

**ACER decision on the Products That Can be Taken into Account in the Single Day-Ahead Coupling:
Annex I**

**Products That Can be Taken into Account in the Single
Day-Ahead Coupling**

in accordance with Article 40 of Commission Regulation (EU)
2015/1222 of 24 July 2015 establishing a guideline on capacity
allocation and congestion management

25 September 2024

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Whereas

- (1) These terms and conditions determine the products that can be taken into account in the single day-ahead coupling ('terms and conditions on SDAC products'). They are established in accordance with Article 40 of the Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management ('CACM Regulation').
- (2) These terms and conditions on SDAC products take into account the general objectives of capacity allocation and congestion management cooperation described in Article 3 of the CACM Regulation, as set out in paragraphs (3) to (9).
- (3) The range of products that the NEMOs make available to the market participants as a part of SDAC reflects the needs expressed by market participants throughout the years of operation. Moreover, it supports overall liquidity with respect to SDAC. Therefore, the terms and conditions on SDAC products promote price resiliency and economic surplus maximisation and an effective competition in the generation, trading and supply of electricity (Article 3(a) of the CACM Regulation). To ensure that the terms and conditions on SDAC products continue to promote effective competition, the NEMOs shall consult market participants at least every two years to ensure that available products reflect their needs.
- (4) The orders resulting from the SDAC products are compatible with the characteristics of the cross-zonal capacity and these terms and conditions on SDAC products help to promote the optimal allocation of cross-zonal capacity and to ensure the optimal use of the transmission infrastructure (Article 3(b) of the CACM Regulation). As all orders resulting from the available products shall be able to access the available cross-zonal capacity via the DA MCO function, these terms and conditions on SDAC products provide for non-discriminatory access to cross-zonal capacity (Article 3(j) of the CACM Regulation).
- (5) These terms and conditions on SDAC products ensure operational security (Article 3(c) of the CACM Regulation), because NEMOs execute sufficient testing before introducing a new product or order type, because NEMOs monitor the algorithm performance with the actual combination of products in production and because all products allow for simultaneous allocation of energy and cross-zonal capacity. Moreover, if TSOs identify any challenge with respect to operational security they are entitled to request NEMOs to propose an amendment to these terms and conditions for DA products.
- (6) The products listed in these terms and conditions on SDAC products are available for all NEMOs to be offered to their respective market participants and are all compatible with SDAC. As a result, these terms and conditions on SDAC products ensure fair and non-discriminatory treatment of TSOs, NEMOs, the Agency, regulatory authorities and market participants and respect the need for a fair and orderly market and fair and orderly price formation (Articles 3(e) and 3(h) of the CACM Regulation). For each product type, the same attributes should be applied in all bidding zones. There will be no differentiation in order characteristics to ensure a fair market.
- (7) By requiring NEMOs to publish and maintain a detailed public description of the SDAC products, these terms and conditions on SDAC products shall ensure and enhance the transparency and reliability of information (Article 3(f) of the CACM Regulation). Moreover, the NEMOs should

involve all stakeholders in any consultation necessary to manage changes to these terms and conditions on SDAC products or the available products.

- (8) These terms and conditions on SDAC products create a level playing field for all NEMOs (Article 3(i) of the CACM Regulation), because all products listed in these terms and conditions on SDAC products can be made available to all NEMOs, and any change to the available products should be governed by all NEMOs.
- (9) These terms and conditions on SDAC products contribute to the efficient long-term operation and development of the electricity transmission system and electricity sector in the Union (Article 3(g) of the CACM Regulation), because all the products allow for efficient implicit allocation of cross-zonal capacity.
- (10) These terms and conditions on SDAC products shall contribute to the proper understanding of the products offered and orders' features provided and be properly aligned with the methodology for the price coupling algorithm, the continuous trading matching algorithm and the intraday auction algorithm, as adopted in accordance with Article 37 of the CACM Regulation (Algorithm methodology) terminology and the public description of the SDAC algorithm. To this extent, the content of these terms and conditions on SDAC products shall be frequently updated.
- (11) According to Article 8(4) of the Regulation 2019/943, as of January 1, 2025, the imbalance settlement period will be 15 minutes in all scheduling areas, unless regulatory authorities have granted a derogation or an exception. Also, Article 8(2) of the Regulation 2019/943 requires NEMOs to offer market participants the opportunity to trade energy at intervals at least as short as the imbalance settlement period in both the day-ahead and intraday markets.
- (12) Technical evaluation conducted by NEMOs showed that the introduction of the 15-minute Market Time Unit (MTU) in SDAC would imply an increase in the computational complexity for the running of the price-coupling algorithm, affecting the performance of the algorithm. In particular, it has been shown that, based on the available simulations, any calculation including the PUN orders and/or MIC/MP orders listed in Article 5(2) of Annex I to ACER Decision 37/2020, in association with 15-minute products, takes too long to reach a result. In order to maintain the algorithm performance at the proper level, the PUN orders and the MIC/MP orders will be removed from the SDAC optional products with the go-live of the 15-minute products in SDAC in accordance with Articles 8(2) and 8(4) of Regulation (EU) 2019/943.
- (13) According to Article 13 of the Italian Decree 210/21, as amended by the Italian law n.11 of February 2, 2024, the Italian Minister of Environment and Energy Security shall issue a Ministerial Decree (DM), after hearing ARERA, in order to set up criteria and rules to apply zonal prices to final customers as of January 1, 2025. This implies that starting from January 1, 2025, PUN will no longer be an outcome of the SDAC algorithm and can then be removed from the list of Optional products of these terms and conditions on SDAC products.

Article 1

Subject matter and scope

1. These terms and conditions on SDAC products determine the products that can be taken into account in the SDAC, in accordance with Article 40 of the CACM Regulation.
2. This methodology shall apply to the NEMOs listed in Appendix 1.

Article 2

Definitions

1. For the purpose of these terms and conditions on SDAC products, the definitions in Article 2 of Regulation (EU) 2019/943, Article 3 of Commission Regulation (EU) 2017/1485, Article 2 of Commission Regulation (EU) 543/2013 and Article 2 of Commission Regulation (EU) 2015/1222 shall apply.
2. In addition, the definitions and interpretations in Article 2 of the Methodology for the price coupling algorithm, the continuous trading matching algorithm and the intraday auction algorithm (Algorithm methodology), as adopted in accordance with Article 37 of the CACM Regulation and the MCO Plan, as approved in accordance with Article 7(3) of the CACM Regulation shall apply.
3. The following definitions shall also apply:
 - (a) Curve orders are demand or supply orders submitted per time period, which define the order quantity or different order quantities for the relevant price levels. A curve order has to include at least a quantity for the minimum and the maximum price defined in accordance with Article 41 of the CACM Regulation, and may additionally include a quantity for any price in between.
 - (b) Minimum Acceptance Ratio or ‘MAR’ means the minimum percentage on offered quantity for which a Block Order can be accepted. It is the same for all time periods included in the same block.
 - (c) Maximum Payment condition or ‘MP’ means economical condition that can be associated to complex buy orders aimed at ensuring that the payment related to the order in all MTUs must not exceed a fixed consumption cost, which is global for the whole set of MTUs, and a consumption costs per MW.
 - (d) Minimum Income Condition or ‘MIC’ means economical condition that can be associated to complex sell orders aimed at ensuring that the income related to the order in all MTUs must cover at least underlying production costs, quantified by considering the start-up cost of a power plant and operational costs per MW produced of the same power plant.
 - (e) Scheduled Stop means condition that can be added to a MIC and applies when the MIC order is deactivated. It only applies to the MTU defined in the condition and treats the cheapest sub-order in these MTU as a standard MTU order. The purpose of this condition is to avoid abrupt stop in power generation.

Article 3

General requirements for single day-ahead coupling products

1. Each NEMO shall publish in its market rules the list of SDAC products and order types that are available in its NEMO trading hub(s).
2. All orders submitted to the price coupling algorithm shall be expressed in euros, make reference to an MTU or, in case of Period Orders, to a time period specified in Article 5(2)(a) and shall be

submitted for a specific bidding zone and NEMO trading hub. NEMOs are entitled to arrange that orders submitted by market participants are expressed and settled in local currencies or euros.

Article 4

Requirements for curve orders

1. Market participants may submit curve orders to NEMOs as:
 - (a) linear piecewise curves, containing only interpolated orders (curves should be strictly monotonous i.e. two consecutive points of the same curve cannot have the same price, except for the first two points defined at the maximum / minimum prices of the bidding zone); or
 - (b) stepwise curves, containing only step orders (curves should be monotonous i.e. two consecutive points always have either the same price or the same quantity); or
 - (c) hybrid curves, containing both types of orders (composed by both linear and stepwise segments).
2. For each relevant MTU or time period, bidding zone and NEMO trading hub, each NEMO shall aggregate all submitted curve orders separately for demand and supply.
3. NEMOs shall sort demand or supply aggregated curve orders by price:
 - (a) demand orders are sorted from the highest to the lowest price; and
 - (b) supply orders are sorted from the lowest to the highest price.
4. NEMOs shall submit the aggregated curve orders to the price coupling algorithm as either linear piecewise curves, stepwise curves or hybrid curves in accordance with paragraph 1.
5. A demand (respectively, supply) quantity of a curve order is 'in-the-money' when the quantity's price of the curve order is higher (respectively, lower) than the arithmetic mean of the market clearing price(s) of the MTU(s) contained in the relevant time period.
6. A demand (respectively, supply) quantity of a curve order is 'out-of-the-money' when the quantity's price of the curve order is lower (respectively, higher) than the arithmetic mean of the market clearing price(s) of the MTU(s) contained in the relevant time period. Any out-of-the-money curve order must be rejected.
7. A demand or supply quantity of a curve order is 'at-the-money' when the quantity's price of the curve order is equal to the arithmetic mean of the market clearing price(s) of the MTU(s) contained in the relevant time period. Any 'at-the-money' curve order can be either accepted (fully or partially) or rejected.

Article 5

Mandatory products for single day-ahead coupling auction

1. **MTU Orders** are curve orders with a time period of one MTU. The NEMOs shall ensure that the MTU Orders are supported by the price coupling algorithm for the SDAC and shall make them available:

- (a) Quarter-hourly (i.e. one for each quarter-hour of the delivery day); or
- (b) in case of an exemption pursuant to the second subparagraph of Article 8(4) of Regulation (EU) 2019/943, half-hourly: (i.e. one for each half-hour of the delivery day).

Any 'in-the-money' MTU order must be fully accepted.

2. **Period Orders** are curve orders which cover multiple MTUs. The NEMOs shall ensure that the Period Orders are supported by the price coupling algorithm for the SDAC, and shall make them available with the following characteristics:

- (a) They can be offered for the time period of each full hour (from HH:00 to HH+1:00) of the delivery day or for each half-hour (from HH:00 to HH:30 or HH:30 to HH+1:00) of the delivery day.
- (b) Depending on the MTU of the relevant bidding zone and the length of the period order in accordance with (i) they consist of two or four MTUs with the same quantity.
- (c) An 'in-the-money' period order can be accepted or paradoxically rejected.

3. **Simple Block Orders** (SBOs) cover multiple MTUs or time periods of the same time resolution. The NEMOs shall ensure that the SBOs are supported by the price coupling algorithm for the SDAC, and shall make them available with the following characteristics:

- (a) A SBO consists of a fixed price limit (block order price, minimum price for a sell block and maximum price for a buy block), a MAR and a quantity for a number of MTUs or periods. If the quantity is not the same for all MTUs or periods, the block is defined also as a profile block;
- (b) SBOs cannot be accepted for a quantity less than their MAR;
- (c) For SBOs, one single price shall be calculated as the quantity-weighted average of the market clearing prices overall all the MTUs included in the SBO ; and
- (d) The condition of rejection for a SBO depends on the block's quantity-weighted average marginal clearing prices over all MTUs:
 - (i) a sell SBO must be rejected if the relevant SBO's quantity-weighted average market clearing price is lower than the block's order price;
 - (ii) a buy SBO must be rejected if the relevant SBO's quantity-weighted average market clearing price is higher than the simple block's order price; and
 - (iii) a SBO can be paradoxically rejected (not accepted 'in-the-money' block), but not paradoxically accepted (accepted 'out-of-the-money' block).

Article 6

Optional products for single day-ahead coupling auction

1. Optional products and order types are available in the SDAC subject to the rules and governance described in the Algorithm methodology.
2. The price coupling algorithm may support the following curve order products:

- (a) **Merit Orders** are stepwise curve orders in accordance with Article 4(1)(b) per bidding

zone that include a ‘merit order number’. The ‘merit order number’ sets the acceptance priority between merit orders at the same price (pro-quota criteria are not applied for Merit Orders). Merit orders can only be defined in the MTU of the bidding zone in relation to which they are submitted.

3. The price coupling algorithm may support the following other optional products:

(a) **Complex Block Orders** are the SBOs as defined in Article 5(3) with one or more of the following additional characteristics:

- (i) **Linked Block Orders** means that SBOs in the same bidding zone can be linked together in a parent-child relation. A child block order cannot be accepted if the parent one is rejected. An out-of-the-money parent block order can be saved by one or more in-the-money children block orders if the child’s acceptance compensates, in terms of economic surplus, the loss associated to parent’s acceptance;
- (ii) **Exclusive Group of Block Orders** means a set of SBOs for which the sum of the acceptance ratios cannot exceed 1. Linked Block Orders with no parents may also be members of an Exclusive Group of Block Orders, and
- (iii) a **Flexible Order** means a SBO with a duration of a single MTU or time period but for which the index is let free. The specific MTU or time period, in which the Flexible Order is accepted, is determined by the algorithm optimization criterion which maximizes the economic surplus.

Linked Block Orders and Exclusive Group of Block Orders may combine SBOs defined under different time resolutions.

(b) **Scalable Complex Orders ‘SCO’**:

- (i) A Scalable Complex Order can be a sell or buy order.
- (ii) A Scalable Complex Order is composed of:
 - ‘N’ set of MTU sub-orders, one set per MTU, where ‘N’ is the number of MTUs included in a delivery day;
 - the sub-orders can only be defined in the MTU of the bidding zone they are submitted to.
 - A minimum acceptance quantity, one value per MTU, which will be set to zero if not provided.
 - additional conditions:
 - **MIC condition / MP condition**:
 - **MIC condition** can be defined for sell scalable Complex Orders.
 - **MP condition** can be defined for buy scalable Complex Orders.
 - **Load gradient condition**.
 - A combination of **MIC condition / MP condition** and **load gradient condition**.

When a Scalable Complex Order makes use exclusively of MIC/MP condition, then it can be referred as “**pure MIC/MP order**”, whereas a Scalable Complex Order that makes use exclusively of load gradient condition, can be referred as “**pure Load Gradient order**”.

(iii) The **MIC condition** (respectively, **MP condition**) in Scalable Complex Orders adds an economic condition to a sell Scalable Complex Order (respectively, buy Scalable Complex Order), which represents the minimum income (respectively, the maximum payment) expected, defined by a fix term in euros or/and the price of each sub-order in the N-set of MTU sub-orders in euros per accepted MW produced (consumed, respectively) during the MTU.

- Acceptance of Scalable Complex Orders having **MIC condition** (respectively, **MP condition**):

- If the economic condition is not fulfilled, the Scalable Complex Order having scalable MIC condition (respectively, MP condition) must be rejected.

- If the economic condition is fulfilled, the Scalable Complex Order having MIC condition (respectively, MP condition) can be accepted.

- If the economic condition is fulfilled but the Scalable Complex Order having scalable MIC condition (respectively, MP condition) is rejected, the Scalable Complex Order having MIC condition (respectively, MP condition) is then defined as paradoxically rejected.

- **Scheduled Stop condition** is an additional condition that can be defined for Scalable Complex Orders having MIC condition.

- The scheduled stop condition applies to deactivated Scalable Complex Orders with MIC condition and only in the periods declared as part of the scheduled stop interval by the Scalable Complex Order with MIC condition.

- In case in which a Scalable Complex Order with MIC condition is deactivated, the first MTU sub-order of the set of offers belonging to the deactivated Scalable Complex Order with MIC condition in the MTU defined under scheduled stop condition will remain activated and they will be accepted if they are in-the-money and could be accepted if they are at-the-money.

(iv) **Load gradient condition** in Scalable Complex Orders adds a condition that limits the variation between the accepted quantity of an order in a MTU and the accepted quantity of the same order in the adjacent MTUs, according to an increase gradient and/or a decrease one. Between two consecutive MTUs, the accepted quantity of a Scalable Complex Order with load gradients condition

cannot vary by more than the defined gradients.

Article 7

Timescale for implementation

1. Upon approval of these terms and conditions on SDAC products, each NEMO shall publish them on the internet in accordance with Article 9(14) of the CACM Regulation.
2. These terms and conditions on SDAC products shall apply, and shall replace Annex I to ACER Decision 37/2020, as of the go-live of the 15-minute MTU in SDAC in accordance with Articles 8(2) and 8(4) of Regulation (EU) 2019/943.
3. All NEMOs shall reassess the classification of SDAC products into mandatory and optional products, and propose amendments following the next review of these terms and conditions.

Article 8

Language

The reference language for these terms and conditions on SDAC products shall be English. For the avoidance of doubt, where NEMOs need to translate these terms and conditions on SDAC products into the national language(s) of a relevant national regulatory authority, in the event of inconsistencies between the English version published by the NEMOs in accordance with Article 9(14) of the CACM Regulation and any version in another language, the relevant NEMOs shall be obliged to dispel any inconsistencies by providing a revised translation of these terms and conditions on SDAC products to the relevant national regulatory authorities.

Appendix 1

NEMOs to which this methodology applies

- Bursa Română de Mărfuri S.A.
- BSP Energy Exchange LLC
- CROATIAN POWER EXCHANGE Ltd
- EirGrid plc
- EPEX SPOT SE
- EXAA Abwicklungsstelle für Energieprodukte AG
- Gestore dei Mercati Energetici S.p.A.
- Hellenic Energy Exchange S.A.
- HUPX Hungarian Power Exchange Company Limited by Shares
- Independent Bulgarian Energy Exchange EAD
- Nord Pool European Market Coupling Operator AS
- OKTE, a.s.
- OMI Polo Español S.A.
- Operatorul Pieței de Energie Electrică și de Gaze Naturale “OPCOM” SA
- OTE, a.s.
- SONI Limited
- Towarowa Giełda Energii S.A.