
All NEMOs' proposal on the terms and conditions applied for the "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

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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 15min MTU product 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 Complex Orders (previously referenced as MIC/MP orders), in association with 15min MTU product, takes too long to reach a result. In order to maintain the algorithm performance at the proper level, the PUN orders will be removed from the implementation of the price coupling algorithm with the introduction of the 15min MTU product in SDAC algorithm. Also, under the same scope of maintaining the algorithm performance at the proper level, the Complex Orders, now described under complex orders, are expected to be also removed from the available SDAC optional products with the introduction of the 15min MTU product, giving a fallback period of 6 months to allow to continue using them in case of 15min MTU change is reverted. Once this fallback period expires, NEMOs will trigger an action to remove the Complex Orders from the implementation of the SDAC algorithm.
- (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 the Regulation (EU) 2017/1485, in Article 2 of Regulation (EU) 543/2013 and Article 2 of 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) Minimum Acceptance Ratio ‘MAR’ means the minimum percentage on offered volume for which a Block Order can be accepted. It cannot be different for MTUs belonging to the same block.
 - (b) 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.
 - (c) 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.
 - (d) Scheduled Stop means condition that can be added to a MIC and applies when the MIC order is deactivated. It only applies to the MTUs defined in the condition and treats the cheapest sub-order in these MTUs as a standard (aggregated) MTU order. The purpose of this condition is to avoid abrupt stop in power generation.

Article 3

General requirements for single day-ahead coupling

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 resulting from the products and submitted to the price coupling algorithm shall be expressed in euros and make reference to an MTU. NEMOs are entitled to arrange that orders

submitted by market participants are expressed and settled in local currencies or euros.

3. Demand or supply aggregated MTU orders are bids and offers from all market participants submitted in the same bidding zone and aggregated into a single curve referred to as aggregated demand or aggregated supply curve defined for each relevant MTU. Orders are sorted by price:
 - (a) demand orders are sorted from the highest price to the lowest; and
 - (b) supply orders are sorted from the lowest to the highest price.
4. The aggregated MTU orders can be:
 - (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).
5. One demand (respectively, supply) MTU order is ‘in-the-money’ when the market clearing price is lower (respectively, higher) than the price of the MTU order. Any MTU order in-the-money that has been submitted to the bidding zone granularity (i.e. the finest MTU accepted at the bidding zone) must be fully accepted. Any other in-the-money MTU order submitted to a coarser MTU than the bidding zone granularity may be paradoxically rejected (not accepted in-the-money MTU order).
6. One demand (respectively, supply) MTU order is ‘out-of-the-money’ when the market clearing price is higher (respectively, lower) than the price of the MTU order. Any out-of-the-money MTU order must be rejected.
7. One demand or supply MTU order is ‘at-the-money’ when the price of the MTU order is equal to the market clearing price. Any MTU order at-the-money can be either accepted (fully or partially) or rejected.

Article 4

Mandatory products for single day-ahead coupling auction

1. The following products, supported by the price coupling algorithm for the SDAC, covering one MTU at least equal to the imbalance settlement period of the relevant bidding zone shall be available:
 - (a) Hourly: the product supports trading power contracts, one for each hour of the delivery day.
 - (b) Half-hourly: the product supports trading power contracts, one for each half-hour of the delivery day.
 - (c) Quarter-hourly: the product supports trading power contracts, one for each quarter-hour of the delivery day.
2. Simple Block Orders (SBOs), covering multiple MTUs by combining products pursuant to the previous paragraph 1, supported by the SDAC algorithm, shall be 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 volume for a number of MTUs. If the volume is not the same for all MTUs, the block is defined also as a profile block;
- (b) SBOs cannot be accepted for a volume less than their MAR. MAR must be the same for all MTUs belonging to the block;
- (c) For SBOs, one single price shall be calculated on the volume-weighted average of the respective MTUs' market clearing prices; and
- (d) The condition of rejection for a SBO depends on the block's volume-weighted average marginal clearing prices over all MTUs:
 - (i) sell SBO must be rejected if the block's volume-weighted average market clearing price is lower than the block order price;
 - (ii) buy SBO must be rejected if the block's volume-weighted average market clearing price is higher than the simple block 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 5

Optional products for single day-ahead coupling auction

1. The following optional products and order types are available in the SDAC subject to the rules and governance described in the Algorithm methodology.
 - (a) **Complex Block Orders** are the SBOs as defined in Article 4(2) 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 MTU Order** means a SBO with a duration of a single MTU but for which the index is let free. The specific MTU, in which the Flexible MTU 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 MTUs.
 - (b) **Complex Orders 'COs'**, supported by the SDAC algorithm until the go-live of the 15 min

MTU, with a fallback period of 6 months in case of 15 min MTU change is reverted:

- (i) A Complex Order can be a sell or buy order.
- (ii) A 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.
 - additional conditions:
 - **MIC condition / MP condition:**
 - **MIC condition** can be defined for sell Complex Orders.
 - **MP condition** can be defined for buy Complex Orders.
 - **Load gradient condition.**
 - A combination of **MIC condition / MP condition** and **load gradient condition.**

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

- (iii) The **MIC condition** (respectively, **MP condition**) in Complex Orders adds an economic condition to a sell Complex Order (respectively, buy Complex Order), which represents the minimum income (respectively, the maximum payment) expected, defined by a fix term in euros or/and a variable term in euros per accepted MW produced (consumed, respectively) during the MTU.
 - Acceptance of Complex Orders having **MIC condition** (respectively, **MP condition**):
 - If the economic condition is not fulfilled, the Complex Order having MIC condition (respectively, MP condition) must be rejected.
 - If the economic condition is fulfilled, the Complex Order having MIC condition (respectively, MP condition) can be accepted.
 - If the economic condition is fulfilled, but the Complex Order having MIC condition (respectively, MP condition) is rejected, the 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 Complex Orders having MIC condition.
 - The scheduled stop condition applies to deactivated Complex Orders with MIC condition and only in the periods declared as part of the scheduled stop interval by the Complex Order with MIC condition.
 - In case in which a Complex Order with MIC condition is deactivated, the first MTU sub-order of the set of offers belonging to the deactivated 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 Complex Orders adds a condition that limits the variation between the accepted power of an order in a MTU and the accepted power of the same order in the adjacent MTUs, according to an increase gradient and/or a decrease one. Between two consecutive MTUs, the accepted power of a Complex Order with load gradients condition cannot vary by more than the defined gradients.

(c) **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 power, one value per MTU, which will be set to zero if not provided.
 - additional conditions:
 - **Scalable MIC condition / scalable MP condition:**
 - **Scalable MIC condition** can be defined for sell scalable Complex Orders.
 - **Scalable MP condition** can be defined for buy scalable Complex Orders.
 - **Load gradient condition.**
 - A combination of **scalable MIC condition / MP condition**

and **load gradient condition**.

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

(iii) The **scalable MIC condition** (respectively, **scalable 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 **scalable MIC condition** (respectively, **MP condition**):
 - If the economic condition is not fulfilled, the Scalable Complex Order having scalable MIC condition (respectively, scalable MP condition) must be rejected.
 - If the economic condition is fulfilled, the Scalable Complex Order having scalable MIC condition (respectively, scalable MP condition) can be accepted.
 - If the economic condition is fulfilled but the Scalable Complex Order having scalable MIC condition (respectively, scalable MP condition) is rejected, the Scalable Complex Order having scalable MIC condition (respectively, scalable MP condition) is then defined as paradoxically rejected.
- **Scheduled Stop condition** is an additional condition that can be defined for Scalable Complex Orders having scalable MIC condition.
 - The scheduled stop condition applies to deactivated Scalable Complex Orders with scalable MIC condition and only in the periods declared as part of the scheduled stop interval by the Scalable Complex Order with scalable MIC condition.
 - In case in which a Scalable Complex Order with scalable MIC condition is deactivated, the first MTU sub-order of the set of offers belonging to the deactivated Scalable Complex Order with scalable 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 power of an order in a MTU and the accepted power of the same order in the adjacent MTUs, according to an increase gradient and/or a decrease one. Between two consecutive MTUs, the accepted power of a Scalable Complex Order with load gradients condition cannot vary by more than the defined gradients.
- (d) **Merit Orders** are ‘stepwise’ MTU orders per bidding zone that include a ‘merit order number’. That number sets the acceptance priority between merit orders at the same price (pro-quota criteria are not applied for Merit Orders).

Merit selling or buying orders can cover only one MTU, the same of the bidding zone in which they are adopted, and:

- (i) are cleared at their own bidding zone clearing price;
- (ii) must be accepted if in-the-money;
- (iii) must be rejected if out-the-money;
- (iv) can be accepted or rejected if at-the-money; and
- (v) cannot be paradoxically accepted or rejected.

Article 6

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. The NEMOs shall implement these terms and conditions on SDAC products immediately after their adoption.
3. The NEMOs shall activate the relevant provisions related to 15min MTU products by the go-live of the 15min MTU in SDAC.

Article 7

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.