
- TSOs and NEMOs within Italian Borders submitted a first CRIDA proposal to the concerned NRAs on February 14th 2017;
- the concerned NRAs sent a request for amendment on the first CRIDA proposal to the TSOs and NEMOs on August 1st 2017;
- TSOs and NEMOs within Italian Borders submitted a second CRIDA proposal to the concerned NRAs on October 19th 2017;
- the concerned NRAs sent a request for amendment on the second CRIDA proposal to the TSOs and NEMOs on July 18th 2018;
- TSOs and NEMOs within Italian Borders submitted a third CRIDA proposal to the concerned NRAs on September 18th 2018;
- the concerned NRAs sent a request for amendment on the third CRIDA proposal to the TSOs and NEMOs on December 18th 2018;

2.1 Geographical scope of the proposal

This proposal covers the electrical borders of the Italy North CCR, in particular, for both power flow directions, between Italy and Slovenia, Italy and Austria and Italy and France. Differently from the previous versions, this proposal does not include the Greek-Italian border and the borders between Italian internal bidding zones, as requested by the concerned NRAs on the third request for amendment. Therefore, the implementation of an intraday allocation mechanism on the border between Italy and Greece and between Italian internal bidding zones is out of scope of this proposal and will be part of a separated proposal between parties of the Greece-Italy Capacity Calculation Region (GRIT CCR).

3. INTRADAY MARKET DESIGN

3.1 Continuous Implicit Intraday Trading

Whereas Article 13 of CACM Regulation requires that "Capacity should be allocated in the day-ahead and intraday market time-frames using implicit allocation methods, in particular methods which allocate electricity and capacity together. In the case of single day-ahead coupling, this method should be implicit auction and in the case of Single Intraday Coupling (SIDC) it should be continuous implicit allocation. The method of implicit auction should rely on effective and timely interfaces between TSOs, power exchanges and a series of other parties to ensure capacity is allocated and congestion managed in an efficient manner".

NEMOs proposed to NRAs in the “All NEMO proposal for the MCO Plan” that the delivery of the ID MCO Function, in accordance with article 36(4) of the CACM Regulation, shall be based on the XBID solution. Adoption by NEMOs of the XBID solution as the basis for the ID MCO Function shall be contingent on agreement with TSOs (and NRAs where relevant) for the continuation and extension of the APCA.

The XBID solution means the solution (system, procedures, contract, etc.) to be implemented by the NEMOs and TSOs within the XBID Project for implicit cross-zonal continuous intraday capacity allocation within the scope of the Single Intraday Coupling according to the principles set forth in the CACM Regulation.

3.2 Complementary Regional Auctions

In order to provide an efficient allocation procedure allowing pricing of the intraday cross-zonal capacity complementing the Single Intraday Coupling (SIDC) adopted at European level, NEMOs and TSOs of the Italy North CCR aim to design and implement a Complementary Regional Intraday Auction Mechanism, according to Article 63 of the CACM Regulation.

To this end Italy North CCR Parties have developed a solution of this Complementary Regional Intraday Auction Mechanism which would complement the continuous trading with some sessions of the existing internal Italian intraday auctions (MIs). However, it is worth mentioning that the current structure of the MIs consists of 7 different auctions and that the number of auctions may be subject to reduction to be designed by Italian NRA in order to integrate CRIDA in the Italian market.

The efficiency of the whole allocation process is increased by performing an updated capacity calculation before each complementary regional auction. This ensures an efficient pricing of the cross-zonal capacity that reflects the market congestion with an optimal use of the transmission infrastructure. It is also consistent with the methodology defined for pricing the day-ahead cross-zonal capacity in Article 42 of CACM Regulation since through implicit auctions, the intraday cross-zonal capacity will amount to the difference between the corresponding intraday clearing prices of the bidding zones here considered.

CACM Art. 14 (1), (2) and (4) require the TSOs to recalculate capacities for the intraday timeframe not only in D-1, but also within the intraday timeframe. Moreover, it is explicitly required to take into account the latest available information for these calculations. Furthermore, CACM Art. 55 requires the pricing of intraday capacities. As a consequence, the capacities coming from the intraday capacity calculations will be more efficiently allocated to reflect market congestion.

3.2.1 Description of the proposed Complementary Regional Auctions

The proposed Complementary Regional Auctions have the following main features:

- The performance of three Complementary Regional Intraday Auctions: two Complementary Regional Intraday Auction in D-1, where all 24 MTUs of delivery day D are tradable, and a third Complementary Regional Intraday Auction in the morning of the day D, where only MTUs from 12:00 to 24.00 of the day D are tradable.
- The third Complementary Regional Intraday Auction would be needed in order to efficiently allocate additional capacity resulting from a new capacity calculation during day D.

- The reduction of Italian MIs¹ to two in D-1 and one in day D.

The CRIDAs will be structured as follows:

- the first Complementary Regional Intraday Auction of the day D-1, involving all the MTUs of the day D, should be performed at 15:00. No later than 15:30 of the day D-1 NEMOs will publish the results of the first Complementary Regional Intraday Auction. This auction involves only Slovenian-Italian border for which cross-border capacity can be made available at the required time. As a consequence, the continuous trading is stopped only in the involved bidding zones.
Only the available transmission capacity of the bidding zone borders participating in the CRIDA will be set to zero in the Continuous SIDC during each CRIDA. Cross-zonal capacity on bidding zone borders not involved in the CRIDA can be allocated by XBID and the continuous trading within the bidding zones that are not involved in the auction and shall not be interrupted.
- The time of the first CRIDA has been set at 15:00 D-1 as it is the earliest timing feasible in accordance with the operational activity of the day-ahead process.
- in order to perform the complementary regional intraday auctions with the most updated value of the available cross border capacity, the second Complementary Regional Intraday Auction of the day D-1, involving all the MTUs of the day D, should be performed at 22:00, in order to allocate efficiently the cross-zonal capacity as recalculated by TSOs after the day-ahead allocation process has been terminated. No later than 22:30 of the day D-1 NEMOs will publish the results of the second Complementary Regional Intraday Auction.
- In day D, at 10:00, a third Complementary Regional Intraday Auction, covering delivery MTUs from 12:00 to 24:00 of day D, will be run. No later than 10:30, the results of the third Complementary Regional Intraday Auction will be published.

Regardless the number of CRIDAs, the continuous SIDC trading is allowed for all the 24 MTUs of the day from the Intraday Cross-Zonal Gate Opening Time till the Intraday Cross-Zonal Gate Closure Time. (IDCZGOT and IDCZGCT approved according to article 59.1 of CACM regulation). However, during the execution of the complementary regional auction, the trading on continuous session of the single intraday coupling mechanism must be stopped on the involved border and market zones.

In fact, in order to avoid that the same cross zonal capacity (CZC) is allocated twice, in continuous trading session and in CRIDA, allocation of CZC in continuous trading must be stopped starting already during the pre-coupling phase of the CRIDA and, more precisely, at least from the moment when TSOs set at zero the capacity available for the continuous trading and communicate the capacity available for CRIDA to NEMOs.

The communication of available capacity to NEMOs could be made approximately 15 minutes before the gate closure of CRIDA and the start of the coupling phase, in order to give to NEMOs the time in order to make all the necessary checks on the CZC.

As regards the coupling phase, it may be expected that the duration of the related coupling operations of the CRIDA, starting from the gate closure time until the publication of results, could last approximately 30 minutes, in standard

¹ Final decision of possible reduction of MIs is subject to the evaluation of Italian NRA.

conditions and without considering any contingency. The overall duration of 30 minutes to perform CRIDA's coupling activities could be allocated as follows:

- i. 5 to 10 minutes for the sharing of order books
- ii. 10 to 15 minutes for results computation (in case only hourly products and a very limited set of block products are present)
- iii. 10 to 15 minutes for checking and sending of results

As a consequence the overall duration of interruption of the allocation of capacity in the continuous trading sessions could last approximately 45 minutes (15 minutes for pre-coupling phase + 30 minutes for the coupling phase)

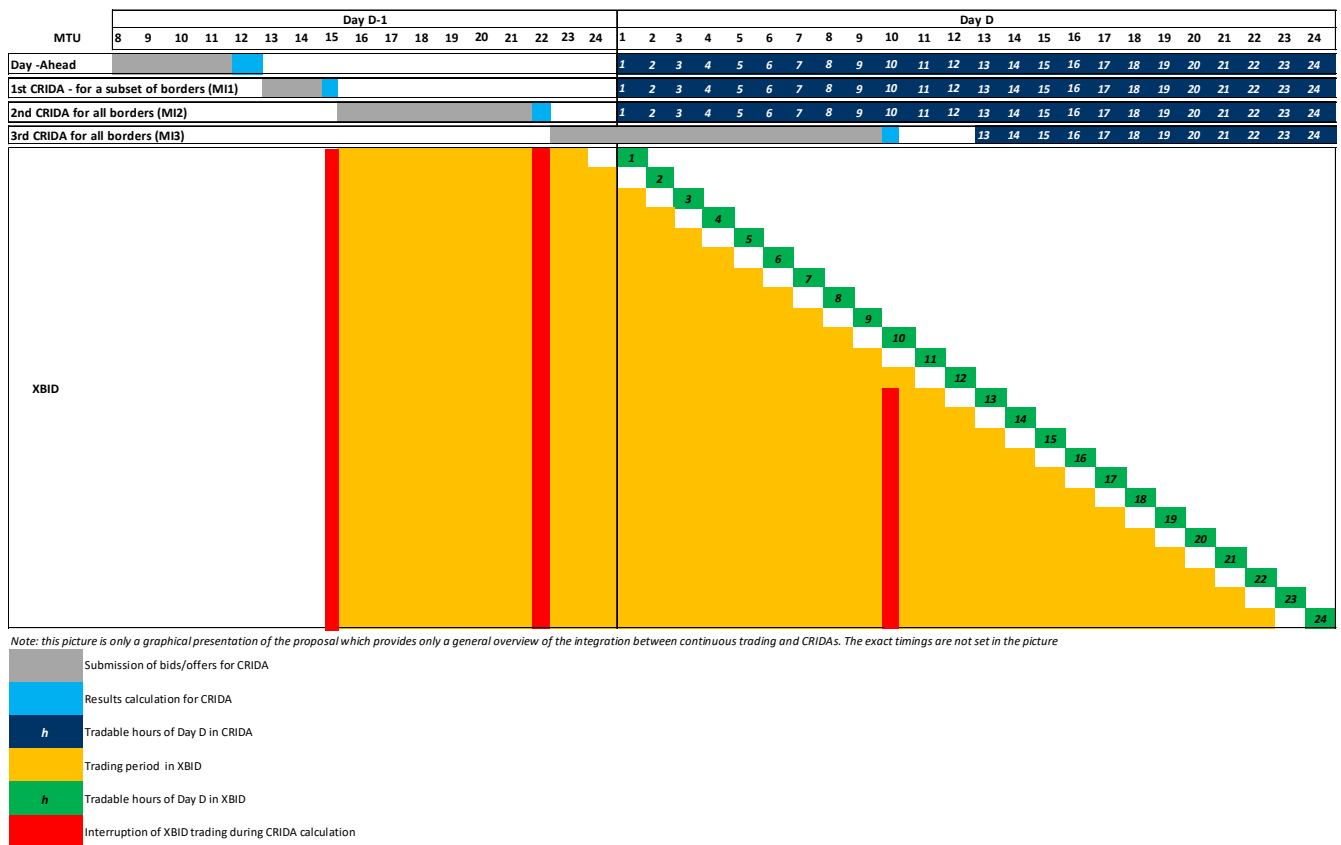
As a final remark we underline that:

- This assessment was made under the assumption that the operations of CRIDA are performed in line with the procedures and by adopting the IT solution of the Day-Ahead coupling.
- in the day-ahead, during the pre-coupling phase, TSOs send CZC to NEMOs approximately 2 hours before gate closure, whilst we are assuming that in CRIDA this activity shall take place only 15 minutes before gate closure.
- in the day-ahead, in the coupling phase (from gate closure until publication of results) lasts more than 50 minutes. The expectation of duration of CRIDA's coupling phase of approximately 30 minutes has been based on the assumption that, due to lower data load and reduced number of Parties and set of products, the time needed for such operations will be shorter than the one needed for similar operations in the Day-Ahead Coupling.
- A more precise estimation of the overall duration of pre-coupling and coupling operations of CRIDA, during which allocation of CZC during continuous trading sessions must be interrupted, could be assessed only after results of testing will be available.

With reference to the 10 minutes max. interruption of SIDC, as foreseen in article 63(2) of the CACM Regulation, it is worth mentioning that, based on the operational procedures currently used in the coupled auction-based markets, timings of step iii) is already optimized and cannot be further decreased. A possible roadmap to reduce the 45 minutes interruption of SIDC may be limited to the optimization of the algorithm in step ii) and CZC communication in step i), being understood that:

- CRIDAs will use the existing PCR assets which are also used for SDAC, which already foresees an R&D activity aimed at optimizing computational timings and process of SDAC as well. As a consequence, outcome of such an R&D activities in terms of optimisation of timings for computation and other processes will be benefited by CRIDAs as well.
- Parties will commit to explore any possibility to reduce the interruption of SIDC, as much as possible provided that CRIDA operations will not be put at any risk, aiming at implementing a reduction within 12 months after the CRIDAs go live on all borders covered in this proposal while ensuring robustness and security of the overall coupling process.
- CZC will be published just before the gate closure for CRIDA bid submission. In this way the interruption of the continuous SIDC in the pre-coupling phase will be limited to few minutes.

The following graph is representing the sequence of the markets for all MTUs of the day D:



4. IMPLEMENTATION

The implementation of the single intraday coupling mechanism and the complementary regional intraday auction mechanism is subject to the readiness of the XBID solution and the reform of the Italian market which is on-going.

With specific reference to the Complementary Regional Intraday Auction, Parties of Italy North CCR aim to use as much as possible, IT assets, procedures and solutions, including the Day-Ahead matching algorithm, used in the European Single Day-Ahead Coupling, in order to shorten the implementation time and to minimize the related development and operational costs.

The implementation of the single intraday coupling mechanism requires a period of 6-9 months of integration tests with the XBID system in order to guarantee that the new set of communication flows from LIP 14 will be compatible with the existing XBID solution and will not endanger the functioning of the continuous trading for the countries already operational. The go-live of the Single Intraday Coupling is possible only through pre-defined waves planned by the XBID project every year. LIP 14 is expected to go-live in the 3rd wave foreseen in Q2 2020.

The reform of the Italian Market, that requires a design phase, consultation, Regulatory approval and several test phases, must be completed before the SIDC go-live.

5. PRICE LIMITS, PRODUCTS, GOVERNANCE, BACK-UP AND FALL-BACK PROCEDURES OF THE COMPLEMENTARY REGIONAL INTRADAY AUCTION

As regards to the price limits to be adopted in the Complementary Regional Auction, Parties of Italy North CCR aim to make those price limits compatible with the ones used in the Single Intra-Day Coupling.

Being the IT assets, procedures and solutions of the Complementary Regional Intraday Auction based, as much as possible, on the ones already used in the European Single Day-Ahead Coupling:

- the governance structure (tasks and responsibilities of TSOs, NEMOs) would be therefore similar to the European Single Day-Ahead Coupling, with a joint decision making body between relevant TSOs and NEMOs;
- back-up procedures will be based on the one adopted in the Single Day-Ahead Coupling, with the needed adaptation considering that the time window for the execution of the Complementary Regional Intraday Auction is expected to be shorter than the one of the Single Day-Ahead Coupling;
- The tradable products would be a subset of the ones supported by the Single Day-Ahead Coupling pursuant to the Article 40 of the CACM regulation, and will take into account the selection of products in relation to the calculation time as defined in the CACM regulation.

As regards to the fall-back procedure of the Complementary Regional Intraday Auction, considering the short time window for the execution of the auction and the fact, that such auction will precede the opening of the capacity allocation in the Single Intraday Coupling, no specific fall-back procedure will be foreseen, as the cross-border capacity will be allocated via the Single Intraday Coupling in such a case.

6. REQUIREMENTS FOR ESTABLISHING COMPLEMENTARY REGIONAL AUCTIONS

According to Article 63 of the CACM Regulation the competent regulatory authorities may approve the proposal for complementary regional intraday auctions if the following conditions are met.

6.1 No adverse impact on the liquidity of the single intraday coupling

Currently it is not possible to predict whether liquidity will be adversely affected. From a general economic perspective having a price mechanism based on implicit auctions could help to increase overall liquidity in the intraday timeframe by offering more transparency and reducing barriers to market entry. Besides, the proposed solution is increasing the opportunities for market parties to re-adjust and/or optimize their positions since the auction will coexist with continuous trading. Pricing the capacity through the auctions might increase efficiency of the entire mechanism and increase the interest in participating both to the auctions and to the continuous trading.

6.2 Allocation through the capacity management module

According to the Article 2 of CACM Regulation (“Definition”), the capacity management module is “a system containing up-to-date information on available cross-zonal capacity for the purpose of allocating intra-day cross-zonal capacity”.

As a consequence, the statement of Article 63 that “*all cross-zonal capacity shall be allocated through the capacity management module*” means that in the complementary regional intraday auctions all cross-zonal capacity shall be allocated through “*a system containing up-to-date information on available cross-zonal capacity*”.

The allocation of capacity through “*a system with up-to-date information*” in the complementary regional auction on Italian borders relies on two elements:

- Market model of the complementary auction: according to the market model, TSOs on Italian borders should coordinate the capacity made available for allocation on the single intraday coupling (i.e. XBID) and the capacity made available on the Complementary Regional Auction. Therefore allocation of CZC in continuous trading must be stopped starting already during the pre-coupling phase of the CRIDA and, more precisely, at least from the moment

when participating TSOs set at zero the capacity available for the continuous trading and communicate the capacity available for CRIDA to NEMOs;

- IT System supporting the complementary regional intraday auction: the capacity management module for the complementary regional intraday auctions on Italian borders would be based on the PCR infrastructure, where according to same procedures in place for the day-ahead single coupling, TSOs will upload through NEMOs the capacity still available after the allocation in the day-ahead and the subsequent recalculation.
 - o PCR will optimize the process related to implicit auction since the capacity management module of PCR is already operational and has a well proven reliability and efficiency for the single day-ahead coupling that is similar to the allocation mechanism for the complementary regional intraday auctions here proposed.

In conclusion, this process is compliant with the function of capacity management module defined in the article mentioned above.

6.3 Non-discrimination with market participants from adjacent regions

The complementary regional intraday auctions are open for all market participants as long as they fulfil the requirements to participate in the national intraday market.

6.4 Enable market participants to trade close to real time

The proposal is to perform three auctions as outlined above in 3.2.1. The results of these auctions will be published within 30 minutes. After these auctions, market participants can trade in the continuous mechanism very close to real time. Where an incident occurs and leads to the cancelation of these auctions, available cross-zonal capacities are transferred no later than 15:30 and 22:30 in D-1 and 10:30 in day D to XBID in order to be allocated via continuous trading. This ensures market participants can trade close to real time while benefiting from an updated calculation of cross-zonal capacities.

7. COORDINATION WITH INTRADAY CROSS-ZONAL CAPACITY PRICING (IDCZCP) PROPOSAL

All TSOs held a public consultation from April 11th 2017 until May 12th 2017 on the all TSOs' proposal for the single methodology for pricing intraday cross zonal capacity (IDCZCP). All TSOs' proposal for IDCZCP was based on a hybrid model, which is a mix of auctions and continuous trading. In particular, the IDCZCP proposal established two Intraday Auctions (IDAs): one at 22:00 in day D-1 for all MTU of day D and one at 10:00 in day D for MTU from 12:00 until the end of day D. Following the public consultation, all TSOs' proposal for IDCZCP has been amended, removing the second IDA and leaving the possibility to introduce further auctions at regional level. Following a joint request from the NRAs, on 24th January 2019 ACER adopted a decision on the proposal for the IDCZCP methodology. The decision adopted by ACER foresees three Intraday Auctions (IDAs) at the same timing of the proposed CRIDAs for the Italy North CCR.

8. COORDINATION WITH INTRADAY CROSS-ZONAL GATE OPENING TIME (IDCZGOT) PROPOSAL

The CACM Regulation defines the IDCZGOT as "the point in time when cross-zonal capacity between bidding zones is released for a given market time unit and a given bidding zone border". According to the ACER Decision 04-2018 on IDCZGTs "from 1st January 2019 onwards, the IDCZGOT on all bidding zone borders shall be at 15:00 market time day-ahead", which is consistent with the current CRIDA proposal.