

To: Stakeholders and respondents

## Report of Public Consultation on amendments to SDAC Products Methodology due to the introduction of 15min MTU products in SDAC

The SDAC Products Methodology concerns products and order types that can be taken into account and used when submitting sell and buy orders in the SDAC as provided for under Article 40 (1) of CACM Regulation. Pursuant to Articles 9(1), 9(6)(h) and 40(1) of the CACM Regulation, all NEMOs are required to propose products that can be taken into account in the SDAC and submit their proposal for approval to all regulatory authorities. Also, pursuant to Article 9(13) of the CACM Regulation, the NEMOs responsible for developing a proposal for terms and conditions or methodologies may request amendments of these terms and conditions or methodologies. Such proposals for amendments to the terms and conditions or methodologies shall be submitted to consultation in accordance with the procedure set out in Article 12 of the CACM Regulation.

According to Article 8(4) of the Commission Regulation (EU) 2019/943 of 5 June 2019 on the internal market for electricity (recast), 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.

As part of the 3-year long implementation project for the introduction of 15min MTU products in SDAC, NEMOs have in 2023 cooperated with Market Participants (MPs) to define and finetune these products setup in SDAC. This setup was also discussed with market participants in the Market Coupling Consultative Group on 20 October 2023. NEMOs have also received input from market participants via biennial consultation on the SDAC Products Methodology in the beginning of 2023.

Pursuant to Article 12 of the CACM Regulation NEMOs conducted, in the period 5 February 2024 to 4 March 2024, a public consultation with market participants ([available at the NEMO Committee website](#)) for introducing in the SDAC Products Methodology necessary several improvement/clarification modifications and amendments allowing the introduction of 15min MTU products in the SDAC. The following MPs and Organizations provided feedback to NEMOs during this Public Consultation: BDEW, Energy Traders Europe, CEZ, EDF, and Eurelectric. NEMOs have also collected additional feedback from MPs and stakeholders via several workshops like the Market Coupling Consultative Group (MCCG) and the Pentilateral Coordination Group (PCG).

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All NEMOs would like to thank the respondents of the public consultation for their valuable feedback on the proposed amendments for the terms and conditions on products available to SDAC and way forward on activating/implementing the 15min MTU at the SDAC.

This report provides a summary of the opinions received and the relevant reactions and suggestions by NEMOs. The individual responses are published on [NEMO-Committee website together with this report](#).

The summary of the opinions received and the responses by NEMOs are organized as follows.

## A. General remarks

The following reflects general remarks of MPs regarding the transition from the 60 min MTU products and the introduction of the 15min MTU products in SDAC. MPs are welcoming the continuing efforts of the NEMOs to provide up-to-date information on the terms and conditions of SADC products via regular revision of the SDAC Product Methodology and market involvement in the development process.

### I. Bid structures retention avoidance of algorithm execution prolongation

*Few of the MPs consider that the implementation of the 15min MTU in SDAC will only be beneficial for the market if the corresponding products are provided without restrictions on major bid structures. MPs are also concerned on any possible disproportional prolongation of the algorithm execution time.*

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During the last 3 years NEMOs, in cooperation with the TSOs, assessed the impact for the introduction of 15min MTU products and order types. Throughout this long-lasting and demanding project, the NEMOs, in-line with the relevant provisions of the Algorithm methodology concerning R&D and assessment of Requests for Change (RfC), considered specifically the impact of this change to the performance of the MCO functions, systems and processes and evaluated this impact based on the anticipated usage of the 15min MTU products and order types together with the effective usage of existing functionalities. This standard assessment process is followed for ensuring the technical feasibility and consistency with performance criteria set forth in Algorithm methodology. The NEMOs, in cooperation with the TSOs, presented the results of their R&D activities and assessment along with their recommendations for such implementation to the market stakeholders. This assessment made clear, based on relevant prototype and simulation results of the SDAC algorithm supporting the 15min MTU products, that in order to meet the algorithm requirements for results publication deadlines and performance criteria, and beyond any algorithmic research improvements, certain adjustments had to be incorporated in the implementation including order types withdrawing (such as PUN and replacement of Complex Orders with Scalable

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Complex Orders) and anticipated products (different MTUs mix in the Order Books) and order types usage expectations to be also considered. Except for the PUN orders removal, which proved to be a no-go prerequisite, the NEMOs are not currently proposing any other major bid structure restriction to the terms and conditions applied for SDAC products. Also, as far as it concerns the algorithm execution time, and aiming to provide a balanced solution between algorithmic performance and operations security, the NEMOs already proposed as a preferable solution the extension of the algorithm execution time from 17mins to 30mins. This proposal is considered adequate and not disproportional compared to the size and the complexity of the 15min MTU products introduction in SDAC.

## II. Removal of PUN Orders, redrafting of Complex Orders and introduction of Complex Scalable Orders

*The MPs consider the removal of the PUN Orders as a positive proposal for the implementation of the 15min MTU in SDAC as far as it concerns the algorithm performance in terms of complexity and execution time. MPs encourage NEMOs to publish a timeline for the removal of the PUN Orders and provide relevant sufficient notice.*

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In their final proposal to ACER for the amendment of the SDAC Products Methodology the NEMOs propose the removal of the PUN Orders. According to [Ministerial Decree MASE of 18 April](#), as of date of flow January 1, 2025, GME will value the sales and purchases concluded on its Day-Ahead Market at the corresponding zonal prices and, in continuity with the method of calculation of the national single price, it will calculate a reference price equal to the average of zonal prices weighted for the volumes purchased as part of electricity withdrawal portfolios in the various geographic zones. The reference price, calculated by GME, will retain its denomination of PUN Index GME and, as explicitly referred to in the above-mentioned Ministerial Decree, it will be, among others, the reference index for pricing long-term electricity contracts. For information see the [GME website](#).

## III. Need to increase the number of blocks allowed per portfolio

*MPs are highly concerned for the increase of the complexity that the 15min MTU implementation will bring to their daily market participation activities, as reflected in the need for dealing with an exponential increase to the number of decisions/combinations of possible production schedules and relevant strategies. To this extent MPs consider that the 15min MTU implementation should allow for more flexibility on the usage of complex orders and their number limits per portfolio. Some of the MPs also consider that there is also a need for harmonizing the availability and the limits of smart block orders between power exchanges.*

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NEMOs also acknowledge that the introduction of 15min MTU in SDAC will introduce higher complexity in SDAC. This proven complexity at the algorithm scale already proved necessary the implementation of several and crucial improvements both to the HW/SW used (quadruplication of the necessary CPUs and introduction of Distributed Computing) and the algorithm itself for allowing the proper processing within time limits, retention of algorithmic performance and price formation. The introduction of 15min MTU in SDAC, considered as a modeling option closer to the Imbalance Settlement Period (ISP), will also provide higher flexibility to the MPs with scheduling patterns closer to the actual production/consumption and price signals reflecting this flexibility. During this log-lasting implementation process, the NEMOs have transparently provided R&D results and their assumptions on the products mix (different MTUs mix in the Order Books) and anticipated usage of products/order types extending the usage of Complex Orders and Complex Block Orders based on historical data. The usage of such optional advanced tools, linking decisions on several MTUs and introducing intertemporal constraints, has been evaluated and introduced in the NEMOs Orders Books following the standard RfC assessment process for each NEMO and bidding zone provided specific forecasts on their usage range. At this stage of implementation process and taking into account that: (a) having understood that the algorithm performance and price formation capability heavily relates to the number of used block orders/complex block orders/complex orders/scalable complex orders, (b) there exists considerable ambiguity on the actual usage of such advanced scheduling tools from the MPs side when the 15min MTU will be introduced in SDAC with a big-bang approach, and (c) the smooth operation of SDAC is considered of a paramount importance for the day-to-day scheduling activities and security of supply in the integrated power market, the NEMOs are in favor of following-up a conservative approach on extending such existing products usage parameters. Considering adequate experience from the introduction of the 15min MTU in SDAC, the usage parameters of such products may be re-evaluated following a standard RfC process according to the existing Algorithm methodology provisions.

#### IV. Need to clarify the targeted deadline for the go-live of 15min MTU

*MPs consider that the legal deadline of 1<sup>st</sup> January 2025 for the introduction of the 15min MTU in SDAC poses many operational challenges for the market operation as this deadline is considered part of a holiday and in the middle of the winter period for Europe. Taking also into account that parts of the operational design are not yet defined, MPs are in favor of moving the go-live window of the 15min MTU in SDAC towards end of Q1-2025.*

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NEMOs are working in cooperation with the TSOs for making the 15min MTU products in SDAC available in-line with the provisions of existing relevant Regulations in Q1-2025. To that end, and running on a demanding project with multiple risk factors, NEMOs and TSOs are also

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considering all feedbacks received as-far-as it concerns the operationally safe introduction of the 15min MTU products in SDAC.

## B. Remarks on specific Articles provisions

The following remarks concern existing or amended provisions for specific Articles of the SDAC products methodology.

### I. Article 3, on paradoxically rejection of volume

*Given the fact that Orders submitted with a coarser MTU (than the bidding zone MTU) may be paradoxically rejected the public consultation respondent require more clarifications on how this rule is applied and/or interacts with the acceptance/rejection of the complex block orders and whether the chosen prioritization indeed reflects the optimal approach. They are also asking whether the full acceptance of the 15min block orders is preferable over the acceptance of the fully divisible 30min blocks.*

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NEMOs are welcoming the questions of the respondents concerning the application of the acceptance/rejection criteria. To the extent of retaining the SDAC Products Methodology on a higher-level description of the terms and conditions applicable for the SDAC products and providing further technical details in the EUPHEMIA public consultation we can already share that in practice, there should be a distinction made between fully and semi paradoxically rejected curve orders at higher time resolution.

By semi paradoxically rejected curve orders, we refer to curve orders that are paradoxically rejected when considering the capped prices, but wouldn't have been with the uncapped and unrounded prices. Those curves are paradoxically rejected by a direct application of the market rules and welfare optimization, and could not be accepted afterwards, as accepting them would reduce the welfare (other curves at lower time resolutions would have to be rejected to accept them).

By fully paradoxically rejected curve orders, we refer curve orders that were killed by the algorithm during computation, and therefore are paradoxically rejected in both the capped and uncapped solution. Killing these curves similarly to how normal block orders are killed is not possible within EUPHEMIA, as the curve orders are included in aggregated data. Moreover, reinserting them is not considered yet, as their acceptance can have a major impact on prices. As such, there is no prioritization mechanism between blocks and curves when encountering paradoxically accepted orders due to capping.

EUPHEMIA does not apply any preferences whatsoever between 15 and 30' blocks. Moreover, tie-breaks applied do correct for the time resolution and do not take it into account. However, when all things are considered equal, there is a tie-break rule applied on the minimum acceptance ratio, ensuring two fully equivalent block orders (same set of relative periods,

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regardless of time resolution, same price,...) will result in the lowest MAR being accepted first. Finally, if they also have the same minimum acceptance ratio, they will be arbitrated through their time\_stamp, in post-processing.

## II. Articles 4 & 5, on Mandatory vs Optional products

*Respondents acknowledge that the introduction of 15 min MTU product in SDAC implies an increase in the computational complexity of the price-coupling algorithm. They also fully support the list of mandatory products for SDAC auction which includes hourly, half-hourly and quarter hourly products. However, the respondents oppose the qualification of Complex Block Orders as optional products and argue that linked and exclusive products are necessary to correctly reflect technical capabilities and limitations of assets and portfolios in the day-ahead auction which, in turn, benefits consumers as it allows for an efficient and competitive bidding process leading to an efficient dispatch. The respondents strongly support the inclusion of such products under the list of mandatory products and that their availability should not be reduced or removed in any way in the event of corrective measures applied due to delays in publication of results. Additionally, whether this linked or exclusive bids products introduce such a degree of complexity in the algorithm that they need to remain as optional products only a thorough demonstration of their negative impact on algorithm performance would have warranted their exclusion from the list of mandatory products.*

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The issue of whether the Complex Block Orders should be considered as mandatory products/order types has been thoroughly discussed during passed public consultations with MPs. NEMOs clearly understand the need of scheduling capabilities provided by such advanced order types, linking decisions for scheduling energy volumes in an intertemporal manner. The mandatory products available in SDAC, as clearly explained in the latest supporting material on ACER's decision 37/2020, covers products available for a single MTU (curve orders) and multiple MTUs (block Orders) in line with the provisions of CACM Regulation as a minimum legal requirement accommodated by the price coupling algorithm. Complex Block Orders, building upon simple block orders with additional characteristics, are available/used on-top of mandatory products/order types by several NEMOs/BZs as optional products/order types, accommodating the scheduling needs of the relevant MPs where the algorithm performance allows for it. Therefore, Complex Block Orders have been included as such also in the relevant 15min implementation simulations conducted by NEMOs. Application of any possible Corrective Measures is governed by the provisions of Article 12 of the Algorithm Methodology where the selection of products and/or their parameters in a temporary period of corrective measures enforcement is clearly defined.

## III. Article 5, on making available Complex Block Orders in Iberia

*One of the respondents points that the scalable MIC condition (Scalable Block Orders) will not allow to properly reflect market participant constraints, flexibility and costs, and risk impacting price formation and price clearing. Complex Block Orders can alleviate this limitation of the Scalable MIC condition and suggest making all block orders available in Iberia on top of Scalable Block Orders.*

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As referenced also in previous public consultation, NEMOs have proposed the SCOs as a product that help in the achievement of detailed cost reflection and scalability, while preserving most of the requirements from COs and adding new functionalities that provide more flexibility. This flexibility/scalability characteristic of SCOs are evident in the introduction of the 15min MTU in SDAC. NEMOs also consider that the selection of optional products/order types offered by specific NEMOs under the competence and control of National Regulators is considered outside of the scope of this public consultation.

#### **IV. Article 5, on possibility of Complex Block Orders to be defined over 15', 30' and 60' MTUs**

*The respondents argue that Article 5(1a) of the methodology refers to article 4(2) which in turn refers to article 4(1) and underline that the methodology should more clearly/directly indicate that the following combinations of complex orders and MTUs are possible: (a) Products listed in Article 5 are available for hourly, half-hourly and quarter-hourly products, and (b) the combination of simple block orders with different MTU is also possible.*

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Article 4(1) of the SDAC Products Methodology explicitly defines the mandatory hourly (MTU=60min), half-hourly (MTU=30min) and quarter-hourly (MTU=15min) products that the NEMOs should provide. Article 4(2) mentions the mandatory Block Orders which may be defined under any MTU domain (i.e. under any of the 60min, 30min, 15min MTU/products of Article 4(1)). To this extent, the Block Orders may be defined under any MTU without any restriction.

Article 5 on the other hand defines the Complex Block Orders. It is clearly mentioned that Complex Block Orders (Linked, Exclusive) are defined using Simple Block Orders and there is no restriction on the possibility of combining Simple Block Orders defined with different MTU resolutions. So, the current SDAC Products methodology text provides in a clear, yet structured manner, the characteristics and possible combination of available products/order types. For avoidance of any doubt an explicit reference for this is added in Article 5(1a).