Balancing Market Best Practice Guidance Document

REVISION HISTORY

REVISION NO.	DATE	DESCRIPTION OF CHANGES	REQUESTED BY
1.0	16.12.2024	Final version	Baltic TSOs
1.1	17.06.2025	Additional FAQ	Baltic TSOs

Contents

1 Introduction

The Baltic TSOs (Elering, AST and Litgrid) are organising the Balancing markets in the three Baltic countries. These markets consist of the mFRR (MARI) and aFRR (PICASSO) energy markets and the Baltic Balancing Capacity Market (mFRR, aFRR, FCR). As operators of these markets, the Baltic TSOs have great interest in ensuring that these markets are well-functioning and that the resources are used as efficiently as possible. Further, according to REMIT, the TSOs are obliged to monitor the market for possible market abuse and insider trading, and are obliged to report possible breaches to the authorities.

Detecting possible breaches and reacting to these are important to ensure the well-functioning markets. However, it is also important to implement measures to prevent breaches from happening in the first place. The TSOs have therefore decided to publish this Best Practice Guidance document. The Best Practice Guidance highlights some important principles that should be kept in mind when trading in the Baltic balancing markets. The document does not aim to be a comprehensive guide regarding all the requirements for balancing market trading. Rather, it aims to highlight some of the issues where there may be additional need for clarification.

The Best Practice Guidance, version dated 25th November 2024, has been written as a joint effort by the Baltic TSOs, and Nord Pool in their role as a service provider for the development of market surveillance methodology. The document is based on Nord Pool's experience at performing Market Surveillance, as well as on the results of the Baltic Balancing Market Participant Workshop on Market Surveillance that took place on 13th November 2024.

Throughout this document, REMIT refers to Regulations (EU) No 1227/2011[1] as well as Regulations (EU) 2024/1106[2] amending Regulations (EU) No 1227/2011. The ACER Guidance refers to the ACER Guidance 6th edition, July 2021[3].

[1] Available here: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32011R1227

[2] Available here: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:L_202401106

[3] Available here: https://acer.europa.eu/sites/default/files/documents/en/remit/Documents/ACER_Guidance_on_REMIT_application_6th_Edition_Final.pdf

2 Market Surveillance performed by the TSOs

Executive summary:

- Based on REMIT, TSOs are obliged to monitor for possible breaches of Article 3, 4 and 5.
- The balancing markets in the Baltic countries are highly interlinked, and the three TSOs cooperate closely also with respect to monitoring.
- In order to clarify if a certain behaviour may be a breach, the TSOs may ask questions to Market Participants (MPs).
- In the event that there is a reasonable suspicion of a breach, TSOs will inform NRAs. According to the ACER Guidance, information about whether a case is sent to the NRA cannot be shared with the market participants.
- The TSOs aim to provide guidance to market participants as far as possible in order to contribute to a well-functioning market and avoid bidding practices qualifying as market manipulation or insider trading.
- Tip-offs are an important part of the monitoring. Tip-offs can be sent to the Market Surveillance team of the respective TSO.
- Please contact the Market Surveillance team of the respective TSO if you have questions or need guidance.
    - Elering: REMIT@elering.ee
    - AST: surveillance@ast.lv
    - Litgrid: REMIT@litgrid.eu

The Baltic TSOs are obliged to monitor for breaches of REMIT Article 3, 4, 5 – “Prohibition of insider trading”, “Obligation to publish inside information”, “Prohibition of market manipulation”. According to REMIT, Baltic TSOs shall establish and maintain effective arrangements, systems and procedures to identify such breaches.

2.1 Setup for monitoring

The balancing markets are highly interlinked within Baltics. Therefore, Baltic TSOs cooperate closely also with respect to monitoring. This cooperation enables the Baltic TSOs to exchange expertise, ensure consistency in the guidance to MPs, as well as in the handling of suspicious events. The consistency for market monitoring is also ensured by similar Market Monitoring Strategies, used by the Baltic TSOs.

The monitoring is based on a Risk Assessment. The Risk Assessment lists common types of market manipulation and insider trading together with the perceived risk of those behaviours taking place in the Baltic balancing markets. The Baltic TSOs' monitoring focuses especially on the breaches that have a significant risk of occurring, and which may have significant negative consequences for society. The Risk Assessment is used as a basis for developing the automatic tools as well as for ensuring the focus of the Market Surveillance team.

2.2 Market monitoring process

The general monitoring process is as follows:

1. The monitoring process starts with automatically generated alerts indicating breaches of REMIT Article 3, 4 and 5, as well as tip-offs and any other cases that the Market Surveillance Analyst became aware of during the monitoring period.
2. Some automatically generated alerts may be easy to discard due to some fundamental or participant-specific reasons (e.g., reduction of volume explained by a decrease in wind).
3. Unexplained behaviour from MPs goes through a first assessment, where a Market Surveillance Analyst may use information from other systems – e.g., trading system, ENTSO-E Transparency Platform, or other fundamental data provider – or perform a more detailed statistical analysis.
4. If the behaviour at that point cannot be explained by other means than qualifying as a reasonable suspicion of a breach of REMIT Article 3, 4, 5, or other applicable law, the case is escalated and the whole Market Surveillance team provides input. Investigating the case further may include asking questions to the MP.
5. The case will then go through a more thorough investigation by the Market Surveillance Analyst, analysing the information obtained. As a result, Market Surveillance concludes on the decision if to draft a Suspicious Transaction or Order Report (STOR) to be filed to the National Regulatory Authority (NRA) and Agency for Cooperation of Energy Regulators (ACER).

This process may be adjusted if necessary for ensuring the effectiveness and timeliness of monitoring and notifications.

2.3 Interaction with MPs

As stated in point 4 under the market monitoring process above, Market Surveillance may send questions to MPs, in case this is necessary for concluding on a reasonable suspicion of a breach. Market Surveillance may also contact an MP with the purpose of improving its market monitoring.

Information provided by MPs when answering questions under point 4 is an important source of information for Baltic TSOs to conclude whether a certain behaviour is legitimate or not. By understanding the behaviour, Baltic TSOs will often be able to rule out a suspicion of a breach. To facilitate compliance of REMIT, it is therefore recommended that MPs have documentation and systems in place to be able to explain the rationale of previously occurred trading behaviour. The information provided in the corresponding answers should be of a format and detail for Market Surveillance to understand the behaviour correctly.

MPs in the Baltic markets may have an obligation to respond the questions from Market Surveillance in accordance with the applicable rules[4]. In case the investigation confirms the reasonable suspicion of a REMIT breach, Market Surveillance will notify the case to the responsible NRA and ACER. According to the ACER Guidance, information about whether a case is sent to the NRA cannot be shared with the MP.

During the interaction with MPs, TSOs might also provide guidance on specific behaviour. This can be done if assessment of the Market Surveillance team is that this would not result in the destruction of evidence, but may instead contribute to a more well-functioning market. Guidance regarding specific trading practices may also be provided on a request from the MP. Please contact the Market Surveillance team of the respective TSO to discuss any specific questions related to REMIT compliance. The contact details are provided in the executive summary of this section and under “Conclusion” in Section 6.

2.3.1 Notifying Market Surveillance regarding suspicious activity

Tip-offs from the Baltic MPs, analysts working close to the market, or other interested individuals, are an invaluable input to Market Surveillance work. All correspondence related to tip-offs is handled in strict confidence. The tip-offs can be transmitted using phone or e-mail. Please see the webpage of the relevant TSO for the contact details.

[4] In Estonia, Electricity Market Act Art 40 (6) states that the system operator may require that market participants and local authorities provide it with information that it needs for the performance of its obligations. If exact reference is needed for other countries, please contact the market surveillance team of the respective TSO.

3 Prohibition of insider trading

Executive summary:

- Inside information cannot be used for trading, cannot be disclosed to any person outside of the normal course of duties, or used for recommending to trade.
- Inside information shall only be disclosed internally on a “must-know” basis.
- Information about intermediate steps in a protracted process may qualify as inside information.
- Examples of inside information include outages and maintenances. Also, information about an activation in the balancing market can constitute inside information.

3.1 What does the prohibition of insider trading entail?

REMIT Article 3 states that it is prohibited to trade based on inside information. It is also not allowed to use inside information for giving an advice on trading, or simply disclosing it to another person, who does not have a clear need to have the information. It is important that inside information is disclosed internally only to those employees who must have the information to perform their professional duties.

3.2 Examples

Below follow an example of potential insider trading relevant for the balancing market.

3.2.1 Trading on information about activations

In the balancing markets, information about activations may in certain situations constitute inside information, as the information may be precise, non-public, concerns wholesale energy products and may be likely to significantly impact prices, if made public.

If an MP has placed one or more orders in, for example, the aFRR energy market and an order is activated, the MP will be informed about this real-time. However, depending on the timeliness of publication of market data, other MP may not get this information at the same time, unless the information is simultaneously made available to the public, for example through the Baltic Transparency Dashboard.

If this information is of a character that it is likely to significantly affect prices of wholesale energy products (for instance upregulation at a very high price, indicating a systematic deficiency), it may be inside information. It is then insider trading to use this information in trading, e.g. by trading in ID (intraday-market) or increasing upregulation price for other assets for delivery in later products. Trading based on the information might then only be conducted after the information has become public, either through publication of data (e.g. through the Baltic Transparency Dashboard), or publication of inside information (see Section 4 on the obligation to publish inside information).

We therefore recommend that MPs are very cautious whenever considering using information about activations as input to trading strategies.

3.2.2 IT issue disabling participation in the balancing market

Although information considered to be inside information often relates to unavailability of production, consumption or transmission, there might be other types of information which constitute inside information, requiring publication. One such issue might be IT issues, affecting how an asset can be offered to the market.

For example, an MP may face an IT issue a specific day, which disables a flexible production unit from offering its capacity and energy to the balancing markets, but only to DA. It must be assessed if this constitutes inside information. This is more likely to be the case for instance if the liquidity in the market is low and if market fundamentals indicate a tight market situation on the day in question. If the conclusion of the assessment is that the absence of the unit is likely to significantly affect the price, this information must be published, before trading using that information.

REMIT recital 12 states that information regarding a market participant's own plans and strategies for trading should not be considered as inside information. However, experiencing an IT issue does not qualify as a systematic method for trading and is not a market participant's plan or strategy. Therefore, the recital is not relevant in this case. If the information constitutes inside information, MPs are prohibited from trading using this information under REMIT Article 3, and have an obligation to publish the information under REMIT Article 4 (see Section 4).

4 Obligation to publish inside information

Executive summary:

- Inside information shall be disclosed on Inside Information Platform (IIP), as fast as possible, but at least within one hour of occurrence.
- Published information shall fulfil the minimum quality criteria.
- In case of an IIP unavailability, use an emergency procedure.

4.1 What does the obligation to publish inside information entail?

According to REMIT Article 4, MPs are required to publish inside information that they possess in respect of business or facilities that they are responsible for. The information should be published within one hour of occurrence. The publication of inside information shall fulfil the following quality criteria:

- Information shall be published on a certified Inside Information Platform, such as power exchange's UMM system.
- If an element of prognosis is used, the prognosis shall be performed with a reasonable accuracy
- If a company website is used in addition to the publication on a certified Inside Information Platform, the publication shall be simultaneous and the published information shall be equivalent on both platforms.

No trading shall be done based on inside information before it is disclosed publicly. In case of technical issues with the platform, it is relevant to be aware of backup- or emergency procedures that the platform operates.

5 Prohibition of market manipulation

Executive summary:

- Economic and physical withholding represent major risks in the markets that the Baltic TSOs monitor.
- Market participant shall have a legitimate technical, regulatory, and/or economic reason when offering the asset above marginal costs or not offering it.
- Reasonable expectations of prices in future markets constitute a legitimate opportunity cost and may be used as an input.
- Arbitrary profit margins may not constitute a legitimate input to a bid. Further, foregone trading opportunities cannot be seen as legitimate opportunity costs.

5.1 What does the prohibition of market manipulation entail?

Article 5 of REMIT prohibits engaging in, or attempting to engage in, market manipulation within wholesale energy markets. The definition of market manipulation is set out in REMIT Article 2, and states that market manipulation is transactions, orders, or any other behaviour related to wholesale energy products that 1) gives, or is likely to give, false or misleading signals as to the supply of, demand for, or price of wholesale energy products, 2) secures, or is likely to secure […] the price […] at an artificial level […] or 3) employs a fictitious device or any other form of deception or contrivance which gives, or is likely to give, false or misleading signals regarding the supply of, demand for, or price of wholesale energy products.

Furthermore, disseminating information which gives, or is likely to give, false or misleading signals, where the disseminating person knew, or ought to have known, that the information was false or misleading, is market manipulation under REMIT.

The ACER Guidance further elaborates on specific practices that fulfil the definition above. The practices and examples in this Best Practice document are based on REMIT and the ACER Guidance.

5.2 Economic capacity withholding

The ACER Guidance states that electricity generation capacity withholding is *"the practice of keeping available generation capacity from being competitively offered on the wholesale electricity market, even though offering it competitively would lead to profitable transactions at the prevailing market prices."*

One subcategory of capacity withholding is *economic withholding.* The term *economic withholding* is used to describe the behaviour of offering production capacity at prices exceeding the marginal cost without a legitimate justification. ACER Guidance defines economic withholding as:

"Actions undertaken to offer available generation capacity at prices which are above or at the market price and do not reflect the marginal cost (including opportunity cost) of the market participant's asset, which results in the related wholesale energy product not being traded or related asset not being dispatched." [5]

This indicates that if an MP offers capacity to the market at prices above the marginal cost of its assets, this may be market manipulation. Further, it indicates that there may be justifications for why an MP would offer capacity to the market above marginal cost without this being considered market manipulation. ACER Guidance specifies that the reasons for offering capacity at prices above marginal cost can be technical, regulatory and/or economic.

The idea of legitimate *economic reason* is primarily based on opportunity cost. ACER Guidance explains:

"Opportunity costs represent the expected value of the most valuable choice that was not taken. In wholesale electricity markets, this can, for example, represent offering at a different point in time for energy-limited available generation assets, e.g. reservoir hydropower units. It can also represent offering in a different sequential market (such as forward, day-ahead or intraday markets) for available generation assets, based on said expectations. Ultimately, the expectation on the value of electricity in real time, including expected outages and considering the volume to be traded, will impact the opportunity costs."

For balancing markets, it is relevant to note that the price of foregone markets does not represent a relevant opportunity cost.

- It is not relevant to offer to the balancing market at a price at which the power was purchased in the ID market, as foregone trading in ID market is a sunk cost.
- In general case, offering to mFRR and aFRR energy markets at the DA (day-ahead) price (and potentially including a premium), also does not represent a legitimate opportunity cost. This is as DA prices represent a foregone trading opportunity and is therefore a sunk cost.

[5] The ACER Guidance outlines the concepts of regulatory, technical and economic justification (and opportunity cost) specifically for *electricity generation*. In general, however, in our view, the concept represents a robust approach also for consumption assets and battery energy storage systems (BESSs), in order to bid in a way that is unlikely to send false or misleading signals, or secure prices at artificial levels.

Both of these assessments are based on the fact that opportunity costs shall be linked to the expectations of trading opportunities as set out in ACER Guidance.

5.3 What represents legitimate input to the opportunity cost?

In general, pricing should be based on the MPs opportunity cost, unless limited by the MPs marginal cost. Thus, examples of factors typically relevant as input to the opportunity cost for an MP in pay-as-clear markets are:

- Marginal cost (value of not being activated, e.g. fuel costs, emission costs, start-up-costs, operational costs and taxes directly related to production/consumption)
- Price expectation in later sequential markets (e.g. the expected DA price, when offering to the balancing capacity market)
- Price expectation in later MTUs (market time units), if and only if production/consumption in one MTU affects the ability to produce/consume in that later MTU (e.g. relevant for energy-limited generation assets, such as reservoir hydropower units)
- Changes in expected profit from a change in production/consumption profile which is directly attributable to a potential activation in the balancing market
- Non-market income linked to production/consumption (e.g. Guarantees of Origin, and support schemes)
- Expected value related to different risks. The expected value must be based on realistic assumptions of probabilities and costs. Some examples are risks of:
    - short activations in balancing markets, meaning that start-up costs must be recuperated over a lower amount of compensated energy,
    - quantifiable regulatory breaches, e.g., a risk of breaching environmental permits,
    - pay-as-bid compensation, e.g., as a result of special regulation,
    - failure to deliver energy and related fines and imbalance costs.
- Risk appetite for a more certain profit compared to less certain profit (e.g., a preference for more certain profit in DA or ID, compared to a less certain profit when bidding in the capacity market. See Section 5.5)

Examples of factors that are *not* relevant input to the opportunity cost in pay-as-clear markets are:

- Margins to recuperate past investment costs,
- Arbitrary profit margin (premium on top of the bid that does not have a legitimate technical, regulatory and/or economic (e.g. opportunity cost) justification),
- Prices in foregone markets (as elaborated upon in Section 5.2).

5.4 Physical capacity withholding

Another subcategory of capacity withholding is *physical withholding.* In analogy with the above, ACER Guidance defines physical withholding as follows:

"Actions undertaken in the form of not offering the available generation capacity at any price."

The same reasons – technical, regulatory and/or economic – are relevant as a justification for not offering the asset. *Technical reasons* include unavailability of the unit or ramping restrictions of the unit, while *regulatory reasons* may include the contractual obligation of the asset to be offered elsewhere.

It is recommended to consider the expectation of price in later markets (opportunity costs) as a pricing input, *rather* than a reason for not offering the asset. This means that the asset should preferably be offered to all sequential markets, but at a price that reflects the opportunity cost as elaborated upon in Section 5.3.

5.5 Economic or physical capacity withholding in the capacity market

The considerations above apply to the balancing capacity markets, as balancing capacity is a wholesale energy product.

To avoid a risk of engaging in economic or physical capacity withholding, it is, also in this market, recommended to enter all technically available volumes, and pricing them at opportunity cost.

In general, the available volumes to the capacity market would be all prequalified volumes which are technically available. Deviating significantly from this, without technical, regulatory or economic justification risks qualifying as a physical capacity withholding. In a similar way, all volumes that were not committed in the capacity market shall be offered to later sequential markets, unless a legitimate justification exists for not offering them.

In the capacity markets, the main input to the opportunity cost is the expected revenue the MP would have generated had it *not* reserved the capacity for balancing (e.g. revenues stemming from participation in DA, ID, etc), minus the expected revenue from the balancing energy market.

Different parts of the overall volumes offered in a MTU may also have different opportunity cost, i.e. several bids with different costs.

Practical example

The practical example is devised to illustrate the concepts presented above. The example is significantly simplified (only some markets are included and the technical details are reduced) for conciseness.

A run-of-river producer has 100 MW/h prequalified for mFRR upregulation (capacity and energy), and a marginal cost of €0/MWh.

Considering the MP's price forecast and forecasted production plan if operating freely in DA, ID and balancing market, the MP expects that 100 MW will generate a profit of €250/MW/h.

Considering MP's price forecast and forecasted production plan if operating exclusively for upregulation in the mFRR energy market, the MP has an expectation that the 100 MW will generate a profit of €140/MW/h

Thus, the opportunity cost for the offer to the mFRR capacity market is €250/MW/h - €140/MW/h = €110/MW/h. This is the price level where the MP is indifferent between being reserved for the mFRR energy market, or being able to freely participate in DA, ID and balancing markets.

That assessment would be different in the case where acceptance in the mFRR capacity market would be conditioned on the unit having a certain production profile going into the mFRR energy market, e.g. if offering downregulation capacity (meaning the asset must be running), but the DA prices are expected to be below the MP's marginal cost.

6 Conclusion

It is important that all parties involved in the functioning of the markets have the same understanding and interpretation of the REMIT. This Best Practice Guidance document has as a goal to reach this common understanding and contribute to well-functioning markets.

Please feel free to contact the Market Surveillance team of the respective TSO, in case you have any specific question, or would like to discuss the interpretation of a specific trading practice in relation to this Best Practice Guidance.

Please contact the Market Surveillance team of the respective TSO if you have questions or need guidance.

- Elering: REMIT@elering.ee
- AST: surveillance@ast.lv
- Litgrid: REMIT@litgrid.eu

7 FAQ

The questions 7.1-7.13 are based on questions raised in the *Baltic balancing market participant workshop on market surveillance,* held on 13th of November 2024. Additional questions were added by TSOs on 17th of June 2025. The answers are general, and exceptions to the answers might occur.

7.1 How is opportunity cost calculated for a BESS (Battery Energy Storage System)?

BESSs come in many varieties of storage capabilities and technical characteristics. There are therefore many different ways to technically calculate the opportunity cost for a BESS to optimize operation, also respecting the limited charging and discharging cycles.

The opportunity cost principle explained in Section 5.2 sets out a robust way to bid in a way that is unlikely to send false or misleading signals, or secure prices on artificial levels. This also applies to BESS. This means that at any point in time, opportunity costs for charging/discharging shall be calculated, and bids placed accordingly.

It is important to note that in calculating opportunity cost, the price at which the battery was actually charged/discharged in the past (e.g. in ID, DA or balancing market) is a sunk cost, as explained in Section 5.2 and Section 5.3. Consequently, if the battery was charged/discharged at an unfavourable price in the past, that is not a legitimate reason for pricing it artificially. The opportunity cost is forward looking, and should reflect the price at which the MP would rather activate the BESS in the relevant market, compared to opportunity cost in later sequential markets or later MTUs.

7.2 Must BESS bid into DA?

It is not mandatory under REMIT to offer every asset to every market. What is prohibited under REMIT, is to engage in market manipulation as explained in Section 5. If an MPs assessment is that it is in general, it is too technically challenging to optimize the BESS in DA, compared to ID and balancing markets, this might be a legitimate reason for not offering the BESS to DA.

However, it is worth highlighting that the Baltic bidding zones are characterized with high price volatility in DA – which sometimes is not reflected in sequential markets. Thus, there might be opportunity for BESSs to enter into profitable transactions in DA. The recommendation is therefore to also reflect the BESS flexibility in the DA market wherever possible, at opportunity cost, in order not to risk engaging in physical capacity withholding as explained in Section 5.4.

7.3 Must MPs provide available capacity in all sequential markets, or only to the markets they want to participate in?

It is not mandatory under REMIT to offer every asset to every market. What is prohibited under REMIT, is to engage in market manipulation as explained in Section 5. In the context of deciding whether to offer volumes to the market, the main risk of market manipulation relates to physical withholding as set out in Section 5.4. To mitigate the risk of doing market manipulation through physical withholding, it is therefore recommended to offer all technically available volumes to every market, at opportunity cost. The available volumes might be the remaining volumes from earlier sequential markets, if volumes have been sold in earlier sequential markets.

7.4 Can solar parks shut off when prices are negative?

In general, MPs operating solar power production with technical capability to reduce output based on low power prices should include this flexibility in their bidding, effectively reducing output when prices are sufficiently negative, in order not to secure prices at artificially (low) levels. It is allowed also to take other income from the solar production into account, e.g. income from guarantee of origin, tax benefits, and support schemes (respecting the opportunity cost principle). See Section 5.3 for relevant input to opportunity cost.

7.5 Must units that operate seldom bid into the market at marginal cost?

In order to not send false signals regarding the supply, or secure prices at artificial levels, MPs shall have a technical, regulatory or economic justification to price above marginal cost. Following the opportunity cost principle set out in Section 5.3, all costs related to specific activations shall be included. If an activation requires a power plant to start up, incurring a higher marginal costs, this is part of the opportunity cost and shall be reflected in the bid.

7.6 Can one add a profit margin to a bid in the balancing market?

In the context of this question, a profit margin is understood as an arbitrary premium on top of the bid that does not have a legitimate technical, regulatory and/or economic (i.e., opportunity cost) justification.

Generally, in pay-as-clear markets such as the mFRR and aFRR energy-and capacity markets, a profit margin does not represent a legitimate part of the opportunity cost, and thus not legitimate input to the bid. In this context, increasing the offer by adding a profit margin can result in (economic) capacity withholding as explained in Section 5.2, since "*[…] available generation capacity [is kept from] from being competitively offered on the wholesale electricity market, even though offering it competitively would lead to profitable transactions at the prevailing market prices"*.

The profitability of MPs over time is ensured by the market design, with the last marginal offer setting the price for all activated units. See Section 5.3 for further elaboration on what typically constitutes a legitimate input to the opportunity cost.

7.7 Can annual fixed costs be added to the bid?

In general, no. Recuperating annual costs, investment cost, and similar, that are not related to the activation for which a bid is placed, are not relevant input to the opportunity cost. See Section 5.3 for details on legitimate input to opportunity cost.

7.8 Can units be offered to the market at the DA price (plus a profit margin)?

Since the DA price is a sunk cost as explained in Section 5.2, the DA price itself is not a relevant basis for the opportunity cost. It might of course still be the case that the DA price serves as relevant input to future price expectations as set out in Section 5.3.

Similarly, a pricing strategy of instrumentally using the DA price plus a fixed margin, is likely to not reflect the opportunity cost and thus risk qualifying as economic withholding.

7.9 Must very small power plants offering to the balancing markets calculate opportunity cost?

In general, smaller units have less ability to influence the price of wholesale energy products, and thus less likely to engage in capacity withholding as explained in Section 5.2 and 5.4.

Furthermore, if an MP evaluates that the expected value of calculating a proper opportunity cost is lower than the expected cost of performing the calculations, that might be considered a legitimate economic reason (other than opportunity cost) to deviate from the marginal cost and apply a simplified pricing strategy in balancing markets.

7.10 Must a UMM be published when a unit is acquired in the capacity market?

This question is essentially a question on whether acceptance in the capacity market is inside information. In general, if an MP operates a power plant normally, reflects their opportunity cost to the capacity market, and gets accepted, this is considered an MPs *own plans and strategies* and thus is not inside information. This stems from Recital 12 of REMIT.

However, if there are extraordinary reasons as to why a unit has to be reserved in the capacity market which are outside of the normal operation of the power plant, this may be considered inside information if the information is precise, non-public and likely to significantly affect prices of wholesale energy products (e.g. DA prices). In such cases a UMM must be published.

7.11 Is it market manipulation to enter an erroneous bid?

It could be. Under REMIT, intention is not a requirement for fulfilling the definition of market manipulation. Thus, an erroneous order may send false or misleading signals for supply, demand of price of wholesale energy products, or secure prices at artificial levels.

7.12 Can bids be corrected if there was an error?

Bids can be freely corrected up until the gate closure time for the balancing market in question. If gate closure time has passed, TSOs should be informed through the appropriate channels that the bid is incorrect.

7.13 Must algorithms comply with REMIT?

The definition of market manipulation and insider trading applies to algorithmic trading in the same way as to non-algorithmic trading. Therefore, all considerations provided in this guidance apply. Article 5a of REMIT II specifies additional requirements for algorithmic trading.

7.14 To what extent can grid tariffs be included in the bid price in the energy and capacity market?

As elaborated upon in 5.3, a legitimate input to pricing shall be expectations of a cost, or a lost economic opportunity stemming from activation or acceptance in that market.
In energy markets, grid tariffs can be reflected in the bid price when they are an actual cost component which is incurred if the bid is activated.

Assuming acceptance in the capacity market does not affect grid tariffs, grid tariffs are not a direct legitimate part of the opportunity cost calculation. However, grid tariffs might affect the expected profits

from the balancing markets and DA- and ID-markets, as explained in Section 5.3 and 5.5, and may therefore be relevant indirectly.

7.15 Are aggregators required to validate costs of clients?

Aggregators are responsible for the pricing of the volumes they bid into the market and remain responsible for REMIT compliance.

In general, this implies that market participants' bids should reflect opportunity costs for all available volumes for the assets in question, to ensure it does not constitute economic withholding. This is of particular relevance if the bid(s) are in non-liquid parts of the merit order, as they are more likely to significantly affect the price if activated. At the same time, and as explained in 5.2, bids must be able to, in the case specific circumstances, affect the price of wholesale energy product to be considered capacity withholding.

If assets are so small that calculating opportunity cost is unlikely to be profitable, the considerations in 7.9 might apply.

7.16 Can aggregators price in additional cost (e.g., for system cost coverage, or extra costs stemming from the client contracts) in the bids?

Similar to 7.7, recuperating system costs, or other costs that are not related to the activation for which a bid is placed, are not relevant input to the opportunity cost. In general, aggregators should therefore not price in additional costs. See Section 5.3 for details on legitimate input to opportunity cost.

7.17 Can it be market manipulation to use non-divisible bids, when there exists a possibility to offer the units in a more flexible manner?

As mentioned in 5.2, the ACER Guidance describes electricity generation capacity as "the practice of keeping available generation capacity from being competitively offered on the wholesale electricity market, even though offering it competitively would lead to profitable transactions at the prevailing market prices."

If there does not exist a fundamental (usually technical) justification for using non-divisible bids, it might not be considered offering the asset competitively.

Thus, using non-divisible bids without a fundamental justification might qualify as manipulative capacity withholding assuming this behaviour is able to affect prices of wholesale energy products in the case-specific circumstance.

In the case where parts of the offered volume from an asset are divisible, and another part is non-divisible, these parts should be separated into separate bids.

7.18 Must a portfolio of different assets contain several bids of different volumes and prices?

In general, portfolios containing different assets should consist of different bids, and different costs in accordance with the different opportunity cost of the different assets.

For example, a portfolio might offer downregulation of 50 MW from wind power with an opportunity cost of -10 €/MWh, and 50 MW from thermal power with an opportunity cost of 50 €/MWh. In that case, two separate bids should be offered. Not doing so, by for example merging the bids together to form a single 100 MW bid priced at -10 €/MWh, might constitute economic withholding of the thermal powered asset, as the thermal asset is not offered at opportunity cost, as explained in 5.2 and 5.3. Similarly, different parts of the same asset shall be in different bids if there are different opportunity costs, or different divisibility constraints as explained in Q4.

An exception might apply in the case where assets are smaller than the bid granularity of 1 MW but are aggregated in order to be offered to the market. In such cases, it is possible to aggregate the bids and apply the volume weighted opportunity cost of the assets.