GUIDANCE NOTE
1/2019

ON THE APPLICATION OF ARTICLE 5 OF REMIT ON THE PROHIBITION OF MARKET MANIPULATION

LAYERING AND SPOOFING

in continuous wholesale energy markets

1st Edition

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PURPOSE OF THIS DOCUMENT

Pursuant to Article 16(1) of Regulation (EU) No 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency ('REMIT'), the Agency for the Cooperation of Energy Regulators ('the Agency') shall issue non-binding guidance in order to ensure that National Regulatory Authorities ('NRAs') carry out their tasks under this Regulation in a coordinated and consistent way.

In view of this, the Agency published the 4th edition of the ACER Guidance on the application of REMIT ('ACER Guidance') on 17 June 2016[1], containing general directions to the NRAs on the application of the definitions set out in Article 2 of REMIT and providing examples of the types of behaviour which may fall under the definition of market manipulation provided in Articles 2(2) and 2(3) of REMIT.

In this series of Guidance Notes, the Agency complements the ACER Guidance by providing more in-depth information on the specific types of behaviour prohibited by Article 5 of REMIT which constitute market manipulation or an attempt to manipulate the market. Through the Guidance Notes, the Agency aims to provide greater clarity and share its insights on the general framework of assessment that NRAs shall use to determine whether a specific behaviour could constitute a breach of REMIT.

The Guidance Notes include the more frequent examples and indicators related to specific behaviours, but are not exhaustive in this respect. The evolving nature of trading strategies does not allow for the identification of all types of behaviour and indicators associated with specific REMIT concepts. Therefore, there may be circumstances that the present Guidance Note does not cover, but which may still constitute market abuse under REMIT. The Agency will update the Guidance Notes as necessary.

In applying the principles set out in this Guidance Note, NRAs should take into account the specific facts and circumstances of each case. In addition, this Guidance Note is without prejudice to the interpretation which the Court of Justice of the European Union may give to the application of Article 5 of REMIT for the behaviours discussed herein.

Keyword(s): REMIT, market manipulation, layering, spoofing, non-genuine order.

[1] Available at https://documents.acer-remit.eu/category/guidance-on-remit/.

Contents

1 Introduction

(1) In this Guidance Note, the Agency aims further to clarify[2] the application of REMIT in the context of the trading behaviours associated with layering and spoofing.

(2) This Guidance Note describes a general framework which promotes a consistent approach to the NRA's assessment of these behaviours. Its purpose is to assist NRAs in reviewing suspicious behaviours involving layering and/or spoofing and in deciding whether investigation and enforcement procedures need to be undertaken. The scope of this Guidance Note does not include specific tools for the investigation of possible cases of layering and/or spoofing.

(3) In this Guidance Note, layering and spoofing refers to the issuing by a market participant[3] (MP) of one large or multiple non-genuine orders[4,5] to trade on one side of the order book[6], in order to enter into one or multiple transactions on the other side of the order book.[7]

(4) These behaviours influence the expectations of other MPs regarding the supply and/or demand and/or price of one or more wholesale energy products. As a result, a MP can benefit from better conditions (volume or price) than those that would have prevailed in the absence of these behaviours.

(5) On organised market places (energy exchanges and other electronic trading venues), the misrepresentation of the order book via layering or spoofing is facilitated by the fact that the order book for continuous trading displays the unveiled interest of buyers and sellers in an anonymised manner. In this setting, by issuing one or multiple non-genuine orders, a single MP can alter the order book that is visible to other MPs.

(6) Layering and spoofing in wholesale energy markets undermines confidence in market signals. If MPs are unsure of whether the order book reflects market fundamentals[8], they may lose confidence in the integrity and transparency of the market, and even withdraw from it. As a result, competition would be adversely affected, to the detriment of all MPs and the final consumers of energy.

[2] The Agency provides in Section 6.4 of the ACER Guidance the examples of layering and spoofing as types of practices that could constitute market manipulation, or attempts thereof.

[3] The responsibility for issuing the orders can be allocated to a legal person, but also to a natural person that is acting on its behalf (such as individual traders).

[4] The non-genuine nature of the orders can be assessed using the criteria and indicators included in Sections 3 and 4.

[5] The notion of 'order' should be, for the purpose of this Guidance Note, the same as the one used in Article 25 of Regulation (EU) No 600/2014 (MiFIR) (also in consistency with the approach taken in Article 17(2) of Directive 2004/39/EC (MiFID)). In particular, an 'order' includes quotations or request for quotes (RFQ) and voice broking systems operated by persons professionally arranging the transaction (PPATs) where such quotations are advertised through the venue's system.

[6] An order book is a list that includes all the orders that a trading venue receives, recording the expressed interests of buyers and sellers in a particular wholesale energy product.

[7] The concepts of layering and spoofing are further specified in Section 2, where the differences between the concepts (levels of prices and size of the orders) are explained.

[8] Supply and demand fundamentals are the underlying factors that drive the supply and demand of wholesale energy products, such as outages, changes in the weather forecast, and many other factors that affect supply and demand.

(7) Layering and spoofing can occur through colluding MPs, including, through colluding traders acting on behalf of the same or different MPs[9]. They can be performed in combination with other manipulative behaviours, such as wash trades[10]. They can also have far-reaching consequences when used to manipulate reference prices (e.g. closing prices or index prices).

(8) By allowing unprecedented trading speed, algorithms[11] can facilitate the implementation of new layering and spoofing behaviours and other behaviours involving the use of non-genuine orders in wholesale energy markets (in particular in the issuing and cancellation of orders)[12].

(9) There are other behaviours that may show similar patterns to layering or spoofing but do not fully adhere to them[13]. These behaviours may also constitute market manipulation under REMIT, but are beyond the scope of this Guidance Note.

(10) The Agency selected layering and spoofing as the subject of this Guidance Note because several potential REMIT breaches[14] that have been assessed by the NRAs in recent years can be associated with this behaviour.

(11) This Guidance Note is divided into five Sections. Section 1 is an introduction to the Guidance Note. Section 2 explains the economic concepts of layering and spoofing and explores their main components. Section 3 explains why layering and spoofing constitute a breach of REMIT. Section 4 presents indicators that may help to identify suspicious trading behaviour in the context of layering and spoofing. Finally, Section 5 provides conclusions and highlights the most important insights of this Guidance Note.

[9] For example, one trader issues non-genuine orders and the other enters into transactions, or there is an agreement on the sequence of non-genuine orders to be issued by two or more colluding traders.

[10] See more on wash trades on the Agency's REMIT portal:

https://www.acer-remit.eu/portal/document-download?documentId=u518na123yg.

[11] 'Algorithmic trading' and 'high-frequency algorithmic trading technique' are concepts used in financial markets and defined in Article 4(1)(39) and (40) of Directive 2014/65/EU.

[12] Layering and spoofing behaviours are often associated with the use of algorithms, however it is important to note that while market manipulation may be facilitated by technology, it is not the use of algorithms in itself that renders a behaviour manipulative, but the likely harm, harm or the attempted harm to market integrity of that behaviour.

[13] For example, a form of manipulative behaviour called momentum ignition may include the entering into transactions that are likely to start or exacerbate a trend in order to create an opportunity to close or open a position at a more favourable price. As this behaviour does not require the issuing of non-genuine orders, it is not covered by the concept of layering and spoofing and is therefore not discussed in this Guidance Note. This behaviour may nevertheless lead to a misrepresentation of the order book, similar to the one observed in layering or spoofing.

[14] See, for example CORDIS Decision No 02-40-16 (Vitol): https://www.cre.fr/content/download/19857/246714.

2 The economic concepts of layering and spoofing

(12) This Section explains the concepts of layering and spoofing by defining their main elements[15].

(13) Layering consists of issuing multiple non-genuine orders to trade at different price levels (layers) on one side of the order book, in order to enter into one or multiple transactions on the other side of the order book[16].

(14) Spoofing consists of issuing a single large or multiple non-genuine orders at the same price level on one side of the order book, in order to enter into one or multiple transactions on the other side of the order book[17].

(15) Both concepts exhibit two common elements: (i) the issuing of non-genuine orders on one side of the order book in order to (ii) enter into transactions on the other side.

(i) Issuing of non-genuine orders on one side of the order book

(16) Layering and spoofing require the issuing of non-genuine orders on one side of the other book. A MP issues these orders to influence other MPs' behaviour, for example by creating the impression that there is a stronger selling or buying interest at decreasing/increasing price levels than there actually is. Non-genuine orders are issued in order to enter into transactions at better conditions (price or volume) on the other side of the order book.

(17) Non-genuine orders can be issued within or outside the bid-ask spread[18]. In more liquid markets, orders are typically issued outside the spread (i.e. not at the best price level), as this makes them less likely to be executed. In less liquid markets, where the risk of execution is lower, it is more likely that non-genuine orders are issued as the best bids/asks.

[15] These concepts are consistent with the definition of layering and spoofing used in financial markets. That definition is laid down in Annex II Point 5(e) of the Commission Delegated Regulation (EU) 2016/522 supplementing Regulation (EU) No 596/2014 of the European Parliament and of the Council: '*Submitting multiple or large orders to trade often away from the touch on one side of the order book in order to execute a trade on the other side of the order book. Once the trade has taken place, the orders with no intention to be executed shall be removed - usually known as layering and spoofing.*' This Guidance Note shall not be construed as further guidance on Commission Delegated Regulation (EU) 2016/522 or Regulation (EU) No 596/2014. In financial markets, several decisions cover the concepts of layering and spoofing (often involving the use of algorithms), e.g.: Financial Conduct Authority (FCA) Final Notice in *Michael Coscia*, 3 July 2013; (ii) FCA Decision Notice in *7722656 Canada Inc (t/a Swift Trade)*, 6 May 2011; (iii) High Court of Justice (Chancery Division) judgment in *FCA v Da Vinci Invest Ltd*, [2015] EWHC 2401 (Ch), 12 August 2015; (iv) Autorité des marchés financiers (AMF) Decision in *Bourse Direct and Jean-Marie Puccio*, 1 October 2014; and (v) AMF Decision in *3Red Trading LLC*, 28 December 2016.

[16] It should be noted that a non-genuine order and the corresponding transaction can occur in different order books and different venues, as long as they are issued for the same or related products and they are on opposite sides to the one where the genuine interest of the MP lies.

[17] *Idem*.

[18] The bid-ask spread is the difference between the best ask and the best bid. An ask is an order to sell and a bid is an order to buy.

(18) In most cases, non-genuine orders are cancelled shortly after the entering into one or multiple transactions on the other side of the order book. However, non-genuine orders may remain in the order book after the genuine transaction (i.e. they are not cancelled), or be cancelled at a later[19] or earlier[20] stage.

(ii) Entering into transactions on the other side of the order book

(19) Layering and spoofing imply the entering into one or multiple transactions or at least the intention to enter into one or multiple transactions on the other side of the order book.

(20) The transaction(s) should be executed after the issuing of non-genuine orders on the opposite side of the order book. A genuine order can be issued either before or after issuing the non-genuine ones, while the transaction(s) should occur within a period that allows the non-genuine orders to influence the behaviour of other MPs.

(21) Example 1 illustrates the two common elements from the concept of layering listed above.

Example 1: Layering the sell side in order to buy electricity at lower prices

Situation: MP A wants to buy 300 MW on the electricity intraday market (for Hour 10) at an advantageous price, i.e. at a price lower than 28 euro/MWh, which is the best ask when it enters the market, as well as the price of the last transaction. Below is the timeline of events from T1 (before MP A enters the market) until T7 (when MP A exits the market).

T1: Before MP A enters the market, the best and only ask is 400 MW at 28 euro/MWh by MP B, while the best and only bid is 100 MW at 21 euro/MWh by MP C. At this point in time, if MP A wants to buy 300 MW, the best price available is 28 euro/MWh.

T2: MP A issues two ask orders: 200 MW at 27 euro/MWh and another of 100 MW at 26 euro/MWh, with the latter becoming the best ask. The bid-ask spread is narrowed by 2 euro/MWh compared to T1.

T3: MP B reacts to the changes in the order book in T2 and updates the price of its ask order to 25 euro/MWh.

T4: MP A issues two additional ask orders: 50 MW at 24 euro/MWh and another of 20 MW at 23 euro/MWh, with the latter becoming the best ask. The bid-ask spread is further narrowed by 2 euro/MWh.

T5: MP B reacts by updating the price of his 400 MW ask order to 22 euro/MWh.

T6: MP A issues a bid order of 300 MW at 22 euro/MWh. It matches with the ask order of MP B, resulting in a transaction of 300 MW at 22 euro/MWh.

[19] The timing is relative to the individual situation (for example, taking into consideration the liquidity level and the level of automation of the trading in that market, among other elements).

[20] The cancellation of non-genuine orders may also happen during the layering process (e.g. one layer is cancelled when a new one is issued). In particular, this may be the case once other MPs react to non-genuine orders by issuing new orders on the layered side of the order book, making the presence of non-genuine orders less important as their effect has already been consummated.

T7: Shortly after the execution, MP A cancels all four of its previously issued ask orders.

A chronological representation of the order book is shown in Figure 1:

Figure 1 – Chronological representation of the order book

	ORDER QUANTITY in MW in TIME SEQUENCE T1 to T7						
PRICE euro/MWh	T1	T2	T3	T4	T5	T6	T7
28	400	400					
27		200!	200!	200!	200!	200!	
26		100!	100!	100!	100!	100!	
25			400	400			
24				50!	50!	50!	
23				20!	20!	20!	
22					400	300! 400	100
21	100	100	100	100	100	100	100

Legend: Bid orders in green and underlined; Ask orders in red; Orders from MP A represented with a "!".

Interpretation: This behaviour constitutes layering, as it encompasses the two elements described in the concept:

(i) Issuing of one or multiple non-genuine orders on one side of the order book

MP A issues two ask orders in T2 and two in T4 at different price levels, reducing the initial bid-ask spread from 7 to 2 euro/MWh. These orders create four new price layers on the sell side of the order book that are visible to other MPs. Overall, these orders represent 370 MW of apparent additional supply.

MP A not only cancelled the unexecuted ask orders immediately after buying electricity, but also ended the session without reinserting the orders or trying to sell, therefore showing lack of interest in trading on that side of the order book. This is particularly the case for its ask order at a price of 23 euro/MWh, which is very close to the last price and whose risk of execution becomes higher after the transaction. Instead, MP A uses these ask orders to change the perception of the supply and price of the Hour 10 product. By layering the sell side of the order book with lower price levels, it creates the impression that there is a strong selling interest, that sellers are competing for the best transaction and that there is a downward price tendency. The behaviour of MP B in T3 and T5 is a reaction to the false representation of the market situation created by the non-genuine ask orders of MP A.

(ii) Entering into one or multiple transactions on the other side of the order book

In T6, MP A effectively buys 300 MW at 22 euro/MWh instead of 28 euro/MWh (the best ask in T1 when MP A entered the market). This transaction reflects the genuine interest of MP A and is performed at a price that is better than MP A could have achieved in the absence of its layering behaviour (the price of the last transaction before MP A enters the market was 28 euro/MWh).

Considerations:

Timestamp of the genuine bid order and type of order – It can happen that a genuine bid order is issued as a standing order prior to the issuing of non-genuine orders. In such situation, MP A may use an iceberg bid order[21] to hide its genuine interest (e.g.: a 300 MW order, of which 100 MW is visible to the market and 200 MW is invisible).

Cancellation of the non-genuine ask orders before entering into transaction – In order to reduce the risk of execution of the ask orders (as well as to limit the potential impact on credit limits), MP A may delete non-genuine ask orders before the execution of a genuine bid order. In T4, for example, MP A could have cancelled the 200 MW and 100 MW ask orders, as MP B's reaction in T3 had already created a new layer on the ask side.

Execution of the non-genuine ask orders – Taking into consideration the execution risks MP A took in this example by issuing the best ask orders, it could have happened that another MP lifted the non-genuine order of 20 MW in T4. In order to limit the potential loss, MP A could have used two strategies in combination: (i) to issue the best ask orders at decreasing volumes (in our case only 20 MW in T4 compared to 200 MW in T2); and (ii) to react immediately to the unwanted execution by cancelling all its remaining ask orders and buying 320 MW at 25 euro/MWh. In this alternative scenario, despite the unwanted partial execution of the non-genuine orders, MP A still benefits from the layering behaviour. It saves EUR 900 by buying the intended 300 MW at 25 instead of 28 euro/MWh, and loses EUR 40 for selling 20 MW at 23 euro/MWh, which it buys back at 25 euro/MWh. It is therefore EUR 860 better off than if it had bought the 300 MW at 28 euro/MWh.

Benefitting position – The transaction can take place in an order book other than the one in which the non-genuine order was entered. Another possibility could be issuing orders in the same trading venue but on different bidding zones, assuming the zones are coupled (there is sufficient available transmission capacity).

Two-leg strategy – Layering and spoofing can be realised in different directions during the trading session, depending on the change of MPs' trading interests (see more in Example 3).

Combination of layering and spoofing strategies – Layering strategies can be performed in combination with spoofing.

[21] An iceberg order is a type of order that can be placed typically on organised market places. The total amount of the order is divided into a visible portion, which can be seen by other market participants, and a hidden portion, which cannot. When the visible part of the order is fulfilled, a new part of the hidden portion of the same size becomes visible.

3 Assessment under Article 5 of REMIT

3.1 Overview

(22) This Section analyses the concepts of layering and spoofing against the definition of market manipulation and attempted market manipulation outlined in REMIT.

(23) Recital 13 of REMIT provides certain examples of market manipulation, which include the placing and withdrawal of false orders.

(24) Article 5 of REMIT specifies that any engagement in, or attempt to engage in, market manipulation on wholesale energy markets shall be prohibited. Article 2 of REMIT provides a definition of market manipulation and attempted market manipulation. In that respect, Articles 2(2) and 2(3) of REMIT distinguish four different categories of market manipulation or attempts to manipulate the market through:

(i) false/misleading signals;

(ii) price positioning;

(iii) orders/transactions involving fictitious devices/deception; and

(iv) the dissemination of false or misleading information.

(25) Depending on the specificities of each case, layering and spoofing can fall under one or both of the first two categories outlined above, in fact:

(i) They **give or are likely to give false** or **misleading signals** to the market as to the status of supply or demand in the order book, and therefore fall under the category of market manipulation (Article 2(2)(a)(i) of REMIT), or they intend to do so and fall under the category of attempted market manipulation (Article 2(3)(a)(i) of REMIT).

(ii) They **secure or attempt to secure the price** of a wholesale product **at an artificial level** (price positioning), and therefore fall under the category of market manipulation (Article 2(2)(a)(ii) of REMIT), or they intend to do so and fall under the category of attempted market manipulation (Article 2(3)(a)(ii) of REMIT).

(26) By design, layering and spoofing behaviours create, through non-genuine orders, the likelihood of sending false or misleading signals regarding the supply, demand or price of a wholesale energy product. This is because other MPs are likely to assume that the orders are genuine and react accordingly. Whether they render those signals will depend on the specific circumstances and characteristics of the market during the period they are used.

(27) Layering and spoofing behaviours are likely to secure the price formation process of the wholesale energy product at an artificial level. These behaviours may also create a false impression of price volatility of wholesale energy products. Whether layering and spoofing secure the price at an artificial level will depend on the specific circumstances and characteristics of the market during the period they are used.

(28) Hence, taking into consideration Recital 13 and Article 2 of REMIT, as well as the characteristics of layering and spoofing, these behaviours always amount to market manipulation under Article 5 of REMIT, which will be further explained in Sections 3.2 and 3.3 below.

3.2 Layering and spoofing as market manipulation

(29) In view of paragraphs (26) and (27), NRAs can identify market manipulation in the form of layering and spoofing by assessing:

(i) the pattern of the order(s) and transaction(s)

(30) The pattern should encompass the issuing of one or multiple non-genuine orders to trade on one side of the order book, which is followed by the entering into one or multiple transactions on the other side of the order book.

(31) The non-genuine orders should be issued at prices/volumes that are at least likely to trigger a reaction from other MPs[22].

(32) This pattern is usually repeated but can also be a one-off[23]. In case of repetition, the pattern of issuing non-genuine order(s) and then entering into transaction(s) is deployed several times in cycles.

(ii) that the order(s) issued on one side of the order book are non-genuine

(33) In general, orders are unlikely to be genuine if the following three cumulative criteria are met:

(a) one or multiple orders are issued before the entering into one or multiple transactions on the other side of the order book;

(b) the same orders are cancelled (totally or partially) shortly after the entering into one or multiple transactions on the other side of the order book; and

(c) the cumulative volume of the order(s) on one side of the order book is disproportionate to the volume of the transaction(s) on the other side of the order book of a MP.

(34) If not all three criteria (a) to (c) are met, NRAs shall use the indicators described in Section 4 to further assess the probability of the orders being non-genuine.

(35) In particular, NRAs shall consider that - as mentioned in paragraph (18) - an order can still be non-genuine even if it is not cancelled, for example, in the following situations:

- the order expires shortly after the entering into one or multiple transactions;
- the potential loss resulting from the non-genuine order execution is small compared to the potential benefit stemming from the execution of the genuine order(s);
- the speed of trading in the market results in the execution of non-genuine orders before a MP is able to cancel them;
- a MP amends non-genuine order(s) to a price level that makes them less likely to be executed;

[22] For example, when the price of the orders is within the bid-ask spread or in its proximity; or when the volumes of the orders (individual or cumulative) are significantly larger than usual.

[23] One-off referring to situations where there is only one occurrence of the pattern.

- a MP intends to conceal the non-genuine nature of its orders; or
- non-genuine orders are left in the order book as an attempt further to attract orders from other MPs and continue trading at advantageous prices.

(36) Engaging in layering and spoofing behaviours poses certain risks for a MP. Changes in market fundamentals may lead to the execution of non-genuine orders and/or the inability to enter into the intended transaction(s), and this may represent losses[24] for the involved MP. To reduce the risk of unwanted execution, the MP layering the market may issue the most aggressive non-genuine orders last and remove them first.

(37) Whether the MP concerned has achieved an overall trading profit[25] is not relevant to determine whether the MP's behaviour constitutes market manipulation, as the manipulative character of layering and spoofing is not linked to the profit or loss of the MP. Nevertheless, evidence of undue profit caused by the behaviour may strengthen the case of market manipulation and influence the amount of the fine imposed by the NRA.

(38) Finally, it is to be noted that isolated elements of the layering and spoofing behaviours may be part of a legitimate trading strategy, in particular:

- MPs may be active simultaneously on the sell and buy side. This may happen under specific circumstances, for example when a MP providing market-making services wants to take advantage of the market price volatility or is managing different portfolios in a completely segregated way[26];
- MPs may issue orders at varying price levels reflecting different willingness to buy or sell at diverse prices; or
- MPs may cancel a large volume of orders simultaneously[27]. This may happen in particular when market fundamentals change[28].

[24] See for example in Paragraph 22 of FCA Final Notice in *Michael Coscia*, 3 July 2013.

[25] The profit can result directly from layering or indirectly by having a benefitting position in other correlated products/markets.

[26] Manipulative strategies, such as layering or spoofing, typically consist of a MP building a market on one side of the order book in order to induce other MPs to trade at the price at which the manipulator wants to buy or sell. Such strategies show a clear difference in the activity on the two sides of the order book, with large or multiple orders being entered in one direction and trading activity only taking place in the opposite one. This is inconsistent with market-making or other legitimate activities which are intended to support price discovery and ensure regular opportunities to trade.

[27] Whilst it is legitimate for a trader to issue orders which he intends to trade and then subsequently cancel these orders, it is not legitimate to issue orders which he did not intend to trade.

[28] There is a direct and unequivocal link between the changes in fundamentals and the cancellation of orders.

3.2.1 False or misleading signals

(39) Pursuant to Article 2(2)(a)(i) of REMIT, entering into any transaction or issuing any order to trade which gives, or is likely to give, false or misleading signals as to the supply of, demand for, or price of wholesale energy products constitutes market manipulation.

(40) Layering and spoofing behaviours are by design likely to give false or misleading signals to the market regarding the supply of, demand for, or price of a wholesale energy product due to the fact that these behaviours rely on the use of orders that do not directly reflect the true interest of a MP. Non-genuine orders induce other MPs to change their perception of the market and adapt their trading behaviours in a way that benefits the manipulative MP's real interest.

(41) For example, by issuing a series of non-genuine ask orders at gradually decreasing price levels, a MP is likely to create an impression of substantial selling interest and availability of supply at those price levels. As a result, other MPs may act on the basis of this information, changing their own ask orders by decreasing their price[29].

(42) The higher the number and/or volume of the non-genuine orders, the higher the potential to create a misleading signal of the supply of, demand for and price of the relevant wholesale energy product is.

(43) The repetition of the layering and spoofing behaviours exacerbates the misrepresentation of the order book and can trigger other MPs into entering into transactions that they otherwise would not have considered.

(44) An assessment of the trading behaviour of other MPs with regard to the issuing and/or changing of their orders (e.g. by adapting the size and/or price) after the issuing of non-genuine orders may provide additional evidence with regard to the effect of the behaviour of the concerned MP.

(45) Example 2 illustrates how spoofing can give misleading signals about the demand for wholesale energy products.

Example 2: Spoofing leading to false or misleading signals as to the demand for natural gas

Situation: In this example, MP A has a selling interest so it creates a false impression of a strong demand that drives the price upwards on a day-ahead continuous gas market.

T1: The last transaction in the market was at 23 euro/MWh. Other MPs in the market have 50 MWh/h bid and ask orders for the gas day-ahead product. The best bid order is priced at 23 euro/MWh and the best ask order at 26 euro/MWh (the spread is 3 euro/MWh). For some time there is no further activity in the order book.

T2: MP A issues a bid order of 200 MW at 22 euro/MWh. This becomes the second best bid.

T3: MP A issues a 50 MW ask order at 25 euro/MWh. This becomes the best ask.

T4: MP B lifts MP A's ask order at 25 euro/MWh as a reaction to the appearance of the large bid in T2. The orders are matched and the transaction is executed.

[29] A similar example is the issuing of a series of bid orders at gradually increasing price levels in order to create an impression of substantial buying interest and genuine availability of demand at those price levels. As a consequence, other MPs act on the basis of this information, changing their own bid orders by increasing their price.

T5: 10 seconds later, MP A cancels the 200 MWh/h bid order from the order book (this order was on the screen for mere seconds, while MP A`s other orders in this market were visible for 10 minutes).

The same pattern observed from T1 to T5 is repeated several times.

A chronological representation of the order book is presented in Figure 2:

Figure 2 – Chronological representation of the order book

	ORDER QUANTITY in MWh/h in TIME SEQUENCE T1 to T5				
PRICE euro/MWh	**T1**	**T2**	**T3**	**T4**	**T5**
27	50	50	50	50	50
26	50	50	50	50	50
25			**!50**	**!50** 50	
24					
23	50	50	50	50	50
22		**!200**	**!200**	**!200**	
21	50	50	50	50	50

Legend: Bid orders in green and underlined; Ask orders in red; Orders from MP A represented with a "!".

Interpretation: This trading behaviour is market manipulation under REMIT in the form of spoofing due to the combination of the following two cumulative elements:

(i) the pattern of the order(s) and transaction(s)

MP A issues a single large order (in T2 – the order size is four times larger than the average market order) with a single price level (22 euro/MWh) on one side of the order book and issues an order to enter into transaction on the other side of the order book (in T3 – a 50 MWh/h ask order at 25 euro/MWh).

The prices and volumes of the single large order issued in T2 triggered a reaction from MP B. The order is issued as a second best bid, creating a perception of more demand than supply. As a reaction, MP B is under the impression that the new large demand could absorb the available supply and reacted by proactively lifting MP A's ask order in T4.

The pattern is repeated several times.

(ii) the order issued on the buy side of the order book is non-genuine

The bid order of 200 MW at 22 euro/MWh is non-genuine as it meets the three cumulative criteria: (i) the order is issued in T2, before the entering into transaction on the other side of the order book (in T4); (ii) it is cancelled quickly after the entering into transaction on the other side of the order book (10 seconds later); and (iii) the cumulative volume of the order (200 MWh/h for each sequence) is disproportionate to the volume of the transaction(s) on that side of the order book (in total 50 MWh/h for each sequence).

In summary, MP A manipulated the market by sending false and misleading signals as to the demand and price of the gas day-ahead product with the use of spoofing behaviour.

3.2.2 Price positioning

(46) Pursuant to Article 2(2)(a)(ii) of REMIT, entering into any transaction or issuing any order to trade in wholesale energy products which secures, or attempts to secure, the price of one or more wholesale energy products at an artificial level, amounts to market manipulation.

(47) The issuance of non-genuine orders as part of layering and spoofing behaviours has the potential to push the price of a wholesale energy product either upwards (by issuing non-genuine orders on the buy side) or downwards (by issuing non-genuine orders on the sell side). Such a price is therefore secured at an artificial level.

(48) This is the case regardless of whether the non-genuine orders are issued at prices within or outside the bid-ask spread.

(49) Layering multiple ask orders at prices that are lower than the prevailing ones is likely to induce other MPs to align their orders in the same direction. This happens in case other MP(s) want to remain competitive and try to offer a better (in this case lower) price to the market. As a consequence, the best ask order (i.e. the lowest revealed price at which a MP is willing to sell in that particular moment in time) is likely to move downwards, which in turn can lead to a transaction being entered at this new lower price level[30].

(50) When a non-genuine order is issued outside the bid ask spread, it can still influence other MPs by providing misleading signals about the demand/supply balance. It can induce other MPs to enter into transactions at prices that differ from those that would prevail in the absence of the non-genuine orders. For example, by creating a cumulative position on the buy side of the order book with non-genuine bid orders, a MP is likely to send a signal to the market that there is a substantial demand for a wholesale energy product. As a result of this false representation of demand, potential buyers may be induced to raise the price of their bids.[31]

(51) Non-genuine bid/ask orders, as part of a layering or spoofing behaviour, are always likely to induce an artificial short-term movement of the price on the bid/ask side, which may vanish with the cancellation of the orders. In other instances, the momentum induced by non-genuine orders may lead to a new price trend in the market. In any case, even a short-term artificial movement of the transaction price is sufficient to be qualified as a breach of Article 5 of REMIT, in both layering and spoofing scenarios.

(52) Example 3 illustrates how layering can position the price of a wholesale energy product at an artificial level.

[30] In a reverse situation, layering multiple bid orders at prices which are progressively higher than the price of the previous best bid may lead other MPs to follow this trend. As a result, the best bid order (i.e. the highest revealed price at which an MP is willing to buy in that particular moment in time) is likely to move upwards, which in turn can lead to a transaction being entered into at this new higher price level. This price will be therefore secured at an artificial level.

[31] For instance, in Example 2 by sending false or misleading signals in a setting as the one described MP A induces other MPs to enter into transactions at prices that differ from those that would prevail in the absence of the non-genuine orders.

Example 3: Layering using an algorithm to secure the prices at artificial levels

Situation: In this example, the layering consists of two legs. In the first one, MP A secures an artificially high price and in the second one an artificially low price.

First leg of the layering behaviour:

T1: When MP A enters the market for the electricity Future Calendar Y+1 contract, there are only two orders in the market, each representing a 100 MW interest. One ask order at 20.5 euro/MWh and a bid order at 20.1 euro/MWh. The last transaction in the market was at 20.1 euro/MWh.

T2: MP A issues a 30 MW ask order at 20.4 euro/MWh, just below the best ask order (20.5 euro/MWh).

T3: MP A issues a 50 MW bid order at 20.2 euro/MW just above the best bid order (20.1 euro/MWh).

T4: MP A issues another 50 MW bid order just above the best bid at 20.3 euro/MWh.

T5: MP B lifts MP A's 30 MW ask order at 20.4 euro/MWh, entering into a transaction.

T6: MP A cancels the two 50 MW bid orders within milliseconds of the transaction and only seconds after the order was issued.

At the end of the first leg, MP A has a short position valued at EUR 5.36 million (30 MW sold at 20.4 euro/MWh).

Second leg of the layering behaviour:

T7: MP A issues a 30 MW bid order just above the best bid order at 20.2 euro/MWh.

T8: MP A issues a 50 MW ask order below the best ask order at 20.4 euro/MWh.

T9: MP A issues another 50 MW ask order just below the best ask order at 20.3 euro/MWh.

T10: MP C hits MP A's 30 MW bid order at 20.2 euro/MWh. A transaction is executed.

T11: MP A cancels the two 50 MW ask orders within milliseconds of the transaction and only seconds after the order was issued. On other days, MP A's orders are typically present in the order book for two minutes.

At the end of the second leg, MP A closes its short position and makes a profit of EUR 52.56 thousand (30 MW bought at 20.2 euro/MWh and sold at 20.4 euro/MWh).

A chronological representation of the order book is presented in Figure 3:

Figure 3 – Chronological representation of the order book

	ORDER QUANTITY in MW in TIME SEQUENCE T1 to T11										
	LEG 1: sell high						LEG 2: buy low				
PRICE euro/MWh	**T1**	**T2**	**T3**	**T4**	**T5**	**T6**	**T7**	**T8**	**T9**	**T10**	**T11**
20.5	100	100	100	100	~~100~~	100	100	100	100	100	100
20.4		**!30**	**!30**	**!30**	**!30** 30			**!50**	**!50**	**!50**	
20.3				**!50**	**!50**				**!50**	~~**!50**~~	
20.2			**!50**	**!50**	**!50**		**!30**	**!30**	**!30**	**!30** 30	
20.1	100	100	100	100	100	100	100	100	100	100	100

Legend: Bid orders in green and underlined; Ask orders in red; Orders from MP A represented with a "!".

Interpretation: This trading behaviour is market manipulation under REMIT in the form of layering due to the combination of the following two cumulative elements:

(i) the pattern of the order(s) and transaction(s)

In the first leg of this behaviour, MP A issues two bid orders (in T3 and T4) at increasing price levels (at 20.2 euro/MWh and then at 20.3 euro/MWh), thereby significantly reducing the initial bid-ask spread. These orders create two new price layers on the buy side of the order book. MP A also issues an ask order (30 MW) on the sell side (in T2). This order is lifted by another MP in T5.

The prices and volumes of the two bid orders issued in T3 and T4 triggered a reaction from MP B. These orders are issued as the best bids, creating a perception of more demand than supply. As a reaction, MP B enters into transactions at prices that would have not prevailed in the absence of those bid orders.

The pattern is repeated on the other side of the order book in a symmetrical way. In the second leg of the behaviour, MP A issues two ask orders (in T8 and T9) at decreasing price levels (at 20.4 euro/MWh and then at 20.3 euro/MWh), thereby significantly reducing the initial bid-ask spread. These orders therefore create two new price layers on the sell side of the order book. MP A also issues a bid order (30 MW) on the buy side (in T7). This order is hit by another MP in T10.

The prices and volumes of the two ask orders issued in T8 and T9 triggered a reaction from MP C. These orders are issued as the best asks, creating a perception of more supply than demand. As a reaction, MPs C enters into transactions at prices that would have not prevailed in the absence of those ask orders.

(ii) the orders issued on the buy (1st leg)/sell (2nd leg) side of the order book are non-genuine

The two bid orders of 50 MW at 20.2 euro/MWh and 20.3 euro/MWh and the two ask orders of 50 MW at 20.4 euro/MWh and 20.3 euro/MWh are non-genuine, as they meet the following three cumulative criteria: (i) the orders are issued before the entering into transaction on the other side of the order book (the bids in T3 and T4 before T5 and the asks in T8 and T9 before T10); (ii) they are cancelled quickly after (milliseconds later) the entering into the transaction on the other side of the order book; and (iii) the cumulative volume of the orders (100 MW for each sequence) is disproportionate to the volume of transactions on the other side of the order book (in total 30 MWh/h for each sequence).

In the first leg, MP A moves the market price from 20.1 to 20.4 euro/MWh. In the second leg, it repeats the behaviour on the other side of the order book and moves the market price from 20.4 to 20.2 euro/MWh. In both cases, MP A secured the price of the Future Calendar Y+1 contract at an artificial level twice.

3.3 Layering and spoofing as attempted market manipulation

(53) According to Article 2(3)(a)(i) and (ii) and Article 5 of REMIT, layering and spoofing behaviours can amount to an attempt to manipulate the market if the issuing of the orders, the entering into transactions or any other action linked to layering or spoofing related to a wholesale energy product is undertaken with the intention to send misleading signals or secure the price of one or several wholesale energy products at an artificial level.

(54) A proof of intention to achieve the manipulative outcome is sufficient to establish a breach of REMIT. The intention of a MP to engage in manipulative layering and/or spoofing can be inferred, for example, by evidence of:

- an interest to mislead other MPs by issuing non-genuine orders; or
- an interest to influence other MPs in order to execute an order on the other side of the order book in better conditions.

(55) Example 4 illustrates an attempt to manipulate the market in the form of layering and spoofing.

Example 4: Designing an algorithm to send misleading signals to the market

Situation: A MP designs an algorithm in order to give false and misleading signals and to secure the price at an artificial level.

Interpretation: The mere proof of the MP's involvement in the design of the layering and spoofing algorithm, which is built to achieve the above-mentioned manipulative effects, is sufficient to qualify the behaviour as attempted market manipulation under REMIT.

Considerations: It is not legitimate to issue orders which a MP does not intend to trade. However, this does not directly translate to an intent to manipulate the market, as the trader may have been unaware of the consequences of its actions. If no intention to manipulate the market is found by the NRA, but there is evidence of intention not to execute the order, then the effects/likely effects of the behaviour should be examined as market manipulation and not as attempted market manipulation.

4 Indicators for the identification of layering and spoofing

(56) When analysing trading behaviour, NRAs should take into account the following non-exhaustive list of indicators in order to identify suspicious layering and spoofing either as market manipulation or as an attempt to manipulate the market under Article 5 of REMIT.

(57) **Imbalance of trading activity on the two sides of the order book:** The issuing of orders on one side and the actual trading in the opposite direction points to a disparity between true intention and order book activity[32]. This can be measured in different ways, for example: (i) by the ratio of the cumulative volume represented by the orders on one side of the order book to the volume of executed orders on the other side of the order book; (ii) by the inconsistency in the share of orders on one side of the order book and the net position of a MP at end of the session/cycle.

(58) **Issuing of large orders** – Any issuing of large orders by a MP that is far more frequent than the overall level of activity/participation of the same MP for that specific product may indicate that the MP does not intend to execute these orders.

(59) **Duration of the orders:** The fact that the orders under scrutiny stay in the order book for far less time than the average order of a MP (or other MPs) for the same product may indicate that these orders are not genuine.

(60) **Order execution ratio:** The fact that the orders under scrutiny have a far lower execution ratio than orders placed by other MPs for the same product may indicate that these orders are not likely to be executed.

(61) **Cancellation of a significant number of orders:** The cancellation of a significant number of issued orders, in particular (but not always) those that were recently issued, may indicate that these orders are non-genuine.

(62) **Link between the cancellation of orders and the transaction**: A recurrent cancellation of orders on one side of the order book shortly after the entering into a transaction on the other side of the order book may indicate that the orders are non-genuine.

(63) **Issuing of orders in layers within a short period time:** The issuing of an unusual amount of orders – compared to the past behaviour of a MP – at different but close price levels on one side of the order book within a short period[33] may be a sign of layering.

[32] The imbalance has to be calculated for each cycle of the layering and spoofing activity in case where layering and spoofing involves several legs.

[33] The assessment of the timing has to take into account case-by-case specificities (e.g. liquidity of the market).

(64) **Price movement in a saw tooth pattern:** If there is a frequent repetition of the layering or spoofing with two legs[34], the order book is likely to show an artificial movement of the price, similar to a saw tooth pattern[35]. It occurs due to the continuous repetition of layering or spoofing bid orders above the best bid and an abrupt switching of position with the subsequent layering of ask orders below the best ask, which moves the price of the product upwards and downwards[36].

(65) **Link between the issuing of non-genuine orders and the price movement**: The extent to which the orders to trade systematically change the representation of the best bid or ask prices of a wholesale energy product, or more generally the representation of the order book available to MPs[37].

(66) **Use of a specific type of orders:** Layering and spoofing can include the use of trading restrictions, such as 'all-or-nothing' for non-genuine orders to ensure they are less likely to be matched, or iceberg orders for genuine orders in order to hide the real interest of a MP.

(67) For a more accurate detection of manipulative behaviour, the above-mentioned indicators should be used in combination. The more indicators a MP's behaviour triggers and/or the more frequently the above-mentioned indicators are triggered over time, the more likely it is that the suspicious behaviour qualifies as layering or spoofing. On the other hand, the presence of merely one indicator does not necessarily mean that a MP's behaviour amounts to layering and spoofing.

[34] See Example 3.

[35] Trading algorithms are often used for the deployment of such strategies.

[36] See Paragraph 21 and 45 of FCA Final Notice in *Michael Coscia*, 3 July 2013. See also Paragraph 2.4(2) and 4.31 of FCA Decision Notice in *7722656 Canada Inc (t/a Swift Trade)*, 6 May 2011.

[37] See also Paragraphs 4.29 to 4.31 of FCA Decision Notice in *7722656 Canada Inc (t/a Swift Trade)*, 6 May 2011, and Paragraph 144(i) and 161 (ii) of High Court of Justice (Chancery Division) judgment in *FCA v Da Vinci Invest Ltd*, [2015] EWHC 2401 (Ch), 12 August 2015.

5 Conclusion

(68) This Guidance Note aims to provide more in-depth information on the layering and spoofing behaviours and their assessment under Article 5 of REMIT in order to promote the integrity, transparency and proper functioning of the European wholesale energy markets and to ensure that NRAs apply REMIT in a consistent way.

(69) Two cumulative elements shall be considered in order to determine whether a behaviour can be considered as layering or spoofing: (i) the issuing of non-genuine orders on one side of the order book in order to (ii) enter into transactions on the other side of the order book.

(70) These behaviours are always manipulative because they (i) give or are likely to give false or misleading signals to the market as to the status of supply or demand in the order book; and/or (ii) secure or attempt to secure the price of a wholesale product at an artificial level (price positioning).

(71) For layering and spoofing behaviours to be considered attempted market manipulation, it is not necessary that they give false or misleading signals or place the price at an artificial level. The mere intention of a MP to give these signals or position the price artificially is sufficient for the behaviour to amount to attempted market manipulation.

(72) NRAs can identify the existence of market manipulation under REMIT in the form of layering or spoofing by assessing the characteristics of the issued orders. For that purpose, NRAs should verify, on a case-by-case basis: (i) the pattern of the orders and transactions; and (ii) whether the orders issued on one side of the order book are non-genuine.

(73) The analysis of the characteristics of the orders is sufficient for the assessment of whether the orders on one side of the order book are non-genuine. Non-genuine orders are typically (i) issued before the entering into transactions on the other side of the order book; (ii) cancelled (totally or partially) shortly after the entering into transaction on the other side of the order book; and (iii) representative of a cumulative volume that is disproportionate to the volume of transactions on the other side of the order book.

(74) Analysing trading behaviour via order book activity is key to identifying possible layering or spoofing. This Guidance Note provides examples of indicators to identify the behaviour taking into account certain characteristics of the orders, such as the size, price, duration, status, pattern and repetition, among others. Other indicators compare the suspected manipulative behaviour with the usual behaviour of the same MP and the behaviour of other MPs while trading in the same or equivalent products.

(75) Over the long term, the perception of the existence of layering and spoofing in wholesale energy markets undermines confidence in the supply, demand and price signals. It is therefore important to ensure that layering and spoofing behaviours in wholesale energy markets are identified on time and that such behaviours are sanctioned by the NRAs.