

European Network of Transmission System Operators for Electricity

# All TSOs' proposal for intraday cross-zonal gate opening and gate closure times in accordance with Article 59 of Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management

18 April 2016 – Draft for consultation

#### DISCLAIMER

This document is released on behalf of the all transmission system operators ("TSOs") solely for the purpose of public consultation on the all TSOs' proposal for intraday cross-zonal gate opening and gate closure times ("IDCZGT Proposal") in accordance with Article 59 of Commission Regulation (EU) No 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management ("CACM Regulation"). This version of the IDCZGT Proposal is a draft proposal and does not constitute a firm, binding or definitive TSOs' position on the content.



All TSOs, taking into account the following:

#### Whereas

- (1) This document is a common proposal developed by all Transmission System Operators (hereafter referred to as "TSOs") regarding the development of a proposal for intraday cross-zonal gate opening time (hereafter referred to as "IDCZGOT") and a proposal for intraday cross-zonal gate closure time (hereafter referred to as "IDCZGCT").
- (2) This proposal (hereafter referred to as the "IDCZGT Proposal") takes into account the general principles and goals set in Commission Regulation (EU) 2015/1222 establishing a guideline on capacity allocation and congestion management (hereafter referred to as the "CACM Regulation") as well as Regulation (EC) No 714/2009 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 (hereafter referred to as "Regulation (EC) No 714/2009"). The goal of the CACM Regulation is the coordination and harmonisation of capacity calculation and allocation in the day-ahead and intraday cross-border markets. To facilitate these aims, it is necessary to set an intraday cross-zonal gate opening and gate closure time.
- (3) Article 59 of the CACM Regulation constitutes the legal basis for this proposal and defines several specific requirements that the IDCZGT Proposal should take into account:

"1. By 16 months after the entry into force of this Regulation, all TSOs shall be responsible for proposing the intraday cross-zonal gate opening and intraday cross-zonal gate closure times. The proposal shall be subject to consultation in accordance with Article 12.

2. The intraday cross-zonal gate closure time shall be set in such a way that it:

(a) maximises market participants' opportunities for adjusting their balances by trading in the intraday market time-frame as close as possible to real time; and

(b) provides TSOs and market participants with sufficient time for their scheduling and balancing processes in relation to network and operational security.

3. One intraday cross-zonal gate closure time shall be established for each market time unit for a given bidding zone border. It shall be at most one hour before the start of the relevant market time unit and shall take into account the relevant balancing processes in relation to operational security.

4. The intraday energy trading for a given market time unit for a bidding zone border shall start at the latest at the intraday cross-zonal gate opening time of the relevant bidding zone borders and shall be allowed until the intraday cross-zonal gate closure time.

5. Before the intraday cross-zonal gate closure time, market participants shall submit to relevant NEMOs all the orders for a given market time unit. All NEMOs shall submit the orders for a given market time unit for single matching immediately after the orders have been received from market participants.

(4) Article 2 (38) of the CACM Regulation defines the intraday cross-zonal gate opening time 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".



- (5) Article 2 (39) of the CACM Regulation defines the intraday cross-zonal gate closing time as "the point in time where cross-zonal capacity allocation is no longer permitted for a given market time unit".
- (6) Commission Regulation (EU) No 543/2013 of 14 June 2013 on submission and publication of data in electricity markets and amending Annex I to Regulation (EC) No 714/2009 of the European Parliament and of the Council (hereafter referred to as "Regulation 543/2013") provides definitions of the following relevant terms:
  - a. Capacity allocation is defined under Art.2 (4) *'capacity allocation' means the attribution of cross zonal capacity;*
  - b. Cross-zonal capacity is defined under Art.2 (10): 'cross zonal capacity' means the capability of the interconnected system to accommodate energy transfer between bidding zones;
  - c. Bidding zone is defined under Art.2 (3): *'bidding zone' means the largest geographical area within which market participants are able to exchange energy without capacity allocation.*
- (7) In the context of this proposal, the definition of "intraday market timeframe" is important and is defined at Article 2 (37) of the CACM Regulation as follows: "*intraday market timeframe' means the timeframe of the electricity market after intraday cross-zonal gate opening time and before intraday cross-zonal gate closure time, where for each market time unit, products are traded prior to the delivery of the traded products"*.
- (8) The definition of "market time unit" is also important and is defined in Article 2 (19) of Regulation 543/2013 as: "the period for which the market price is established or the shortest possible common time period for the two bidding zones, if their market time units are different".
- (9) Additional relevant references to IDCZGOT and IDCZGCT within the CACM Regulation are listed below:

a. Article 51 (1):

"From the intraday cross-zonal gate opening time until the intraday cross-zonal gate closure time, the continuous trading matching algorithm shall determine which orders to select for matching such that matching: (...)"

b. Article 58 (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."

c. Article 63 (2):

"Complementary regional intraday auctions may be implemented within or between bidding zones in addition to the single intraday coupling solution referred to in Article 51. In order to hold regional intraday auctions, continuous trading within and between the relevant bidding zones may be stopped for a limited period of time before the intraday cross-zonal gate closure time, which shall not exceed the minimum time required to hold the auction and in any case 10 minutes."

d. Article 63 (4) (d):

"the timetables for regional auctions shall be consistent with single intraday coupling to enable market participants to trade as close as possible to real-time."



- (10) Article 9 (9) of the CACM Regulation requires that the expected impact of the IDCZGT Proposal on the objectives of the CACM Regulation is described. The impact is presented below (points (11) to (17) of this Whereas Section).
- (11) The IDCZGT Proposal contributes to and does not in any way hamper the achievement of the objectives of Article 3 of the CACM Regulation. In particular, the IDCZGT Proposal serves the objective of promoting effective competition in the generation, trading and supply of electricity (Article 3 (a) of the CACM Regulation) by taking into account the importance of creating a level playing field for market parties active on cross-zonal intraday markets. Effective competition is to be reached via a common cross-zonal intraday market (single intraday coupling) and harmonised processes for this market. Harmonised IDCZGOT and IDCZGCT are proposed, which facilitates this aim.
- (12) The IDCZGT Proposal takes into account operational security in accordance with Article 3 (c) of the CACM Regulation by setting the IDCZGCT at 60 minutes before start of the relevant market time unit, which ensures that timings for market scheduling and balancing processes are sufficient to ensure operational security in the entire intraday coupled region.
- (13) In accordance with Article 3(d) of the CACM Regulation, and taking into account the capacity calculation methodologies to be developed pursuant to Article 20 of the CACM Regulation, allowing for the IDCZGOT to be specified on a capacity calculation region level will assist with optimising the calculation and allocation of cross-zonal capacity by allowing an IDCZGOT that is earlier than the harmonized IDCZGOT that is proposed in this proposal to be specified at capacity calculation region level.
- (14) By proposing harmonised market timings, the objective of fair and non-discriminatory treatment of the market parties is provided for. Moreover, single timings to be applied in the whole single intraday coupled region allow for a fair and orderly organisation of this market. This additionally guarantees equal access to cross-zonal capacity in the intraday timeframe further to Article 3 (e) of the CACM Regulation.
- (15) The IDCZGT Proposal also contributes to the objective of respecting the need for a fair and orderly market and price formation (Article 3 (h) of the CACM Regulation) by harmonising the intraday timeframe within which bids for intraday capacity can be made.
- (16) Finally, the IDCZGT Proposal contributes to the objective of providing non-discriminatory access to cross-zonal capacity (Article 3 (j) of the CACM Regulation) by granting market participants a level-playing field throughout the European Union with a clear and harmonised framework for intraday gate times.
- (17) In conclusion, the IDCZGT Proposal contributes to the general objectives of the CACM Regulation to the benefit of all market participants.



## THEREFORE, ALL TSOS HEREBY SUBMIT THE FOLLOWING IDCZGT PROPOSAL TO ALL NATIONAL REGULATORY AUTHORITIES:

#### Article 1 Subject matter and scope

The IDCZGOT and IDCZGCT as determined in this IDCZGT Proposal is the common proposal of all TSOs in accordance with Article 59 of the CACM Regulation.

#### Article 2 Definitions and interpretation

- 1. For the purposes of this proposal, the terms used shall have the meaning of the definitions included in the CACM Regulation and related relevant enactments such as Regulation 714/2009 and Regulation 543/2013.
- 2. In this IDCZGT Proposal, unless the context requires otherwise:
  - a) the singular indicates the plural and vice versa;
  - b) headings are inserted for convenience only and do not affect the interpretation of this proposal; and
  - c) any reference to legislation, regulations, directives, orders, instruments, codes or any other enactment shall include any modification, extension or re-enactment of it when in force.

#### Article 3 Application of this proposal

This proposal applies solely to cross-zonal gate opening and closure times. Gate opening and gate closure times for intraday trading within a bidding zone are outside the scope of this proposal.

#### Article 4 Intraday Cross-Zonal Gate Opening Time

The IDCZGOT shall be 22.00 market time day ahead.

#### Article 5

#### Specification of Intraday Cross-Zonal Gate Opening Time at Capacity Calculation Region Level

- 1. An IDCZGOT that is earlier that the IDCZGOT specified at Article 4 may be proposed and adopted at capacity calculation region level.
- 2. Any earlier IDCZGOT decided on at a capacity calculation region level shall be proposed by all TSOs within that capacity calculation region for approval to the relevant regulatory authorities in the capacity calculation region.
- 3. The process outlined at Article 9 (3) of the CACM Regulation shall be used by all TSOs in a capacity calculation region to reach agreement in terms of proposing an IDCZGOT that is earlier than 22.00 market time day ahead.
- 4. Where all TSOs in a capacity calculation region wish to propose an IDCZGOT that is earlier than 22.00 market time day ahead, they shall submit the proposal to the relevant regulatory authorities in the capacity calculation region at the same time as the proposal for capacity calculation methodologies



required under Article 20 (2) of the CACM Regulation are being submitted. This proposal shall be subject to consultation in accordance with Article 12 of the CACM Regulation.

5. In accordance with Article 9 (14) of the CACM Regulation, where all TSOs in a capacity calculation region propose an IDCZGOT that is earlier than 22.00 market time day ahead, they shall publish the proposal on the internet after approval by the competent regulatory authorities.

#### Article 6 Intraday Cross-Zonal Gate Closure Time

The IDCZGCT shall be 60 minutes before the start of the relevant intraday market time unit.

#### Article 7

#### Publication and Implementation of IDCZGT Proposal

- 1. The TSOs shall publish the IDCZGT Proposal without undue delay after all national regulatory authorities have approved the IDCZGT Proposal or a decision has been taken by the Agency for the Cooperation of Energy Regulators (hereafter referred to as "Agency") in accordance with Article 9(11) and 9(12) of the CACM Regulation.
- 2. The implementation of the IDCZGOT and the IDCZGCT shall coincide with the implementation of single intraday coupling on the corresponding bidding zone border in accordance with the CACM Regulation.

#### Article 8 Language

The reference language for this IDCZGCT Proposal shall be English. For the avoidance of doubt, where TSOs need to translate this proposal into their national language(s), in the event of inconsistencies between the English version published by TSOs in accordance with Article 9 (14) of the CACM Regulation and any version in another language the relevant TSOs shall, in accordance with national legislation, provide the relevant national regulatory authorities with an updated translation of the proposal.



## Explanatory Document - Draft proposal for the Intraday Cross-Zonal Gate Opening and Gate Closure Times

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All TSOs' proposal for intraday cross-zonal gate opening and gate closure times in accordance with Article 59 of Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management



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## 1. Introduction

This document gives background information and rationale for the all TSOs proposal in relation to the intraday cross-zonal gate opening times (hereafter referred to as "IDCZGOT") and the intraday cross-zonal gate closure times (hereafter referred to as "IDCZGCT") required by Article 59 (1) of the Commission Regulation (EU) 2015/1222 establishing a guideline on capacity allocation and congestion management (hereafter referred to as "CACM Regulation")<sup>1</sup>. Transmission system operators (hereafter referred to as "TSOs") are obliged to consult stakeholders on proposals for terms and conditions or methodologies required by the CACM Regulation<sup>2</sup>. This document, being an explanatory and background document, and the document comprising the formal draft IDCZGOT and IDCZGCT proposal, are both presented to consultation to comply with this requirement.

#### 1.1 The CACM Regulation & "all TSOs"

According to Article 59 (1) of the CACM Regulation all TSOs have to propose the IDCZGOT and IDCZGCT by 16 months after its entry into force. The timings are to apply to single intraday coupling<sup>3</sup>, which according to the CACM Regulation should be implemented in the European Union<sup>4</sup>. Where reference is made to "all TSOs", these are understood as entities certified as TSOs in accordance with the Third Energy Legislative Package and can be members or non-members of ENTSO-E.

In order to identify the TSOs obliged to fulfil certain obligations of the CACM Regulation, in the countries with more than one certified TSO, the so-called "*multiple TSO provision*<sup>5</sup>" will apply. Further, formal voting on proposals and methodologies is also required<sup>6</sup>.

To achieve the targets set in the CACM Regulation to promote the completion and efficient functioning of the internal market and ensure the optimal management, coordinated operation and sound technical development of the electricity transmission system in Europe, EC, TSOs and ENTSO-E acknowledge the importance of involving non-EU TSO members of ENTSO-E, especially the ones responsible for electricity systems physically connected to EU Member States, in the development of this proposal. This was ensured by providing opportunity for non-EU TSO members of ENTSO-E to participate in the development of the proposal.

#### 1.2 Geographical application of this proposal

Non-EU countries will be included in the single intraday coupling on the pre-condition of their compliance with the CACM Regulation and the main provisions of the European Union electricity market legislation. Switzerland's inclusion is dependent on the transposal into national law of the CACM Regulation the above-

<sup>&</sup>lt;sup>1</sup> Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management, OJ 25-7-2015, L 197/24.

<sup>&</sup>lt;sup>2</sup> Article 12 of the CACM Regulation.

<sup>&</sup>lt;sup>3</sup> As defined in article 2 (27) of the CACM Regulation.

<sup>&</sup>lt;sup>4</sup> In this document the European Union or EU is used to note the region in which the CACM Regulation is binding and/or to be implemented. However, in practice this can apply to non-EU countries as explained in chapter 1.2.

<sup>&</sup>lt;sup>5</sup> According to Article 1 (3) of the CACM Regulation the following applies: "In Member States where more than one transmission system operator exists, this Regulation shall apply to all transmission system operators within that Member State. Where a transmission system operator does not have a function relevant to one or more obligations under this Regulation, Member States may provide that the responsibility for complying with those obligations is assigned to one or more different, specific transmission system operators."

<sup>&</sup>lt;sup>6</sup> Under Article 9(2), member states must allocate voting powers among each TSO: "For TSO decisions under Article 9(6), one vote shall be attributed per Member State. If there is more than one TSO in the territory of a Member State, the Member State shall allocate the voting powers among the TSOs."



mentioned main provisions and also on the signature of the intergovernmental agreement on electricity cooperation with the Union. Therefore, this proposal should be applicable to non-EU countries on implementation of and participation in the single intraday coupling.

1.3 Single intraday coupling solutionToday we do not yet have a single intraday coupling solution implemented in the EU. The target model for the European cross-zonal intraday market consists of a continuous implicit intraday market based on a single capacity management module<sup>7</sup> and a shared order book<sup>8</sup> in a one-to-one relationship as defined by the CACM Regulation. This target model<sup>9</sup> has been the basis for the requirements for the intraday market and capacity allocation formulated in the CACM Regulation.

#### **1.4 Content of this document**

This document is built up as follows. Chapter 2 contains a description of the relevant legal references and an interpretation of these references in order to set the scope of this proposal. Thereafter, chapter 3 and 4 concern the proposed IDCZGOT and IDCZGCT describing options and the context for assessing these options. Chapter 5 contains an evaluation of the proposal against the objectives of the CACM Regulation. A planning for implementation of these timings can subsequently be found in chapter 6. Lastly, chapter 7 contains the proposals' conclusions.

<sup>&</sup>lt;sup>7</sup> Defined in Article 2 (40) of the CACM Regulation.

<sup>&</sup>lt;sup>8</sup> Defined in Article 2 (24) of the CACM Regulation.

<sup>&</sup>lt;sup>9</sup> Based on this model, several TSOs and PXs have via the XBID project commenced with the build of a platform with an integrated shared order book and capacity management module.



#### 2. Legal references, requirements and interpretation

This chapter contains a description of the relevant legal references in the CACM Regulation including their interpretation in order to formulate a proposal for the IDCZGOT and the IDCZGCT. Elements of this chapter are replicated in the draft formal proposal in Appendix 1.

#### 2.1 Legal references and requirements

A number of relevant passages of the preamble of the CACM Regulation are cited, that should be taken into account to properly interpret the articles stated further below.

"13) 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 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.

(27) The objective of this Regulation, namely the establishment of single day-ahead and intraday coupling, cannot be successfully achieved without a certain set of harmonised rules for capacity calculation, congestion management and trading of electricity.

(28) However, single day-ahead and intraday coupling should only be implemented stepwise, as the regulatory framework for electricity trade and the physical structure of the transmission grid are characterised by significant differences between Member States and regions. The introduction of single day-ahead and intraday coupling therefore requires a successive alignment of the existing methodologies on capacity calculation, allocation and congestion management. Single intraday and day-ahead coupling may therefore be introduced at a regional level as an intermediate step where necessary [bold accent added by TSOs]."

The most important legal references to IDCZGOT and IDCZGCT in the CACM Regulation are cited below.

Article 59 of the CACM Regulation constitutes the legal basis for this proposal and defines several specific requirements that the IDCZGOT and IDCZGCT proposal should take into account:

"1. By 16 months after the entry into force of this Regulation, all TSOs shall be responsible for proposing the intraday cross-zonal gate opening and intraday cross-zonal gate closure times. The proposal shall be subject to consultation in accordance with Article 12.

2. The intraday cross-zonal gate closure time shall be set in such a way that it:

- (a) maximises market participants' opportunities for adjusting their balances by trading in the intraday market time-frame as close as possible to real time; and
- (b) provides TSOs and market participants with sufficient time for their scheduling and balancing processes in relation to network and operational security.

3. One intraday cross-zonal gate closure time shall be established for each market time unit for a given bidding zone border. It shall be at most one hour before the start of the relevant market time unit and shall take into account the relevant balancing processes in relation to operational security.



4. The intraday energy trading for a given market time unit for a bidding zone border shall start at the latest at the intraday cross-zonal gate opening time of the relevant bidding zone borders and shall be allowed until the intraday cross-zonal gate closure time.

5. Before the intraday cross-zonal gate closure time, market participants shall submit to relevant NEMOs all the orders for a given market time unit. All NEMOs shall submit the orders for a given market time unit for single matching immediately after the orders have been received from market participants. [.]"

IDCZGOT and IDCZGCT are defined by Article 2 (38) and Article 2 (39) of the CACM Regulation as follows:

"38. 'intraday cross-zonal gate opening time' means 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;

*39. 'intraday cross-zonal gate closure time' means the point in time where cross-zonal capacity allocation is no longer permitted for a given market time unit; "* 

An important definition is the intraday market timeframe as stated in Article 2 (37) of the CACM Regulation:

37. 'intraday market timeframe' means the timeframe of the electricity market after intraday cross-zonal gate opening time and before intraday cross-zonal gate closure time, where for each market time unit, products are traded prior to the delivery of the traded products;

Furthermore, the general objectives of the CACM Regulation are outlined at Article 3:

"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) ensuring fair and non-discriminatory treatment of TSOs, NEMOs, the Agency, regulatory authorities and market participants;

(f) ensuring and enhancing the transparency and reliability of information;

(g) contributing to the efficient long-term operation and development of the electricity transmission system and electricity sector in the Union;

(*h*) respecting the need for a fair and orderly market and fair and orderly price formation;

(*i*) creating a level playing field for NEMOs;

(j) providing non-discriminatory access to cross-zonal capacity."

As a general point, all methodologies and proposals developed under the CACM Regulation should align with the general objectives of the CACM Regulation. More specifically, Article 9(9) of the CACM Regulation requires that:

"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."



Additional relevant references to IDCZGOT and IDCZGCT within the CACM Regulation are:

Article 51 (1):

"1. From the intraday cross-zonal gate opening time until the intraday cross-zonal gate closure time, the continuous trading matching algorithm shall determine which orders to select for matching such that matching: (...)"

Article 58 (1):

"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."

Article 63 (2):

"2. Complementary regional intraday auctions may be implemented within or between bidding zones in addition to the single intraday coupling solution referred to in Article 51. In order to hold regional intraday auctions, continuous trading within and between the relevant bidding zones may be stopped for a limited period of time before the intraday cross-zonal gate closure time, which shall not exceed the minimum time

required to hold the auction and in any case 10 minutes."

Article 63 (4) (d):

"(d) the timetables for regional auctions shall be consistent with single intraday coupling to enable market participants to trade as close as possible to real-time."

#### **2.2 Interpretation**

The legal framework stated above needs to be given an interpretation in order to formulate a legally sound proposal on the IDCZGOT and IDCZGCT and to define the scope of this proposal.

According to Article 59 of the CACM Regulation the proposal shall have cross-zonal gates as subject. Crosszonal is understood to refer to cross bidding zone borders, regardless of whether these borders are within a Member State or between Member States<sup>10</sup>. In addition, gate opening and gate closure timings for intraday trading within a bidding zone (i.e. local or internal trading) are outside the scope of this proposal.

This sub-chapter discusses the interpretation of the IDCZGOT and IDCZGCT in relation to which the intraday market solution shall apply, and how to interpret the term "IDCZGOT" and the term "IDCZGCT".

#### 2.2.1 Interpretation of applicability of IDCZGOT and IDCZGCT

The definitions of IDCZGOT and IDCZGCT refer to the points in time when, respectively, cross-zonal capacity is released for the intraday timeframe and when cross-zonal capacity allocation in the intraday timeframe is no longer permitted.

The CACM Regulation requires the establishment of single intraday coupling, referred to as the continuous process where collected orders are matched and cross-zonal capacity is allocated simultaneously for different bidding zones in the intraday market<sup>11</sup>.

<sup>&</sup>lt;sup>10</sup> Article 1 (1) of the CACM Regulation.

<sup>&</sup>lt;sup>11</sup> Article 2 (27) of the CACM Regulation.



For single intraday coupling, the continuous trading matching algorithm is to be applied<sup>12</sup>. Furthermore, Article 51 of the CACM Regulation states that the continuous trading matching algorithm shall perform the matching of orders, which are submitted from the IDCZGOT until the IDCZGCT.

In addition, the CACM Regulation allows for complementary regional intraday auctions<sup>13</sup>. According to Article 63 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 timetables to be used for these regional auctions should be consistent with single intraday coupling.

To conclude, IDCZGOT and IDCZGCT only apply to single intraday coupling and do not apply as such to any complementary regional auctions as defined in Article 63 of the CACM Regulation. Regional intraday auctions may be held during a limited time period before the IDCZGCT while continuous intraday trading is interrupted for the borders, where complementary regional auctions are held. The timings of these complementary regional auctions are not within the scope of this proposal. Moreover, the IDCZGOT and IDCZGCT will apply regardless whether the option of explicit access to capacity is facilitated on a certain bidding zone border on a transitional basis<sup>14</sup>.

In addition, the IDCZGOT and IDCZGCT is to be set for a given market time unit. The "market time unit" is defined in Regulation No 543/2013<sup>15</sup> as the period for which the market price is established or the shortest possible common time period for the two bidding zones, if their market time units are different. According to Article 53 of the CACM Regulation, the Nominated Electricity Market Operators (hereafter referred to as "NEMOs") are to jointly propose products that can be taken into account in the single intraday coupling. Market time unit or units will be set when all national regulatory authorities (hereafter referred to as "NRAs") approve the all NEMOs proposal concerning products. This proposal for products is to be submitted by the NEMOs for approval by 14 February 2017. Thus, as the market time units for these products are not yet defined, it is not possible to defer according to market time units in this proposal. Therefore, the IDCZGOT and IDCZGCT proposed in this document are universal and shall cover all market time units.

#### 2.2.2 Interpretation for IDCZGOT

As stated above, 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". In practice, this is understood as the point in time when cross-zonal capacity allocation for the intraday timeframe is possible for the first time. This does not mean that cross-zonal capacity in the intraday timeframe will only be calculated once as the cross-zonal capacity can be updated by the TSOs after the IDCZGOT. This definition leaves open the possibility of having one or several IDCZGOT per bidding zone with more than one bidding zone border. Thus, the IDCZGOT may differ per market time unit and per bidding zone border. However, as stated above, it is not possible to distinguish between market time units in regards to the IDCZGOT.

#### 2.2.3 Interpretation for IDCZGCT

The IDCZGCT is interpreted as the deadline for bid submission by market participants. This means that from the market participants' perspective cross-zonal intraday trading shall be allowed until the IDCZGCT. Although the definition of the IDCZGCT in Article 2 (39) of the CACM Regulation refers to the point in time when cross-zonal capacity allocation is no longer permitted, Article 59 (4) states that intraday energy

<sup>&</sup>lt;sup>12</sup> Article 2 (29) of the CACM Regulation.

<sup>&</sup>lt;sup>13</sup> Article 63 of the CACM Regulation.

<sup>&</sup>lt;sup>14</sup> As referred to in Article 64 of the CACM Regulation.

<sup>&</sup>lt;sup>15</sup> Article 2 (19) of Commission Regulation (EU) No 543/2013 of 14 June 2013 on submission and publication of data in electricity markets and amending Annex I to Regulation (EC) No 714/2009 of the European Parliament and of the Council, OJ 15-6-2013, L 163/1.



trading shall be allowed until the intraday cross-zonal gate closure time. Thus, seeing the IDCZGCT as the deadline for bid submission is deemed most fitting. In theory, the matching of orders and allocation of cross-zonal capacity is simultaneous. In practice, there could be a short delay between time of bid submission and capacity allocation. However, trading cannot be stopped before the gate closure time based on Article 59 (4).

Furthermore, the CACM Regulation does not explicitly require to set a single IDCZGCT for all bidding zone borders.



## 3. The IDCZGOT

Today many different methods to arrange intraday capacity allocation are in place in the EU and a large variety in the gate opening and closure times are applied. These differences can generally be explained by the existence of:

- differences in market design for intraday market;
- difference in market design for the day-ahead market;
- differences in capacity calculation method;
- differences in balancing markets and processes.

The IDCZGOT is, as described in chapter 2, defined as the point in time when capacity between bidding zones is released for a given time unit and given border. At this time cross-border matching of bids to buy or sell electricity through the intraday trading solution will be possible. Where bids are matched cross-zonal capacity is allocated simultaneously to the matched bids as long as there is enough capacity available.

In defining a point in time for gate opening, the following two processes are seen as the most relevant:

- day-ahead market coupling process (or "single day-ahead coupling");
- capacity calculation process for the intraday timeframe.

How these processes affect the intraday market and to what extent these processes will be changed due to the entry into force of the CACM Regulation is described below.

#### 3.1 Single day-ahead coupling processes

The purpose of the intraday market is to offer market parties trading opportunities after closure of the dayahead markets and before the opening of balancing markets or real time. Thus, the organisation and timings applied for the day-ahead market influence the opening of the intraday market, i.e. IDCZGOT.

The CACM Regulation foresees the implementation of single day-ahead coupling in the EU. Requirements for the single day-ahead coupling process are laid down in Chapter 5, section 2 of the CACM Regulation.

According to Article 47 (2) of the CACM Regulation the gate closure time for the day-ahead market shall be 12:00 market time day ahead<sup>16</sup>. This time is applied today in Multi-Regional day-ahead coupling (hereafter referred to as "MRC). Moreover, where MRC has been implemented the NEMOs today deliver the preliminary market results to TSOs around 12.45 market time day ahead.

With the implementation of the CACM Regulation the timing for delivery of results could change. NEMOs are to deliver results of single day-ahead market coupling to TSOs before a certain time (Article 48 (1)). This deadline is to be defined via the process laid down in Article 37. The proposal containing all requirements to the price coupling algorithm (and continuous trading algorithm) is to be submitted by all NEMOs for regulatory approval by 14 February 2017.

According to article 48 (2) of the CACM Regulation, TSOs are subsequently obliged to verify the single dayahead coupling results. A scheduled exchange calculator may calculate the scheduled exchanges resulting from single day-ahead coupling. NEMOs are to provide information for the scheduled exchange calculation

<sup>&</sup>lt;sup>16</sup> "Market time" is, according to Article 2 (15) of the CACM Regulation, defined as central European summer time or central European time, whichever is in effect.



no later than 15:30 market time day ahead<sup>17</sup>. The development of a methodology to calculate scheduled exchanges is to be submitted by relevant TSOs for approval by 14 December 2016, which is the same deadline as for this proposal.

#### 3.2 Capacity calculation for the intraday timeframe

The entry into force of the CACM Regulation introduces new processes for capacity calculation for both the day-ahead and intraday timeframe. Coordinated capacity calculation is to be done at least on the level of the capacity calculation region (hereafter referred to as "CCR") by the Coordinated Capacity Calculator (hereafter referred to as "CCC").

Moreover, capacity calculation for the intraday timeframe via the flow-based approach is the preferred solution according to the CACM Regulation. The timings suggested in this draft proposal are to apply regardless whether the flow-based approach or coordinated net transmission capacity approach is chosen. It should be taken into account that the flow-based capacity calculation approach for the intraday timeframe is complex, under development and not yet applied in the EU.

The capacity calculations carried out by the CCC are to be based on a common grid model (hereafter referred to as "CGM"). This CGM shall be the result of a merger of individual grid models which are to be developed by each TSO. The CGM methodology is due to be submitted by all TSOs for approval by 14 June 2016. It should be noted that the current version of the CGM methodology is in draft. Changes to the CGM methodology may necessitate changes to this proposal before submission for NRA approval.

When considering how the new process for capacity calculation has an impact on the IDCZGOT, the process for development of the CGM should be seen as the first step. In the draft proposal on the CGM methodology, published for consultation on 4 February 2016,<sup>18</sup> the validated CGM to be used in intraday timeframe will be available in ENTSO-E's OPDE (operational planning data environment) at 19:00 market time day ahead. This validated CGM shall serve as basis for the capacity calculation for the intraday timeframe. However, the process and timeframes for intraday capacity calculation by the respective CCC have not yet been developed. This shall be defined on CCR level as part of the common capacity calculation methodology<sup>19</sup>.

Subsequently the TSO is to validate the intraday cross-zonal capacity or critical network elements provided by the CCC. This validation methodology is also to be defined in the common capacity calculation methodology for each CCR (Article 21 (1) (c) of the CACM Regulation).

Taking the above described into consideration, it is not yet possible to estimate how long all the capacity calculation processes to be developed for each CCR will take. In other words, it is not yet defined when the cross-zonal capacity offered for the intraday timeframe calculated by the CCR and validated by the TSOs will be available for each CCR. What is known is that the CCC is obliged to send the cross-zonal capacity to relevant NEMOs at the latest 15 minutes before gate opening of the cross zonal intraday market (Article 58 (1) of CACM). The duration of capacity calculation process and functioning of the CCC is therefore crucial for the IDCZGOT.

<sup>&</sup>lt;sup>17</sup> Article 43 (2) of the CACM Regulation.

<sup>&</sup>lt;sup>18</sup> https://consultations.entsoe.eu/

<sup>&</sup>lt;sup>19</sup> Article 20, 21 of the CACM Regulation.



#### 3.3 Proposal for IDCZGOT

Harmonisation of the IDCZGOT should be understood as the process of unification of varying IDCZGOT within the EU.

Considering that according to the CACM Regulation:

- significantly enhanced levels of cooperation amongst TSOs within the respective CCR for intraday capacity calculation is foreseen;
- coordinated cross-zonal capacity calculation should be performed on the CCR-level by the respective CCC;
- the CCC 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;

the geographical scope of the single intraday capacity calculation should be recognized as a determining factor in the process of IDCZGOT harmonisation.

Possible alternatives for setting the IDCZGOT should also be assessed from the perspective of technical feasibility, operational efficiency, and non-discrimination of market participants.

With regard to setting the IDCZGOT, possible alternatives are:

- 1. single IDCZGOT to be applied in the whole single intraday coupled region;
- 2. single IDCZGOT to be applied in the CCR;
- 3. an IDCZGOT set per bidding zone border.

To provide full harmonization means choosing a single IDCZGOT for the whole single intraday coupled region. Setting a single IDCZGOT fits best with a common intraday market and allows for non-discriminatory access to cross-zonal intraday markets for all market participants in the EU.

On the other hand, this would be achievable only if the IDCZGOT would be set at a late time in the evening of D-1 to allow for sufficient time for all CCRs to calculate their cross-zonal capacities for the intraday timeframe. Moreover, there is a risk that the capacity calculation process via the flow-based approach will take more time to be completed. The same risk exists where larger or merged CCRs are chosen.

In this respect, the IDCZGOT of 22.00 market time day ahead would be suitable to all TSOs. For a number of intraday markets, where the market currently opens earlier than 22.00 market time day ahead, this will shorten the available trading time. Nevertheless, it has to be taken into account that the CACM Regulation has a substantial impact on market processes with regards to intraday; in particular, in relatation to regional processes for capacity calculation. Furthermore, common capacity calculation methodologies and processes for the intra-day timeframe are under development and later gate opening times need to be considered.

The second alternative mentioned above concerns setting a single IDCZGOT at CCR level. As described above, it is not yet possible to estimate how long all the capacity calculation processes to be developed for each CCR would take. Nor is clear how long after 19:00 market time day ahead validated capacity for the intraday timeframe would be available for each CCR. As the IDCZGOT should fit with the intraday capacity process, it would from an operational viewpoint be efficient to set a single IDCZGOT at CCR level. With the foreseen gradual merger of CCRs in the future, the intraday cross-zonal gate opening times could then be



harmonized<sup>20</sup>. It is suggested that a proposal to set the IDCZGOT on CCR level could be submitted to the relevant regulatory authorities for approval at the same time as the methodology for capacity calculation for the intraday time-frame as required in article 20 (2) of the CACM proposal.

The downside to this approach is that it, in the short term, would not provide a harmonised cross-zonal intraday market opening on EU level. Additionally, it is questionable to what extent this alternative would be compliant with Article 59 (1) of CACM as a specific timing would not be stipulated in this proposal. Article 59 (1) of CACM requires all TSOs to be responsible for proposing the intraday cross-zonal gate opening and gate closure times.

Lastly, there is the possibility to set the IDCZGOT per bidding zone border. This is however not seen as a viable option as it does not provide harmonisation and cannot be seen as an improvement to the status quo.

Taking into account the advantages and disadvantages of the alternatives stated above, all TSOs suggest as a starting point to set a single IDCZGOT at 22.00 market time day ahead. As capacity calculation methodologies and processes are to be harmonised at CCR level it should be optional to choose an earlier intraday cross-zonal gate opening time at CCR level. This way there is flexibility to choose an opening time which is better aligned with the regional capacity calculation process for the intraday timeframe.

<sup>&</sup>lt;sup>20</sup> Article 20 (5) of the CACM Regulation.



## 4. The IDCZGCT

In regard to design of the IDCZGCT, two main aspects are understood as relevant: level of harmonization and time span needed for TSOs and market participants to perform scheduling and balancing processes before real time.

Regarding the level of harmonization, it is understood that a single IDCZGCT is the preferred approach from the point of view of a level playing field for all market participants in the single intraday coupled region even though this is not explicitly requested by the CACM Regulation. Having the same IDCZGCT all over the single intraday coupled region would ensure equal access to cross-zonal capacity for the intraday timeframe from one border to another.

On the other hand, the determination of a single IDCZGCT is limited by different time spans being needed all over the EU for TSOs to perform their scheduling and balancing processes depending on the nature of their respective electric systems and balancing resources. In addition, needs from market participants to perform scheduling and balancing processes differ.

In this sense, three options for the determination of the IDCZGCT have been identified:

- 1. a single IDCZGCT to be applied in the whole single intraday coupled region;
- 2. a single IDCZGCT to be applied on a regional basis;
- 3. an IDCZGCT set per bidding zone border.

The first option would ensure that all market participants have equal access to cross-zonal capacity for the intraday timeframe until the same point in time providing them with a level playing field. However, in order to ensure that all system operation needs are covered the IDCZGCT should be set taking into account the longest time span needed by all TSOs to perform balancing and scheduling processes. This solution will provide the furthest IDCZGCT from real time.

Secondly, it has been considered whether it is possible to harmonise the IDCZGCT depending on the time span needed by TSOs for balancing and scheduling processes. This way in those areas where TSOs and market participants need less time for these processes, IDCZGCT could be set closer to real time. This regional solution allows for a partially harmonized IDCZGCT, but does not provide the same level playing field for market participants compared to the first option.

A last option could be to set the IDCZGCT per bidding zone border. This solution would allow market participants to trade as close as possible to real time depending on the characteristics of the power system where they are active. On the other hand, as mentioned above in regards to the IDCZGCOT, it does not provide harmonisation and cannot be seen as an improvement to the status quo.

From the perspective of system operation, all three options could be feasible. However, in light of CACM Regulation's objectives non-discriminatory access to the single intraday coupling solution should be considered a priority. Therefore, the single IDCZGCT to be applied in the whole single intraday coupled region is the preferred option.

With regards to the point in time when to set the single IDCZGCT, all TSOs have explored the time span needed across Europe for scheduling and balancing processes and the forecasts on whether these time spans can be shortened.

The result is that the vast majority of TSOs need 60 minutes before real time for running their scheduling and balancing processes, although some TSOs are of the opinion that in the future this timing may be shortened



after harmonization of balancing mechanisms is implemented as foreseen by the draft Electricity Balancing Guideline.

Hence, all TSOs propose to set the single IDCZGCT at 60 minutes before the start of the relevant market time unit, bearing in mind that this could be reassessed in the future since balancing markets will evolve in accordance with the Electricity Balancing Guideline.



# 5. Evaluation of draft proposal against the objectives of the CACM Regulation

This chapter contains a description of how the draft proposal meets the aims of the CACM Regulation as stated in Article 3. As these objectives are not necessarily complementary, they need to be weighed against each other. In this proposal non-discriminatory access of market participants to cross-zonal capacity and allowing for equal market opportunities has been paramount. However, the CACM Regulation has large changes to capacity calculation methodologies and procedures for the intraday timeframe as a consequence. This makes it difficult to accurately assess and predict the effects of these changes on the to be applied IDCZGOT and IDCZGCT. Moreover, it is not clear today how single intraday coupling will be implemented and what effect capacity pricing for the intraday timeframe will have.

Therefore, the proposed IDCZGOT and IDCZGCT have to be based on current knowledge and should be reviewed and evaluated in the future.

In regard to the aim of the CACM Regulation to promote effective competition in the generation, trading and supply of electricity, this draft proposal has taken into account the importance of creating a level playing field for market parties active on cross-zonal intraday markets. Effective competition is to be reached via a common cross-zonal intraday market (single intraday coupling) and harmonised processes for this market. Therefore, harmonised IDCZGOT and IDCZGCT are proposed.

By choosing harmonised market timings, the objective of fair and non-discriminatory treatment of the market parties is ensured. Moreover, single timings to be applied in the whole single intraday coupled region allow for a fair and orderly organisation of this market. This additionally guarantees equal access to cross-zonal capacity in the intraday timeframe.

On the other hand, the CACM Regulation has the objective to ensure optimal use of the transmission infrastructure, operational security and optimising the calculation and allocation of cross-zonal capacity. In this respect, an IDCZGOT set on CCR level would best meet these aims as the market opening time could be aligned more closely to the capacity calculation processes.

Setting the IDCZGCT at 60 minutes before start of the relevant market time unit means that timings for the scheduling and balancing processes can to a maximum be taken into account to ensure operational security in the entire intraday coupled region. As cross-zonal balancing markets are under development, the IDCZGCT may be re-evaluated in the future to see if it can be set closer to the start of the relevant market time unit.

### 6. Implementation planning

According to Article 9 (9) of the CACM Regulation, proposals for terms and conditions shall include a proposed timescale for their implementation. As described above the implementation of the IDCZGOT and IDCZGCT is dependent on other processes, notably the existence of single intraday coupling.

The implementation of the IDCZGOT and the IDCZGCT will thus coincide with the implementation of single intraday coupling per bidding zone border in accordance with the CACM Regulation.

The NEMOs shall take the IDCZGOT and IDCZGCT into account in performing, in cooperation with TSOs, single intraday coupling.



## 7. Conclusion

By 16 months after the entry into force of the CACM Regulation, all TSOs shall propose the intraday crosszonal gate opening and intraday cross-zonal gate closure times.

This draft proposal suggests to set a single intraday cross-zonal gate opening time at 22.00 market time day ahead. An earlier harmonised intraday cross-zonal gate opening time may be decided upon on capacity calculation region level. This approach on the one hand provides for a harmonised gate opening time and on the other hand gives room to take into account future changes in capacity calculation methodologies and processes for the intraday timeframe. The advantage of a CCR approach lies in the fact that the intraday cross-zonal gate opening time can be set nearer to the actual time of finalisation of the capacity calculation process to allow for the most optimal trading opportunities.

The intraday cross-zonal gate closure time is to be set to 60 minutes before the start of the relevant market time unit. This timing provides a harmonised cross-zonal gate closure time and a starting point for the harmonisation of balancing and scheduling processes.

This single cross-zonal gate opening and gate closure time shall be implemented simultaneously with the implementation of single intraday coupling and thus apply to cross-zonal intraday trading in the whole single intraday coupled region.