

May 2023

UFE Position on the implementation of 15 minutes MTU in SDAC

Legal background and benefits of 15 minutes MTU:

Electricity Regulation Article 8.2 foresees that “NEMOs shall provide market participants with the opportunity to trade in energy in time intervals which are at least as short as the imbalance settlement period for both day-ahead and intraday markets”. In addition, Electricity Regulation Article 8.4 states that “the imbalance settlement period shall be 15 minutes in all scheduling areas, unless regulatory authorities have granted a derogation or an exemption” and that “Derogations may be granted only until 31 December 2024.”

Currently, the go-live for the 15 minutes MTU¹ in SDAC² is foreseen by NEMOs in Q1 2025 (in line with the target for the completion of the 15 minutes ISP implementation across Europe). The change of the market time from 1 hour to 15 minutes offers the possibility to account in the day-ahead for asset/contract profiles (and ramping) at the time granularity used for imbalance settlement. **If well implemented, this measure can be beneficial for the system, notably improving flexibility signals to better integrate renewable.**

However, some uncertainties remain regarding the implementation of 15 minutes MTU in SDAC:

NEMOs have informed market participants (MPs) about important performance challenges related to the implementation of 15 minutes MTU in SDAC. During the first MCCG³ in June 2022, they made it clear that Euphemia algorithm will not be able to manage the complexity brought by the 15 min MTU within the 17 min currently dedicated to the computation of the day-ahead price. As part of these performance challenges, some uncertainties remain. UFE thus underlines that **market participants need clarifications of the impact of the implementation of 15 minutes MTU in**

¹ Market time unit (MTU) in SDAC is the period for which the day-ahead market price is established.

² Single day-ahead coupling (SDAC)

³ Market Coupling Consultative Group (MCCG) meeting

SDAC in terms of welfare & product availability, price formation and algorithm performance.

1. Welfare & Product availability:

The implementation of 15 minutes MTU will only improve economic surplus if it provides at the same time the products that allow market participants to offer flexibility at this time granularity and in line with their portfolio capabilities. The discussion on product design and availability, while absolutely key, is unfortunately not well addressed currently. Market participants should have the ability to continue to offer market orders that represent the true flexibility of their portfolios. As an example, UFE would like to better understand:

- **Whether the availability of complex block orders (in particular linked and exclusive block orders) will be adapted to 96 time stamps with the move to 15 minutes MTU in SDAC.** UFE reminds that those products are already today of absolute necessity for market participants in all bidding zones. In the self-dispatch model widely used in Europe, those complex products allow market participants to better represent the flexibility potential of their portfolio (aligned with their asset capabilities). Their accommodation should extend with the increased granularity coming from the move to 15 minutes. Any step back in terms of complex products could harm significantly price formation across Europe and the efficiency of dispatch decisions.
- **If market participants will still have the possibility to trade with orders longer than 15 minutes.** We understand that two scenarios are still being assessed⁴ by NEMOs. A first scenario (A) with only 15 minutes MTU products available among simple orders to be accommodated by the SDAC algorithm. A second scenario (B) with multiple MTUs – 15 min MTU but as well 30 min and 60 min MTU products available (as simple block orders).

We understand that currently, no decision has been made with regard to those scenarios (A) and (B) and that this decision is foreseen by end 2023. We would like to make sure that prior to any decision, a full impact assessment on product design and availabilities and their related impact on the functioning of SDAC (eg performance...) (not only focusing on the two above scenarios) will be performed and published. We call for a deeper investigation and stakeholder involvement in 2023 (in particular clarifications on scenarios) on this matter with visibility on progress and decisions made on product design, so the implementation of the 15 minute MTU integrates the concerns of all market participants and not only NEMOs computational challenges. In particular for scenario B, UFE requires clarifications, on the one hand, on the process for bid submission and results format (how to submit different MTU products, impacts

⁴cf. presentation during the 2nd MCCG in December 2022

on current interface) and, on the other hand, on the optimization process of the algorithm.

We would like to have access to the results of the assessment study performed by NEMOs as soon as they are available and before taking any decision so that market participants' views (in the light of the results obtained) would be taken into account for such decision. The study shall notably assess the impact in terms of paradoxically rejected blocks (PRBs⁵) in the different scenarios and assess the potential implied limits or constraints associated with the multiplication of the number of block orders.

2. Price formation:

NEMOs explained that among the solution analyzed to solve the algorithm performance challenges brought by the 15 minutes MTU, Non-Uniform Pricing (NUP)⁶ is being studied, instead of uniform pricing currently in place in Euphemia. This solution was however presented, during the 2nd MCCG in December 2022, as a solution for mid- to long-term rather than for the go-live, with an expected performance gain of 10% and still ongoing research. Given the difference of inherent complexity between uniform pricing and non-uniform pricing, UFE finds it disturbing that the gain in performance is currently only 10% and would like to better understand how the numerical experiment was performed.

UFE reminds that this solution would be a paradigm shift with respect to the current day-ahead market design. Non-uniform Pricing would have an impact on clearing price formation (market price and volatility) with a possible change of definition of the reference clearing price (cf. CACM 2.0 ACER proposal) and on bidding opportunities.

Non-uniform pricing opens the debate on the fairness of the algorithm choices and whether side payments should actually remunerate all losses for orders being executed uneconomically (i.e. not only PABs⁷ but also opportunity losses/PRBs), notably on its impact on incentive compatibility, bidding behavior and total economic surplus. Rules for the allocation of the costs to remunerate the side-payments need to be clarified and the size of side-payments evaluated.

Non-uniform pricing also opens the debate on the way pricing rules are determined: various solutions are possible, such as the minimization of side payments or the maximization of surplus.

UFE thus considers that the possibility to use Non uniform pricing (NUP) in the market coupling

⁵ **Paradoxical rejection of block orders (PRB)**: block which is rejected while being in-the-money (price is smaller than the market clearing price) or at-the-money (price is equal to the market clearing price). For blocks this notion is generalized by considering the volume weighted average price.

⁶ **Uniform pricing** uses the principle of marginal pricing according to which all accepted bids received the same price per bidding zone per market time unit. In **non-uniform pricing**, paradoxically accepted bids will be remunerated in pay-as-bid while all other bids will be remunerated with the marginal price.

⁷ **Paradoxical acceptance of block orders (PAB)**: block which is accepted while being out-of-the money (price is greater than the market clearing price). For blocks this notion is generalized by considering the volume weighted average price.

algorithms should be better assessed with greater visibility on its impact and the comparison with the current system. **UFE also requests confirmation that the NUP will not be used for the Go-Live of the 15-minutes MTU in SDAC, and stresses that this topic raises many questions while providing a fairly small performance gain.**

3. Algorithm Performance:

Currently, the SDAC normal process timeline is such that the closure of order book is at 12h, the publication of preliminary results is at 12h45 and the publication of final results at 12h57. On the 45 minutes dedicated to the day-ahead auction, “only” 17 minutes are currently dedicated to the algorithm for the calculation of market coupling results. Hence, we are wondering if gains in performance are investigated – both on the side of the TSOs and NEMOs – as well on the pre-processing and post-processing steps (validation steps, national processes, ...).

UFE understands that the switch to 15 minutes MTU in SDAC could require additional time for the SDAC algorithm with respect to the current situation. UFE requests that the consequences of such increase are dully studied (impact on operational process, timing, shadow auctions, nomination deadlines ...).

Regressions from the current operation of day-ahead market coupling would be detrimental to the functioning of the European electricity market:

Before switching to the 15-minutes MTU on the SDAC, UFE considers that the following preconditions must be met:

- Accommodation by Euphemia of an increased number of time stamps (from 24 to 96) for the "complex block order" products (in particular linked and exclusive)
- Maintain the possibility of offering 60- and 30-minutes products and/or ensure that the algorithm is able to take into account the complexity associated with the multiplication of the number of blocks orders
- Evaluation of the impact of 15 minutes MTU in SDAC on the paradoxically rejected blocks
- Guarantee that the 15 minutes MTU go-live would not be based on non-uniform pricing
- Visibility on the possible increase of the execution time of Euphemia (currently 17 minutes maximum) and of the consequences of such increase (impact on operational process, timing, shadow auctions, nomination deadlines ...)

In the absence of these safeguards, UFE considers that the SDAC 15 minutes MTU go-live is risky and might be detrimental to the proper functioning of the day-ahead market.

In the absence of clarifications regarding the risks of regression, it would be imprudent to maintain the 15 minutes MTU go-live deadline in SDAC on January 1, 2025 :

Given the uncertainties arising after the day-ahead market on production and demand (linked to error forecast or forced outages), UFE considers more relevant:

- to implement 15 minutes MTU first in the intraday markets.
- to postpone (one to two years) the implementation of 15 minutes MTU in SDAC to allow for the securing of these guarantees.

UFE thus asks either for an extension of the deadline for derogations (through the revision of the Electricity Regulation currently underway) or for some latitude on the part of ACER and the European Commission with regard to compliance with deadlines, given the change and the major challenge that the implementation of 15 minutes MTU in SDAC represents.