

NGESO methodology for imbalance settlement

Methodology for the main features of imbalance settlement

in accordance with Article 52(2) of the Balancing Regulation
(Regulation (EU) 2017/2195 establishing a guideline on electricity
balancing as amended and retained in UK law)

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Whereas

1. This document provides the methodology to further specify the calculation of imbalance settlement (hereafter referred to as the “imbalance settlement methodology”) in accordance with Article 52(2) of the Balancing Regulation ((EU) 2017/2195 establishing a guideline on electricity balancing as retained and amended in UK law by Statutory Instrument 2019 No.532¹).
2. This methodology also refers to the Recast Electricity Regulation ((EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity (recast) as retained and amended in UK law by Statutory Instrument 2020 No. 1006), Electricity Transmission System Operation Regulation (EU) 2017/1485 establishing a guideline on electricity transmission system operation) and the Emergency and Restoration Regulation ((EU) 2017/2196 establishing a network code on emergency and restoration) in each case as such regulation is retained and amended in UK law by Statutory Instrument 2019 No. 533²).
3. The imbalance settlement methodology takes into account the objectives of the Balancing Regulation, as set in the recitals and in Article 3 of the Balancing Regulation, and takes into account the general principles of the settlement processes, as set in Article 44 of the Balancing Regulation.
4. The imbalance settlement methodology respects the Balancing Regulation and takes into account the following elements of imbalance settlement established within the Balancing Regulation:
 - (a) The imbalance area equals the scheduling area.
 - (b) There are no exemptions to balance responsibility in accordance with Article 18(6)(a) and Article 44(4) of the Balancing Regulation.
 - (c) The final position of all Balancing Responsible Parties (BRPs) to be used in imbalance calculation is equal to the sum of the internal and external commercial trade schedules in accordance with Articles 54(3)(a) and 54(3)(b) of the Balancing Regulation.
 - (d) All balancing energy activated by the TSO³ for frequency restoration process and reserve replacement process shall be included in the imbalance adjustment of the BRP or BRPs to whom the related balancing energy bid of the Balancing Service Provider (BSP) has been assigned by the BSP itself to calculate this imbalance adjustment, in accordance with Article 18(4)(d) and Article 49 of the Balancing Regulation.
 - (e) The use of single imbalance pricing per Imbalance Settlement Period (ISP) for all imbalances in an imbalance price area in accordance with Article 52(2)(c) of the Balancing Regulation.
 - (f) The regulatory authority ensures that the TSO under its competence do not incur economic gains or losses with regard to the financial outcome of the settlement processes pursuant to the Chapters 2 and 4 of the Title V of the Balancing Regulation over the regulatory period as defined by the regulatory authority, and ensures that any positive or negative financial outcome as a result of the settlement processes pursuant to the Chapters 2 and 4 of the Title V of the Balancing Regulation shall be passed on to network users in accordance with the applicable national rules, in accordance with Article 44(2) of the Balancing Regulation.
5. The imbalance settlement methodology takes note of the following provisions from the Balancing Regulation:
 - (a) The TSO may develop a proposal for an additional settlement mechanism with BRPs separate from imbalance settlement to settle the procurement costs of balancing capacity pursuant to

¹ [SI 2019/532](#) subsequently amended by [SI 2020/1006](#) and [2020/1016](#)

² [SI 2019/533](#) subsequently amended by [2019/1104](#), [SI 2020/1006](#) and [SI 2020/1016](#)

³ The TSO is NGENSO, who are the Operator of the GB scheduling area

the Chapter 5 of the Title V of the Balancing Regulation, administrative costs and other costs related to balancing in accordance with Article 44(3) of the Balancing Regulation.

- (b) Terms and conditions for BSPs and BRPs in accordance with Article 18 of the Balancing Regulation remain a responsibility of the TSO but have to respect the Balancing Regulation and the methodologies pursuant to it.
 - (c) The TSO shall set up the rules to calculate the imbalance price in accordance with Article 55(1) of the Balancing Regulation.
 - (d) The regulatory authority may, at the request of a TSO, grant the application of dual pricing for all imbalances, based on the conditions established in the imbalance settlement methodology. The proposal for application of dual pricing shall include a justification pursuant to the provisions of the imbalance settlement methodology.
 - (e) The regulatory authority may, at the request of a TSO or at its own initiative, grant the TSO a derogation from one or more provisions of the Balancing Regulation:
 - (i) the requirement to apply an ISP of 15 minutes in accordance with Article 53 of the Balancing Regulation⁴;
 - (ii) the implementation of the requirements pursuant to Articles 45, 46, 47, 48, 49, 54, 55 of the Balancing Regulation.
 - (f) The TSO may delegate all or part of any tasks with which it is entrusted under the Balancing Regulation to one or more third parties according to Article 13(1) of the Balancing Regulation.
 - (g) The Secretary of State or, where applicable the regulatory authority, may assign tasks or obligations entrusted to the TSO under the Balancing Regulation to one or more third parties according to Article 13(4) of the Balancing Regulation. In the event that tasks and obligations are assigned to a third party by the Secretary of State or, where applicable the regulatory authority, references to TSO in this imbalance settlement methodology shall be understood as referring to the assigned entity in respect of the assigned tasks and obligations.
 - (h) The TSO is responsible for developing a proposal for terms and conditions or methodologies, or the regulatory authority responsible for their adoption in accordance with Article 5(4) of the Balancing Regulation, may request amendments of those terms and conditions or methodologies, in accordance with Article 6(3) of the Balancing Regulation.
6. The imbalance settlement methodology contributes to the objectives stated in Article 3 of the Balancing Regulation as follows:
- (a) This imbalance settlement methodology contributes to the objective for fostering non-discrimination and transparency in balancing markets as stated in Article 3(1)(a) of the Balancing Regulation, by further specifying the rules for the calculation of the BRP imbalance and the subsequent settlement.
 - (b) This imbalance settlement methodology enhances efficiency of balancing in accordance with the objective stated in Article 3(1)(b) of the Balancing Regulation by providing to the BRPs the right incentives to either be in balance or help the system to restore its balance, through the different options for calculating the imbalance price, in accordance with the objective stated in Article 3(1)(b) of the Balancing Regulation
 - (c) This imbalance settlement methodology contributes to the objective stated in Article 3(1)(c) of the Balancing Regulation for integrating balancing markets and promoting the possibilities for exchanges of balancing services, by settling the BRP imbalance, based on prices that will be the outcome of the GB Energy Market and any platforms for the exchange of balancing energy.

⁴ Ofgem decision to grant NGENSO an exemption to applying a 15 minute Imbalance Settlement Period in the GB synchronous area can be found here: <https://www.nationalgrideso.com/document/169706/download>

- (d) This imbalance settlement methodology contributes to the objective of the efficient and consistent functioning of day-ahead, intraday and balancing markets as stated in Article 3(1)(d) of the Balancing Regulation, since the final commercial trade schedules are used for the calculation of the position of each BRP, which is then used as the basis for the calculation of the BRP imbalance.
- (e) This imbalance settlement methodology contributes to the objectives stated in Article 3(1)(e) of the Balancing Regulation, since the settlement methodology is fair, objective, transparent and avoids undue barriers to entry for new BRPs as it does not favour a specific technology or portfolio. Moreover, this imbalance settlement methodology is market based, since the calculation of the imbalance price is based on the balancing energy price
- (f) The imbalance settlement methodology serves the objective of facilitation of demand-side response and renewable energy sources in accordance with the Balancing Regulation Articles 3(1)(f) and 3(1)(g), by neither allowing nor introducing discriminatory requirements. Additionally the specification of single position per imbalance area and single imbalance pricing per imbalance price area serves to move towards a level playing field for small market players and renewables and is an important step when facilitating an efficient framework for aggregation and storage.

TITLE I General provisions

Article 1 Subject matter and scope

- 1.** The imbalance settlement methodology shall apply to all imbalance areas and to all imbalance settlement periods and all system state classifications in Article 18 of the Electricity Transmission System Operation Regulation except for those imbalance areas and imbalance settlement periods for which market activities have been suspended, pursuant to Article 35 of the Emergency and Restoration Regulation. This is without prejudice to the national methodologies pursuant to Article 39(1) of the Emergency and Restoration Regulation which may apply this imbalance settlement methodology during imbalance settlement periods for which market activities have been suspended.
- 2.** An imbalance price area, as delineated in the terms and conditions for BRPs, shall be equal to one or more imbalance areas as delineated by a single TSO, or a combination of imbalance areas delineated by different TSOs within a bidding zone. Each imbalance price area shall be equal to a bidding zone. Where more than one TSO belongs to the same imbalance price area, and in case any of these TSOs has appointed one of the other TSOs to calculate the imbalance price for this imbalance price area, each reference to a TSO in Title III of this imbalance settlement methodology shall be understood as reference to this appointed TSO.

Article 2 Definitions and interpretation

- 1.** For the purposes of the imbalance settlement methodology, terms used in this document shall have the meaning as defined in Article 2 of the Balancing Regulation and Article 2 of the Recast Electricity Regulation and in Article 3 of the Electricity Transmission System Operation Regulation and Article 3 of the Emergency and Restoration Regulation.
- 2.** In addition, in the imbalance settlement methodology, the following terms shall have the meaning below:
 - (a) 'single imbalance pricing' means that, for a given ISP in a given imbalance price area, the price for negative imbalance and the price for positive imbalance are equal in sign and size;
 - (b) 'dual imbalance pricing' means that, for a given ISP in a given imbalance price area, the price for negative imbalance is not equal to the price for positive imbalance in sign and/or size;
 - (c) 'value of avoided activation' means a reference price that can be calculated by the TSO of a given imbalance price area after the balancing energy gate closure time for a given ISP, at least when there is no balancing energy demand for that imbalance price area for that ISP or no balancing energy activation for that imbalance price area for that ISP.

3. In the imbalance settlement methodology, unless the context requires otherwise:

- (a) the singular indicates the plural and vice versa;
- (b) the notation '£ /MWh' stands for the currency unit per MWh;
- (c) the table of contents and headings are inserted for convenience only and do not affect the interpretation of the imbalance settlement methodology;
- (d) any reference to legislation, regulations, directive, order, instrument, code or any other enactment shall include any modification, extension or re-enactment of it when in force;
- (e) any reference to an Article without an indication of the document shall mean a reference to the imbalance settlement methodology.

TITLE II Specification of the imbalance calculation

Article 3 The calculation of a position

1. The TSO shall calculate in each imbalance area for each ISP one single final position for each BRP as equal to the sum of its external and internal commercial trade schedules pursuant to Article 54(3)(a) of the Balancing Regulation.

Article 4 The calculation of an allocated volume

1. The TSO shall calculate the total allocated volume to each BRP in each imbalance area for each ISP, over all injections and withdrawals for which the BRP is financially responsible in accordance with Article 17(2) of the Balancing Regulation, as the netted volume of:

- (a) the volumes or aggregated volumes that are metered with a granularity of the ISP for the connections to a TSO grid;
- (b) the volumes or aggregated volumes that are metered with a granularity of the ISP for the connections to a DSO grid;
- (c) the aggregated volumes that are not metered with a granularity of the ISP;
- (d) where applicable, according to the terms and conditions for BRPs, all corrections to points (a), (b) and (c) of this paragraph that constitute the volumes assigned per ISP to market participants bearing balance responsibility or that have contractually delegated their balance responsibility to a BRP of their choice; and
- (e) where applicable, according to the terms and conditions for BRPs, the aggregated volumes related to all residual energies resulting from incorrect or incomplete allocations of the volumes of point (a) and (b) and resulting from the allocation of the volumes of point (c) on the basis of predefined profiles or grid losses.

2. When required by the terms and conditions for BRPs, the volumes or aggregated volumes in accordance with Articles 4(1)(b), 4(1)(c), 4(1)(d) and 4(1)(e) shall be delivered to the TSO by the relevant DSO in accordance with Article 15(2) of the Balancing Regulation, or by other parties, if specified in the terms and conditions for BRPs pursuant to Article 18(6)(d) of the Balancing Regulation .

3. The TSO shall report without undue delay the total allocated volume to the concerned BRP and this allocated volume shall be finalised no later than set by the terms and conditions for BRPs in accordance with Article 18(6)(h) of the Balancing Regulation.

Article 5 The calculation of an imbalance adjustment

1. The TSO shall calculate the imbalance adjustment to the concerned BRP in each imbalance area for each ISP as the netted volume of all activated volumes of balancing energy determined in accordance with Article 45 of the Balancing Regulation from all activated bids in that imbalance area for that ISP that assign these balancing energy bids to the concerned BRP.

2. Additional imbalance adjustments to the concerned BRP shall, where relevant, be calculated by the TSO in each imbalance area for each ISP as the netted volume of:

- (a) all energy volumes involved in the system defence plan instructions as issued by the TSO to significant grid users and defence service providers in accordance with the system defence plan procedures provided for in point (b) of Article 11(5) of the Emergency and Restoration Regulation and specified in the terms and conditions for BRPs;
- (b) all energy volumes of further energy allocations between BRPs due to redispatching actions or to energy from renewable sources according to the terms and conditions for BRPs.

3. The TSO shall report without undue delay the applied imbalance adjustment to the concerned BRP and this imbalance adjustment shall be finalised no later than set by the terms and conditions for BRPs in accordance with Article 18(6)(h) of the Balancing Regulation.

Article 6 The calculation of an imbalance

1. The TSO shall calculate, in each imbalance area for each ISP, the imbalance of each BRP, as the energy volume representing the difference between the allocated volume attributed to that BRP, calculated in accordance with Article 4, and the final position of that BRP, calculated in accordance with Article 3, including any imbalance adjustment applied to that BRP, calculated in accordance with Article 5, within a given ISP.

2. The TSO shall report without undue delay the calculated imbalance to each BRP over each ISP for each imbalance area, to the concerned BRP and this imbalance calculation shall be finalised no later than set by the terms and conditions for BRPs in accordance with Article 18(6)(h) of the Balancing Regulation, taking into account the rules for claiming the recalculation of the imbalance by a BRP in accordance with Article 54(4)(e) of the Balancing Regulation.

TITLE III Specification of the imbalance price calculation

Article 7 The use of single imbalance pricing

1. The TSO shall implement the use of single imbalance pricing in accordance with Article 55 of the Balancing Regulation for all imbalances, as described in paragraphs 3 to 5 below, except for the specific or all ISPs where a regulatory authority approves the application of dual imbalance pricing in accordance with Article 11.

2. The TSO shall use the following main components for the determination of the imbalance price for each ISP, its imbalance price area(s) and each direction: the imbalance price for positive imbalance and/or the imbalance price for negative imbalance calculated pursuant to Article 9, the value of avoided activation pursuant to Article 10 and the direction of the imbalance pursuant to Article 8.

3. The TSO shall set the imbalance price for all imbalances for each ISP and its imbalance price area(s) in one of the following ways depending on the activation of balancing energy from frequency restoration reserves or replacement reserves for its satisfied balancing energy demand:

- (a) In case only positive balancing energy from frequency restoration reserves or replacement reserves has been activated, the TSO shall set the imbalance price for all imbalances for this ISP equal to the imbalance price for negative imbalance as calculated in Article 9(1).

- (b) In case only negative balancing energy from frequency restoration reserves or replacement reserves has been activated, this TSO shall set the imbalance price for all imbalances for this ISP equal to the imbalance price for positive imbalance as calculated in Article 9(2).
- (c) In case both positive and negative balancing energy from frequency restoration reserves or replacement reserves has been activated, this TSO shall establish for this ISP the direction of the total system imbalances, in accordance with Article 8(2), and:
 - (i) in case of imbalance price area shortage, this TSO shall set the imbalance price for all imbalances for the specific ISP and its imbalance price area(s) equal to the imbalance price for negative imbalance as calculated in Article 9(1), while
 - (ii) in case of imbalance price area surplus, this TSO shall set the imbalance price for all imbalances for the specific ISP and imbalance price area equal to the imbalance price for positive imbalance as calculated in Article 9(2).
- (d) In case no positive or negative balancing energy from frequency restoration reserves or replacement reserves has been activated, this TSO shall set the imbalance price for all imbalances for this ISP equal to the imbalance price for positive or negative imbalance as calculated in Articles 9(1) and 9(2) respectively.

4. In addition to the provisions in Article 55(3) of the Balancing Regulation, all TSOs in a given imbalance price area shall jointly determine the imbalance price for:

- (a) each ISP;
- (b) this imbalance price area;
- (c) each imbalance direction.

Article 8 Establishing the direction of the total system imbalances and the character of a BRP imbalance in an imbalance price area

1. When determining the direction of the total system imbalances the TSO shall calculate for its imbalance price area(s), for a specific ISP, and for each direction the sum of the volumes per direction listed in Article 9(5) and it may include one or more of the volumes per direction listed below:

- (a) the volume or volumes of unintended exchanges of energy;
- (b) volume for the satisfied balancing energy demand of the TSO of this imbalance price area for this ISP;
- (c) volume resulting from the frequency containment process;
- (d) volume resulting from remedial actions pursuant to Article 22, paragraph 1, letters (h) and (j) and paragraph 2, of the Electricity Transmission System Operation Regulation
- (e) volume resulting from Inter-TSO assistance in emergency state pursuant to Article 14 of the Emergency and Restoration Regulation and any agreements with interconnected transmission systems.

2. This TSO shall establish for the specific ISP, the direction of the total system imbalances of its imbalance price area(s) based on the difference between the aggregated volumes for each direction, as calculated in paragraph 1. The total system imbalances for a specific ISP and imbalance price area shall alternatively:

- (a) have a negative sign, indicating an imbalance price area shortage, when the aggregated volume for positive direction is greater in absolute value than the aggregated volume for negative direction,

- (b) have a positive sign, indicating an imbalance price area surplus, when the aggregated volume for negative direction is greater in absolute value than the aggregated volume for positive balancing direction,
- (c) be equal to zero, indicating an imbalance price area in balance.

3. The calculated character of the imbalance to each BRP for each ISP, for each imbalance price area, shall be alternatively:

- (a) non-aggravating imbalance, when the BRP imbalance is opposite to the direction of the total system imbalances;
- (b) aggravating imbalance, when the BRP imbalance has the same direction as the total system imbalances;
- (c) in case no direction can be established both positive and negative BRP imbalances shall be deemed as aggravating.

Article 9 Determination of the imbalance price for positive and negative imbalance

1. The TSO shall use for the imbalance price for negative imbalance, the weighted average approach and/or the maximum price approach, based on the prices and respective volumes listed in paragraphs 3 and 5 for positive activated balancing energy. The TSO may also use additional components listed in paragraph 6 for determining the imbalance price for negative imbalance, as long as the boundary condition of Article 55(4) of the Balancing Regulation is respected. For the calculation of the boundary condition, in case it is not always fulfilled, based on the imbalance price calculation approach, the TSO shall use all the available prices and the respective volumes for positive activated balancing energy listed in paragraphs 3 and 5 to calculate the weighted average price for positive activated balancing energy pursuant to Article 55(4)(a) of the Balancing Regulation. In case there is no positive balancing energy activated for this TSO, then the value of avoided activation of balancing energy calculated in accordance with Article 10, shall be the lower bound for the imbalance price for negative imbalance.

2. The TSO shall use for the imbalance price for positive imbalance, the weighted average approach and/or the minimum price approach, based on the prices and respective volumes listed in paragraphs 3 and 5 for negative activated balancing energy. The TSO may also use additional components listed in paragraph 6 for determining the imbalance price for positive imbalance, as long as the boundary condition of Article 55(5) of the Balancing Regulation is respected. For the calculation of the boundary condition, in case it is not always fulfilled, based on the imbalance price calculation approach, the TSO shall use all the available prices and the respective volumes for negative activated balancing energy listed in paragraphs 3 and 5 to calculate the weighted average price for negative activated balancing energy pursuant to Article 55(5)(a) of the Balancing Regulation. In case there is no negative balancing energy activated for this TSO, then the value of avoided activation of balancing energy calculated in accordance with Article 10, shall be the upper bound for the imbalance price for positive imbalance.

3. The prices for determining the imbalance price for a given ISP, imbalance price area and per direction are:

- (a) where applicable, the price or prices, for the satisfied balancing energy demand of the TSO of this imbalance price area for this ISP, as calculated by the GB Energy Market and any platforms for the exchange of balancing energy⁵ ;
- (b) where applicable, the price or prices for balancing energy resulting from the activation of specific products for frequency restoration or reserve replacement process;

⁵ Ofgem decision to grant an exemption to NGENSO from the requirement to implement an Automatic Frequency Restoration Process in the GB synchronous area: <https://www.nationalgrideso.com/document/204466/download>

- (c) where applicable, the price or prices for balancing energy resulting from the activation of balancing energy bids that do not correspond to products, for frequency restoration or reserve replacement process;

4. The TSO shall use one or more of the balancing energy prices listed in paragraph 3 for calculating the imbalance price taking into account that:

- (a) The TSO shall use the prices in accordance with points (a), (b) and (c) of paragraph 3.
- (b) The TSO shall use the prices for specific products in accordance with point (d) of paragraph 3 in case the TSO is using the specific products for balancing.

5. The TSO shall use the following volumes per direction for determining the imbalance prices pursuant to paragraphs 1 and 2 in case it is using the weighted average approach or needs to calculate the boundary condition:

- (a) volume, for the satisfied balancing energy demand of the TSO of this imbalance price area for this ISP, as calculated by the GB Energy Market and any platforms for balancing energy⁶;
- (b) volumes, for the satisfied balancing energy demand of the TSO of this imbalance price area for this ISP of the activations of specific products for frequency restoration process or reserve replacement process;
- (c) volumes, per ISP of the activations of balancing energy bids that do not correspond to standard or specific products or to integrated scheduling process bids, for frequency restoration process or reserve replacement process;

6. The TSO of an imbalance price area may propose in the terms and conditions for BRPs the conditions and a methodology to calculate additional components, to be included in the imbalance price calculation. In that case, the TSO shall propose one or more of the following additional components:

- (a) a scarcity component to be used in nationally defined scarcity situations;
- (b) an incentivising component to be used to fulfil nationally defined boundary conditions;
- (c) a component related to the financial neutrality of the TSO.

7. Where the regulatory authority has approved in the terms and conditions for BRPs the conditions and the methodology to apply one or more additional components in accordance with paragraph 6, the value of the additional components shall be published by the TSO for those ISPs in which the additional components were applied no later than publication of the final imbalance settlement price.

Article 10 The value of avoided activation of balancing energy from frequency restoration reserves or replacement reserves

1. The value of avoided activation shall:

- (a) set the boundary conditions to the imbalance price in accordance with the Articles 55(4)(b) and 55(5)(b) of the Balancing Regulation;
- (b) set, where relevant, the boundary conditions to the imbalance price for non-aggravating imbalance in accordance with Article 11(4)(b)(i); and
- (c) be calculated taking into account the general settlement principles in accordance with Article 44(1) of the Balancing Regulation.

2. The TSO shall calculate the value of avoided activation from frequency restoration reserves or replacement reserves for at least each ISP during which there has been no activation of balancing energy in either direction for the imbalance price area, in accordance with Articles 55(4)(b) and 55(5)(b) of the Balancing Regulation.

⁶ Ofgem decision to grant an exemption to NGENSO from the requirement to implement an automatic frequency Restoration Process in the GB synchronous area: <https://www.nationalgrideso.com/document/204466/download>

3. If the TSO applies dual imbalance pricing in accordance with Article 52(2)(d) of the Balancing Regulation, the TSO may calculate two values of avoided activation, one value for each direction, for each imbalance period during which there has been no activation of balancing energy in either direction in the imbalance price area. These two values may be equal.
4. For calculating the value or values of avoided activation in accordance with paragraph 2 or 3, the TSO may only, if relevant, use the following prices:
- (a) the bid price or bid prices, per direction, for balancing energy for frequency restoration process available to this TSO for this ISP;
 - (b) the bid price or bid prices, per direction, for balancing energy for replacement reserve process available to this TSO for this ISP;
 - (c) the wholesale energy price traded by market participants for this balancing area for this ISP.

Article 11 Definition of conditions and methodology for applying dual imbalance pricing

1. The TSO may propose to the regulatory authority the application of dual imbalance pricing in an imbalance price area based on one of the following conditions, as required by Article 52(2)(d)(i) of the Balancing Regulation, where relevant:
- (a) For specific ISPs in which the TSO subsequently requests activation of both positive and negative balancing energy from frequency restoration reserves, if dual imbalance pricing is justified as a mitigation measure to avoid negative effects on frequency restoration control error (FRCE) target parameters in accordance with Article 128 of the Electricity Transmission System Operation Regulation frequency stability in accordance with Article 3(34) of the Electricity Transmission System Operation Regulation and/or the ability to maintain power flows within the power flow limits in accordance with Article 32(1) and (2) of the Electricity Transmission System Operation Regulation as a result of BRPs acting on price incentives.
 - (b) For specific ISPs in which imbalance price calculated according to Article 55(3) of the Balancing Regulation taking into account the main components according to Article 9 does not provide a locally adequate incentive in individual ISPs as the imbalance area is near balanced. In such ISPs, dual pricing is justified as a mitigation measure to avoid negative effects on FRCE target parameters. The TSO applying the dual pricing based on this condition shall detail in terms and conditions the threshold subject to approval of the regulatory authority within which the imbalance area is considered near balanced.
 - (c) For specific ISPs in which the component in accordance with Article 9(6)(a) is larger than £ zero (0) /MWh.
 - (d) For all ISPs where the imbalance settlement period is longer than or equal to 30 minutes due to an exemption from the requirement pursuant to Article 53 of the Balancing Regulation or based on derogation in accordance with Article 62(2)(d) of the Balancing Regulation, if dual imbalance pricing is justified as a mitigation measure to improve incentives to BRPs and avoid oscillations that may occur in case the self-regulation response by BRPs, which is linked to the longer ISP, overcompensates for the system imbalance which in turn triggers an opposite self-regulation response.
2. The proposal for application of dual pricing pursuant to paragraph 1 shall provide a justification for applying dual pricing, including at least an assessment on:
- (a) the negative impacts of not applying the dual pricing as proposed by this TSO in terms of operational security;
 - (b) other possible impacts of applying the dual pricing as proposed by this TSO.
3. A justification pursuant to paragraph 2 shall be based on operational and economic reasoning and criteria taking into account:
- (a) the objectives of the Balancing Regulation pursuant to Article 3 of the Balancing Regulation,

- (b) the objectives of the Electricity Transmission System Operation Regulation pursuant to Article 4(2) of the Electricity Transmission System Operation Regulation, and
- (c) the general settlement principles of the Balancing Regulation pursuant to Article 44 of the Balancing Regulation.

4. Where the regulatory authority approves the application of dual imbalance pricing pursuant to Article 52(2)(d)(i) of the Balancing Regulation, the TSO shall calculate an imbalance price:

- (a) for aggravating imbalances in accordance with the imbalance price calculated pursuant to Article 9;
- (b) for non-aggravating imbalances in accordance to either:
 - (i) the methodology for calculation of the value of avoided activation pursuant to Article 10, and including, where relevant the components pursuant to the Article 9(6); or
 - (ii) the imbalance price calculated pursuant to Article 9.

TITLE IV Final provisions

Article 12 Publication and implementation of the imbalance settlement methodology

1. The TSO shall publish the imbalance settlement methodology without undue delay after a decision has been taken by the Regulatory Authority, in accordance with Article 7 of the Balancing Regulation.

2. The TSOs shall implement the Articles of the imbalance settlement methodology in accordance with Article 52(4) of the Balancing Regulation, no later than eighteen months after approval.