

**SECTION T: SETTLEMENT AND TRADING CHARGES**

**3. SETTLEMENT OF BALANCING MECHANISM ACTIONS**

~~**3.1A Continuous Acceptance Duration (CAD<sup>k</sup><sub>i</sub>)**~~

~~3.1A.1 In relation to each Acceptance, k, for a particular BM Unit, another Acceptance for the same BM Unit is “related” to Acceptance k where such other Acceptance has a Bid Offer Acceptance Time that falls within the period:~~

~~(a) from and including the spot time at the start of the Settlement Period which falls three Settlement Periods prior to the Settlement Period in which the Bid Offer Acceptance Time for Acceptance k falls, and~~

~~(b) to and including the spot time at the end of the Settlement Period which falls three Settlement Periods after the Settlement Period in which the Bid Offer Acceptance Time for Acceptance k falls.~~

~~3.1A.2 In relation to each Acceptance k, another Acceptance is “continuous” with Acceptance k if it is related to Acceptance k, and:~~

~~(a) the spot time associated with:~~

~~(i) the first Point Acceptance Volume of the Acceptance is earlier, and~~

~~(ii) the last Point Acceptance Volume of the Acceptance is not earlier~~

~~than the spot time associated with the first Point Acceptance Volume of Acceptance k; or~~

~~(b) the spot time associated with:~~

~~(i) the last Point Acceptance Volume of the Acceptance is later, and~~

~~(ii) the first Point Acceptance Volume of the Acceptance is not later than~~

~~the spot time associated with the last Point Acceptance Volume of Acceptance k;  
or~~

~~(c) the Acceptance is continuous (in accordance with paragraph (a) or (b)) with another Acceptance which is determined (including, for the avoidance of doubt, by virtue of this paragraph (c)) to be a continuous Acceptance in relation to Acceptance k.~~

~~3.1A.3 In relation to each Acceptance k, for a particular BM Unit, the Continuous Acceptance Duration (CAD<sup>k</sup><sub>i</sub>) shall be the duration of the period:~~

~~(a) commencing at the earliest spot time associated with:~~

~~(i) any value of Point Acceptance Volume for Acceptance k; or~~

~~(ii) any Point Acceptance Volume for any Acceptance that is a continuous Acceptance in relation to Acceptance k, and~~

~~(b) ending at the latest spot time associated with:~~

~~(i) any value of Point Acceptance Volume for Acceptance k; or~~

~~(ii) — any Point Acceptance Volume for any Acceptance that is a continuous Acceptance in relation to Acceptance k.~~

~~**3.1B — Continuous Acceptance Duration Limit (CADL)**~~

~~3.1B.1 — For the purposes of the Code the “Continuous Acceptance Duration Limit” (CADL) shall be 15 minutes or such other amount (in minutes) determined by the Panel and approved by the Authority.~~

~~3.1B.2 — The Panel may revise such amount from time to time subject to the approval of the Authority.~~

~~3.1B.3 — In revising the amount of the Continuous Acceptance Duration Limit from time to time, the Panel shall consult with Parties and consider the views expressed in the course of such consultation prior to making its determination (and shall provide a detailed summary of such views to the Authority).~~

~~**3.8A — Determination of Period Priced Accepted Offer Volume ( $QAPO^{kn}_{ij}$ ) and Period Priced Accepted Bid Volume ( $QAPB^{kn}_{ij}$ )**~~

~~3.8A.1 — In respect of each Settlement Period and Acceptance k, for each BM Unit, the Period Priced Accepted Offer Volume and Period Priced Accepted Bid Volume shall be established as follows:~~

~~(a) — if, there exists any Acceptance k' (including for the avoidance of doubt Acceptance k) relating to the BM Unit, for which  $CADL^{k'}_i < CADL$ , then no values of the Period Priced Accepted Offer Volume and Period Priced Accepted Bid Volume will be determined in relation to Acceptance k in any Settlement Period:~~

~~(i) — from and including the Settlement Period in which the earliest Point Acceptance Volume associated with Acceptance k' falls, and~~

~~(ii) — to and including the Settlement Period in which the latest Point Acceptance Volume associated with Acceptance k' falls.~~

~~(b) — in any other case, the Period Priced Accepted Offer Volume and Period Priced Accepted Bid Volume will be determined as follows:~~

~~(i) —  $QAPO^{kn}_{ij} = QAO^{kn}_{ij}$ ; and~~

~~(ii) —  $QAPB^{kn}_{ij} = QAB^{kn}_{ij}$ ;~~

~~**3.9A — Determination of Period BM Unit Total Priced Accepted Offer Volume ( $QAPO^n_{ij}$ ) and Period BM Unit Total Priced Accepted Bid Volume ( $QAPB^n_{ij}$ )**~~

~~3.9A.1 — In respect of each Settlement Period, for each BM Unit, the Period BM Unit Total Priced Accepted Offer Volume shall be established as follows:~~

~~$QAPO^n_{ij} = \sum^k QAPO^{kn}_{ij}$~~

~~where  $\sum^k$  represents the sum over all Acceptances within the Settlement Period.~~

~~3.9A.2 In respect of each Settlement Period, for each BM Unit, the Period BM Unit Total Priced Accepted Bid Volume shall be established as follows:~~

~~$$QAPB_{ij}^n = \sum^k QAPB_{ij}^{kn}$$~~

~~where  $\sum^k$  represents the sum over all Acceptances within the Settlement Period.~~

**4. SETTLEMENT CALCULATIONS**

**4.4. Determination of Energy Imbalance Prices (SBP<sub>j</sub> and SSP<sub>j</sub>)**

4.4.1 In respect of each Settlement Period, the System Total Accepted Offer Volume will be determined as follows:

$$TQAO_j = \sum_i \sum^n QAO_{ij}^n$$

where  $\sum_i$  represents the sum over all BM Units and  $\sum^n$  represents the sum over all Bid-Offer Pair Numbers for the BM Unit.

4.4.2 In respect of each Settlement Period, the System Total Accepted Bid Volume will be determined as follows:

$$TQAB_j = \sum_i \sum^n QAB_{ij}^n$$

where  $\sum_i$  represents the sum over all BM Units and  $\sum^n$  represents the sum over all Bid-Offer Pair Numbers for the BM Unit.

4.4.2A In respect of each Settlement Period, some of the accepted Bids and accepted Offers may be defined as De Minimis Accepted Bids and De Minimis Accepted Offers respectively in accordance with the provisions in Annex T-1, and all such De Minimis Accepted Bids and De Minimis Accepted Offers shall be disregarded for the purposes of the calculation of energy imbalance prices.

~~4.4.2B In respect of each Settlement Period, the System Total Un-Priced Accepted Offer Volume will be determined as follows:~~

~~$$TQUAO_j = \sum_i \sum^n QAO_{ij}^n - \sum_i \sum^n QAPO_{ij}^n$$~~

~~where  $\sum_i$  represents the sum over all BM Units and  $\sum^n$  represents the sum over all Bid-Offer Pair Numbers for the BM Unit.~~

~~4.4.2C In respect of each Settlement Period, the System Total Un-Priced Accepted Bid Volume will be determined as follows:~~

~~$$TQUAB_j = \sum_i \sum^n QAB_{ij}^n - \sum_i \sum^n QAPB_{ij}^n$$~~

~~where  $\sum_i$  represents the sum over all BM Units and  $\sum^n$  represents the sum over all Bid-Offer Pair Numbers for the BM Unit.~~

4.4.3 In respect of each Settlement Period, some of the accepted Bids and accepted Offers may be defined as Arbitrage Accepted Bids and Arbitrage Accepted Offers respectively in accordance with the provisions in Annex T-1, and all such Arbitrage Accepted Bids and Arbitrage Accepted Offers shall be disregarded for the purposes of the calculation of energy imbalance prices.

4.4.4 In respect of each Settlement Period:

- (a) some or all of the accepted Bids and accepted Offers may be defined as NIV Tagged Bids and NIV Tagged Offers respectively in accordance with the provisions in Annex T-1;
- (b) some or all of the Buy Price Volume Adjustment (Energy) (EBVA) and Sell Price Volume Adjustment (Energy) (ESVA) may be defined as NIV Tagged EBVA and NIV Tagged ESVA respectively in accordance with the provisions in Annex T-1;
- (c) some or all of the Buy Price Volume Adjustment (System) (SBVA) and Sell Price Volume Adjustment (System) (SSVA) may be defined as NIV Tagged SBVA and NIV Tagged SSVA respectively in accordance with the provisions in Annex T-1;
- ~~(d) some or all of the System Total Un-priced Bid Volume and System Total Un-priced Offer Volume may be defined as NIV Tagged System Total Un-priced Bid Volume and NIV Tagged System Total Un-priced Offer Volume respectively in accordance with the provisions in Annex T-1.~~

4.4.4A In respect of each Settlement Period, the Net Imbalance Volume will be determined as follows:

$$NIV_j = \{ \sum_i \sum^n QAPO_{ij}^n + EBVA_j + SBVA_j + TQUAO_j \} - \{ \sum_i \sum^n (-QAPB_{ij}^n) + (-ESVA_j) + (-SSVA_j) + (-TQUAB_j) \}$$

where  $\sum_i$  is the sum over all BM Units and  $\sum^n$  is either the sum over all Accepted Offers that are not De Minimis Accepted Offers and not Arbitrage Accepted Offers, or the sum over all Accepted Bids that are not De Minimis Accepted Bids and not Arbitrage Accepted Bids, as the case may be.

4.4.4B Without prejudice to paragraph 1.5A.4(b) and 1.5A.6(b), if in respect of a Settlement Period  $j$  and a Market Index Data Provider  $s$  either:

- (a) the Individual Liquidity Threshold exceeds the Market Index Volume ( $QXP_{sj}$ ); or
- (b) the Market Index Data Provider fails for whatever reason to submit the Market Index Data in time such that it can be taken into account in the relevant Settlement Run,

the Market Index Volume ( $QXP_{sj}$ ) and the Market Index Price ( $PXP_{sj}$ ) for that Market Index Data Provider shall be deemed to be zero.

4.4.5 In respect of each Settlement Period:

- (a) if the Net Imbalance Volume is not equal to zero, and is a positive number, and  $\{ \sum_i \sum^n \{ QAPO_{ij}^n * TLM_{ij} \} + UEBVA_j \}$  is not equal to zero, then the System Buy Price will be determined as follows:

$$SBP_j = \{ \{ \sum_i \sum^n \{ QAPO_{ij}^n * PO_{ij}^n * TLM_{ij} \} + UEBVA_j \} / \{ \sum_i \sum^n \{ QAPO_{ij}^n * TLM_{ij} \} + UEBVA_j \} \} + \{ BPA_j \}$$

where  $\Sigma_i$  represents the sum over all BM Units and  $\Sigma^n$  represents the sum over those accepted Offers that are not De Minimis Accepted Offers and not Arbitrage Accepted Offers and not NIV Tagged Offers;

- (b) if the Net Imbalance Volume is equal to zero, or is a negative number, and / or  $\{\Sigma_i \Sigma^n \{QAPO_{ij}^n * TLM_{ij}\} + UEBVA_j\}$  is equal to zero, then the System Buy Price will (subject to paragraph 4.4.6A) be determined as follows:

$$SBP_j = \Sigma_s \{PXP_{sj} * QXP_{sj}\} / \Sigma_s \{QXP_{sj}\}$$

where  $\Sigma_s$  represents the sum over all Market Index Data Providers;

provided that, if the Net Imbalance Volume is a negative number and  $SSP_j$  as determined in accordance with paragraph 4.4.6(a) would exceed  $SBP_j$  as determined in this paragraph (b), then  $SBP_j$  shall instead be equal to  $SSP_j$  as determined in accordance with paragraph 4.4.6(a).

4.4.6 In respect of each Settlement Period:

- (a) if the Net Imbalance Volume is not equal to zero, and is a negative number, and  $\{\Sigma_i \Sigma^n \{QAPO_{ij}^n * TLM_{ij}\} + UESVA_j\}$  is not equal to zero, then the System Sell Price will be determined as follows:

$$SSP_j = \{ \{ \Sigma_i \Sigma^n \{QAPO_{ij}^n * PB_{ij}^n * TLM_{ij}\} + UESCA_j \} / \{ \Sigma_i \Sigma^n \{QAPO_{ij}^n * TLM_{ij}\} + UESVA_j \} \} + \{SPA_j\}$$

where  $\Sigma_i$  represents the sum over all BM Units and  $\Sigma^n$  represents the sum over those accepted Bids that are not De Minimis Accepted Bids and not Arbitrage Accepted Bids and not NIV Tagged Bids;

- (b) if the Net Imbalance Volume is equal to zero, or is a positive number, and / or  $\{\Sigma_i \Sigma^n \{QAPO_{ij}^n * TLM_{ij}\} + UESVA_j\}$  is equal to zero, then the System Sell Price will (subject to paragraph 4.4.6A) be determined as follows:

$$SSP_j = \Sigma_s \{PXP_{sj} * QXP_{sj}\} / \Sigma_s \{QXP_{sj}\}$$

where  $\Sigma_s$  represents the sum over all Market Index Data Providers;

provided that, if the Net Imbalance Volume is a positive number and  $SSP_j$  as so determined would exceed  $SBP_j$  as determined in accordance with paragraph 4.4.5(a), then  $SSP_j$  shall instead be equal to  $SBP_j$  as determined in accordance with paragraph 4.4.5(a).

4.4.6A Without prejudice to paragraph 1.5A.4(b) and 1.5A.6(b), if for whatever reason (including the submission or deemed submission of zero values or the absence of Market Index Data) in respect of a Settlement Period:

$$\Sigma_s QXP_{sj} = 0$$

where  $\Sigma_s$  represents the sum over all Market Index Data Providers,

then (notwithstanding paragraphs 4.4.5(b) and 4.4.6(b)):

- (a) if the Net Imbalance Volume is a positive number, and  $\{\sum_i \sum^n \{QAPB_{ij}^n * TLM_{ij}\} + UEBVA_j\}$  is not equal to zero,  $SSP_j$  shall be equal to  $SBP_j$  as determined in accordance with paragraph 4.4.5(a);
- (b) if the Net Imbalance Volume is a positive number, and  $\{\sum_i \sum^n \{QAPB_{ij}^n * TLM_{ij}\} + UEBVA_j\}$  is equal to zero, each  $SBP_j$  and  $SSP_j$  shall be zero;
- (c) if the Net Imbalance Volume is a negative number, and  $\{\sum_i \sum^n \{QAPB_{ij}^n * TLM_{ij}\} + UESVA_j\}$  is not equal to zero,  $SBP_j$  shall be equal to  $SSP_j$  as determined in accordance with paragraph 4.4.6(a);
- (d) if the Net Imbalance Volume is a negative number, and  $\{\sum_i \sum^n \{QAPB_{ij}^n * TLM_{ij}\} + UESVA_j\}$  is equal to zero, each  $SBP_j$  and  $SSP_j$  shall be zero; and
- (e) if the Net Imbalance Volume is zero, each of  $SBP_j$  and  $SSP_j$  shall be zero.

~~4.4.7 In respect of each Settlement Period, the Total Accepted Priced Offer Volume will be determined as follows:~~

~~$$TQPAO_j = \sum_i \sum^n QAPO_{ij}^n$$~~

~~where  $\sum_i$  represents the sum over all BM Units and  $\sum^n$  represents the sum over those accepted Offers that are not De Minimis Accepted Offers and not Arbitrage Accepted Offers and not NIV Tagged Offers.~~

~~4.4.8 In respect of each Settlement Period, the Total Accepted Priced Bid Volume will be determined as follows:~~

~~$$TQPAB_j = \sum_i \sum^n QAPB_{ij}^n$$~~

~~where  $\sum_i$  represents the sum over all BM Units and  $\sum^n$  represents the sum over those accepted Bids that are not De Minimis Accepted Bids and not Arbitrage Accepted Bids and not NIV Tagged Bids.~~

4.4.9 In respect of each Settlement Period, the Total Arbitrage Volume will be determined as follows:

$$TAQ_j = \sum_i (\sum^n QAPB_{ij}^n - \sum^{n*} QAPO_{ij}^n) / 2$$

where  $\sum_i$  represents the sum over all BM Units and  $\sum^n$  represents the sum over those accepted Bids that are Arbitrage Accepted Bids and  $\sum^{n*}$  represents the sum over those accepted Offers that are Arbitrage Accepted Offers.

4.4.10 In respect of each Settlement Period, the Total NIV Tagged Volume will be determined as follows:

$$TCQ_j = \{ \{ (\sum_i \sum^n QAPB_{ij}^n) + TTQUAB_j + TESVA_j + TSSVA_j \} - \{ (\sum_i \sum^{n*} QAPO_{ij}^n) + TTQUAO_j + TEBVA_j + TSBVA_j \} \} / 2$$

where  $\Sigma_i$  represents the sum over all BM Units and  $\Sigma^{n'}$  represents the sum over those accepted Bids which are NIV Tagged Bids and  $\Sigma^{n^*}$  represents the sum over those accepted Offers which are NIV Tagged Offers.

## ANNEX T-1: CALCULATIONS

### 1. Interpretation

~~1.1 For the purposes of this Annex T-1, and paragraph 4.4, in relation to a BM Unit and Settlement Period, an "accepted Offer" means the Period BM Unit Total Priced Accepted Offer Volume ( $QAPO_{ij}^n$ ), and an "accepted Bid" means the Period BM Unit Total Priced Accepted Bid Volume ( $QAPB_{ij}^n$ ) but excluding Offers and Bids where the value of Period BM Unit Total Priced Accepted Offer Volume or Period BM Unit Total Priced Accepted Bid Volume (as the case may be) is zero.~~

~~1.2~~ For the purposes of ~~any other provision of~~ the Code, in relation to a BM Unit and Settlement Period, an "accepted Offer" means the Period BM Unit Total Accepted Offer Volume ( $QAO_{ij}^n$ ), and an "accepted Bid" means the Period BM Unit Total Accepted Bid Volume ( $QAB_{ij}^n$ ) but excluding Offers and Bids where the value of Period BM Unit Total Accepted Offer Volume or Period BM Unit Total Accepted Bid Volume (as the case may be) is zero.

### 1A De Minimis Volumes

1A.1 In respect of each Settlement Period, De Minimis Accepted Offers and De Minimis Accepted Bids will be defined in the following way.

- (a) All accepted Bids for which  $|QAPB_{ij}^n| < DMAT_d$  shall be tagged as De Minimis Accepted Bids.
- (b) All accepted Offers for which  $QAPO_{ij}^n < DMAT_d$  shall be tagged as De Minimis Accepted Offers.

1A.2 All accepted Bids and accepted Offers which are not De Minimis Accepted Bids and De Minimis Accepted Offers will be defined as Non-De Minimis Bids and Non-De Minimis Offers respectively.

### 2. Arbitrage

2.1 In respect of each Settlement Period, Arbitrage Accepted Offers and Arbitrage Accepted Bids will be defined in the following way.

2.2 If, for the highest priced accepted non-De Minimis Bid,  $QAPB_{ij}^g$  (if any) which is not an Arbitrage Accepted Bid, there exists any accepted non-De Minimis Offer which is not an Arbitrage Accepted Offer  $QAPO_{ij}^n$  for which it is true that  $PO_{ij}^n \leq PB_{ij}^g$ , then the following procedure will be carried out:

- (a) All accepted Non-De Minimis Offers for which  $PO_{ij}^n \leq PB_{ij}^g$  will be ranked in price order, cheapest first.

- (b) The set of accepted Non-De Minimis Offers  $\{QAPO^{n_1}_{ij}, QAPO^{n_2}_{ij}, \dots, QAPO^{n_w}_{ij}\}$  is then a ranked set of accepted Offers for all of which it is true that  $PO^{n_w}_{ij} \leq PB^g_{ij}$ .

*Replace QAPO with QAO in the equation*

- (c) Then for all v such that

$$\sum^v QAPO^{n_v}_{ij} \leq -QAPB^g_{ij}$$

where  $\sum^v$  is the sum over all ranked accepted Non-De Minimis Offers up to v,

the  $QAPO^{n_v}_{ij}$  will be defined as Arbitrage Accepted Offers and the fraction  $\phi$  of  $QAPB^g_{ij}$  which is equal to  $\sum^v (-QAPO^{n_v}_{ij})$  will be defined as an Arbitrage Accepted Bid (this fraction may be one (1)).

*Replace QAPO with QAO and QAPB with QAB in the above equations*

- (d) If:

$$\sum^v QAPO^{n_v}_{ij} < -QAPB^g_{ij}$$

where  $\sum^v$  is the sum over all ranked accepted Non-De Minimis Offers up to v,

then, if a ranked accepted Non-De Minimis Offer, v+1 exists, the fraction  $\gamma$  of  $QAPO^{n_{v+1}}_{ij}$  which satisfies

$$\sum^p QAPO^{n_v}_{ij} + \gamma * QAPO^{n_{v+1}}_{ij} = -QAPB^g_{ij}$$

will also be defined as an Arbitrage Accepted Offer and  $QAPB^g_{ij}$  will be defined as an Arbitrage Accepted Bid. All accepted Bids and accepted Offers which are not Arbitrage Accepted Bids and Arbitrage Accepted Offers will be defined as Non-arbitrage Bids and Non-arbitrage Offers respectively.

*Replace QAPO with QAO and QAPB with QAB in the above equations*

2.3 The process in paragraphs 2.1 and 2.2 will then be repeated for the highest priced accepted Non-De Minimis Bid (if any) that remains a Non-arbitrage Bid.

2.4 If, for the purposes of carrying out the procedure in paragraphs 2.1 and 2.2:

- (a) there are two or more accepted Non-De Minimis Bids that are Non-arbitrage Bids, that have the same highest Bid Price, or
- (b) there are two or more ranked accepted Non-De Minimis Offers that have the same Offer Price

then one of the accepted Bids or (as the case may be) ranked accepted Offers will be selected at random.

2.5 If the completed application of paragraphs 2.1 to 2.4 inclusive (the 'initial calculation') would result in there being any accepted Non-De Minimis Bid or ranked accepted Non-De Minimis Offer which:

- (1) is not an Arbitrage Accepted Bid or (as the case may be) Arbitrage Accepted Offer, but
- (2) has the same price (other than merely by virtue of being a fraction  $(1 - \gamma)$  or  $(1 - \phi)$  pursuant to the initial calculation) as an accepted Non-De Minimis Bid which is an Arbitrage Accepted Bid or (as the case may be) ranked accepted Non-De Minimis Offer which is an Arbitrage Accepted Offer,

then:

- (i) all such accepted Non-De Minimis Bids  $QAPB^{n_r}_{ij}$  or ranked accepted Non-De Minimis Offers  $QAPO^{n_r}_{ij}$  (whether or not Arbitrage Accepted Bids or Arbitrage Accepted Offers on the basis of the initial calculation) which have the same price are "threshold Bids" or "threshold Offers";
- (ii) no threshold Bid or threshold Offer shall be defined as an Arbitrage Accepted Bid or Arbitrage Accepted Offer pursuant to the relevant provision, but instead the fraction  $\delta$  of each threshold Bid  $QAPB^{n_r}_{ij}$  or threshold Offer  $QAPO^{n_r}_{ij}$  which satisfies the following shall be defined as a Arbitrage Accepted Bid or (as the case may be) Arbitrage Accepted Offer:

$$\delta * \sum^{n_r} QAPB^{n_r}_{ij} = \sum^{n_{r'}} QAPB^{n_{r'}}_{ij}$$

or (as the case may be)

$$\delta * \sum^{n_r} QAPO^{n_r}_{ij} = \sum^{n_{r'}} QAPO^{n_{r'}}_{ij}$$

where

$\sum^{n_r}$  is the sum over all threshold Bids or (as the case may be) threshold Offers, and

$\sum^{n_{r'}}$  is the sum over all threshold Bids or (as the case may be) threshold Offers (including a fraction  $\gamma$  or  $\phi$ ) which, on the basis of the initial calculation would have been defined as Arbitrage Accepted Bids or Arbitrage Accepted Offers.

*Replace QAPO with QAO and QAPB with QAB in the above equations*

### 3 NIV Tagging

3.1 In respect of each Settlement Period, NIV Tagged Offers, NIV Tagged Bids, NIV Tagged EBVA, NIV Tagged SBVA, NIV Tagged ESVA, and NIV Tagged SSVA, ~~NIV Tagged System Total Un-priced Offer Volume and NIV Tagged System Total Un-priced Bid Volume~~ will be defined in the following way:

(a) If:

$$\{\{\sum^{n'} (-QAPB^{n'}_{ij})\} + (-ESVA_j) + (-SSVA_j) + (-TQUAB_j)\} = 0$$

where  $\sum^{n'}$  is the sum over those accepted Bids that are both Non-De Minimis Bids and Non-arbitrage Bids; or

$$\{\{\sum^{n^*} QAPO^{n^*}_{ij}\} + EBVA_j + SBVA_j + TQUAO_j\} = 0$$

where  $\sum^{n^*}$  is the sum over those accepted Offers that are both Non-De Minimis Offers and Non-arbitrage Offers:

then no Bids or Offers or ESVA volume or SSVA volume or EBVA volume or SBVA volume ~~or System Total Un-priced Offer Volume or System Total Un-priced Bid Volume~~ will be NIV Tagged.

(c) Otherwise, the following procedure will be carried out. The set of all accepted Bids, which are neither De Minimis Bids nor Arbitrage Accepted Bids, will be ranked in price order, cheapest first (where the cheapest is allocated a  $n'$  value of 1, the next cheapest a  $n'$  value of 2 and so on). In any case where such Bids have the same price as each other, the ordering of such Bids will be random, subject to paragraph (g). The set of Non-De Minimis and Non-arbitrage Bids  $\{QAPB^{n'_1}_{ij}, QAPB^{n'_2}_{ij}, \dots, QAPB^{n'_w}_{ij}\}$  is then a set of "**Ranked Priced Bids**".

*Replace QAPB with QAB in the above equations*

The Sell Price Volume Adjustment (Energy) ( $ESVA_j$ ) will be added into the set of Ranked ~~Priced~~ Bids according to the Sell Price Cost Adjustment (Energy) ( $ESCA_j$ ) (converted to a price in £/MWh, i.e.  $ESCA_j / ESVA_j$ ). The volume will, for the purposes of the NIV calculation only, be assigned an ~~n~~  $n'$  value and the  $n'$  values of the Ranked ~~Priced~~ Bids will be adjusted accordingly. The set of Ranked ~~Priced~~ Bids including the Sell Price Volume Adjustment (Energy) ( $ESVA_j$ ) will then be a set of "**Ranked Bids**".

Where the price of the Sell Price Volume Adjustment (Energy) is the same as any other Ranked ~~Priced~~ Bid, then the Sell Price Volume Adjustment (Energy) volume will be given the highest  $n'$  value of the Bid(s) with the same price.

~~The System Total Un-priced Bid Volume ( $TQUAB_j$ ) will then be added into the set of Ranked Bids as  $n' = 1$  and the  $n'$  values of the Ranked Bids will be adjusted accordingly. The volume will, for the purposes of the NIV calculation only, be assigned a  $n'$  value.~~

The Sell Price Volume Adjustment (System) ( $SSVA_j$ ) will then be added into the set of Ranked Bids as  $n' = 2$  and the  $n'$  values of the Ranked Bids will be adjusted accordingly. The volume will, for the purposes of the NIV calculation only, be assigned a  $n'$  value.

This then, for the purposes of the NIV Tagging calculation only, will constitute a set of "**Ranked Bid Volumes**", as follows:

$$\langle (-TQUAB^{n'_j}), (-SSVA^{n'_j}), ((-QAPB^{n'_1}_{ij} \dots) (-ESVA^{n'_j})) \rangle$$

The set of all accepted Offers, which are neither De Minimis Offers nor Arbitrage Accepted Offers will be ranked in price order, most expensive first (where the most expensive is allocated a n\* value of 1, the next most expensive a n\* value of 2 and so on). In any case where such Offers have the same price as each other, the ordering of such Offers will be random, subject to paragraph (g). The set of Non-De Minimis and Non-arbitrage Offers  $\{QAPO^{n^*}_{ij}, QAPO^{n^*}_{ij}, \dots, QAPO^{n^*x}_{ij}\}$  is then a set of "**Ranked Priced Offers**".

*Replace QAPO with QAO in the above equations*

The Buy Price Volume Adjustment (Energy) (EBVA<sub>j</sub>) will be added into the set of Ranked **Priced** Offers according to the Buy Price Cost Adjustment (Energy) (EBCA<sub>j</sub>) (converted to a price in £/MWh, i.e. EBCA<sub>j</sub> / EBVA<sub>j</sub>). The volume will, for the purposes of the NIV calculation only, be assigned a n\* value and the n\* values of the Ranked **Priced** Offers will be adjusted accordingly. The set of Ranked **Priced** Offers including the Buy Price Volume Adjustment (Energy) (EBVA<sub>j</sub>) will then be a set of "**Ranked Offers**".

Where the price of the Buy Price Volume Adjustment (Energy) is the same as any other Ranked **Priced** Offer, then the Buy Price Volume Adjustment (Energy) volume will be given the highest n\* value of the Offer(s) with the same price.

~~The System Total Un-priced Offer Volume (TQUAO<sub>j</sub>) will then be added into the set of Ranked Offers as n\*=1 and the n\* values of the Ranked Offers will be adjusted accordingly. The volume will, for the purposes of the NIV calculation only, be assigned a n\* value.~~

The Buy Price Volume Adjustment (System) (SBVA<sub>j</sub>) will then be added into the set of Ranked Offers as n\* = 2 1 and the n\* values of the Ranked Offers will be adjusted accordingly. The volume will, for the purposes of the NIV calculation only, be assigned a n\* value.

This then, for the purposes of the NIV Tagging calculation only, will constitute a set of "**Ranked Offer Volumes**", as follows:

$$(\del{TQUAO}^{n^*}_j); (SBVA^{n^*}_j), ((QAPO^{n^*}_{ij} \dots) (EBVA^{n^*}_j))$$

(c) If:

$$\{\sum^{n'} (-QAPB^{n'}_{ij}) + (-ESVA^{n'}_j) + (-SSVA^{n'}_j) + (\del{TQUAB}^{n^*}_j)\} \leq \{\sum^{n^*} QAPO^{n^*}_{ij} + EBVA^{n^*}_j + SBVA^{n^*}_j + \del{TQUAO}^{n^*}_j\}$$

where  $\sum^{n'}$  is the sum over the Ranked **Priced** Bids and  $\sum^{n^*}$  is the sum over the Ranked **Priced** Offers,

then all the Ranked Bid Volumes (for all values of n') will be defined as NIV Tagged Bids, or the NIV Tagged ESVA, or the NIV Tagged SSVA ~~or the NIV Tagged System Total Un-priced Bid Volume~~ (as the case may be).

(d) Since  $\{\sum^{n'} (-QAPB^{n'}_{ij}) + (-ESVA^{n'}_j) + (-SSVA^{n'}_j) + (\del{TQUAB}^{n^*}_j)\} \leq \{\sum^{n^*} QAPO^{n^*}_{ij} + EBVA^{n^*}_j + SBVA^{n^*}_j + \del{TQUAO}^{n^*}_j\}$  there must exist a number e and a number φ (which may be a fraction or zero) for which

$$\{\Sigma^{n'}(-QAPB^{n'}_{ij}), (-ESVA^{n'}_j), (-SSVA^{n'}_j), (-TQUAB^{n'}_j)\} = \{(\Sigma^{n* v < e} (QAPO^{n* v}_{ij}), (EBVA^{n* v}_j), (SBVA^{n* v}_j), (-TQUAO^{n* v}_j)) + \varphi * ((QAPO^{n* e}_{ij}), (EBVA^{n* e}_j), (SBVA^{n* e}_j), (-TQUAO^{n* e}_j))\}$$

where  $\Sigma^{n'}$  is the sum over all Ranked Bid Volumes and  $\Sigma^{n* v < e}$  is the sum over those Ranked Offer Volumes for which v is less than e.

Subject to paragraph (g), each Ranked Offer Volume of the Ranked Offer Volumes numbered 1 to e-1 for which this is true will be defined as NIV Tagged Offers, or the NIV Tagged EBVA, or the NIV Tagged SBVA, ~~or the NIV Tagged System Total Un-priced Offer Volume~~ (as the case may be). If  $\varphi$  is a fraction rather than 0, then the fraction  $\varphi$  of the Ranked Offer Volume numbered e will be defined as a NIV Tagged Offer, the NIV Tagged EBVA, or the NIV Tagged SBVA, ~~or the NIV Tagged System Total Un-priced Offer Volume~~ (as the case may be).

For the purposes of the energy imbalance price calculation (Section T 4.4.5 and 4.4.6):

The NIV Untagged EBVA (UEBVA<sub>j</sub>) is the portion of Buy Price Volume Adjustment (Energy) (EBVA<sub>j</sub>) which is not NIV Tagged EBVA (TEBVA<sub>j</sub>) for the relevant Settlement Period. If none of the Buy Price Volume Adjustment (Energy) (EBVA<sub>j</sub>) is NIV Tagged EBVA, the NIV Untagged EBVA shall be equal to the Buy Price Volume Adjustment (Energy) (EBVA<sub>j</sub>) (and the NIV Tagged EBVA shall be set to zero). If all of the Buy Price Volume Adjustment (Energy) (EBVA<sub>j</sub>) is NIV Tagged EBVA, the NIV Untagged EBVA shall be set to zero.

The NIV Untagged EBCA (UEBCA<sub>j</sub>) is then the portion of the Buy Price Cost Adjustment (Energy) associated with the NIV Untagged EBVA for the relevant Settlement Period determined as follows:

$$UEBCA_j = UEBVA_j * (EBCA_j / EBVA_j)$$

For the purposes of reporting:

If none of the Buy Price Volume Adjustment (System) (SBVA<sub>j</sub>) for the relevant Settlement Period is NIV Tagged SBVA (TSBVA<sub>j</sub>), the value of NIV Tagged SBVA (TSBVA<sub>j</sub>) shall be set to zero for that Settlement Period.

~~If none of the System Total Un-priced Offer Volume for the relevant Settlement Period is NIV Tagged System Total Un-priced Offer Volume (TTQUAO<sub>j</sub>), the value of NIV Tagged System Total Un-priced Offer Volume (TTQUAO<sub>j</sub>) shall be set to zero for that Settlement Period.~~

(e) If:

$$\{\Sigma^{n'} (-QAPB^{n'}_{ij}) + (-ESVA^{n'}_j) + (-SSVA^{n'}_j) + (-TQUAB^{n'}_j)\} > \{\Sigma^{n*} QAPO^{n*}_{ij} + EBVA^{n*}_j + SBVA^{n*}_j + TQUAO^{n*}_j\}$$

where  $\Sigma^{n'}$  is the sum over the Ranked ~~Priced~~-Bids and  $\Sigma^{n*}$  is the sum over the Ranked ~~Priced~~-Offers,

then all the Ranked Offer Volumes (for all values of n\*) will be defined as NIV Tagged Offers, or the NIV Tagged EBVA, or the NIV Tagged SBVA, ~~or the NIV Tagged System Total Un-priced Offer Volume~~ (as the case may be).

- (f) Since  $\{\sum^{n^*} (-QAPB^{n^*}_{ij}) + (-ESVA^{n^*}_j) + (-SSVA^{n^*}_j) + (-TQUAB^{n^*}_j)\} > \{\sum^{n^*} QAPO^{n^*}_{ij} + EBVA^{n^*}_j + SBVA^{n^*}_j + TQUAO^{n^*}_j\}$  there must exist a number e and a number  $\phi$  (which may be a fraction or zero) for which

$$\{\sum^{n^*} (QAPO^{n^*}_{ij}), (EBVA^{n^*}_j), (SBVA^{n^*}_j), (TQUAO^{n^*}_j)\} = \{(\sum^{n^* v < e} (-QAPB^{n^* v}_{ij}), (-ESVA^{n^* v}_j), (-SSVA^{n^* v}_j), (-TQUAB^{n^* v}_j)) + \phi * ((-QAPB^{n^* e}_{ij}), (-ESVA^{n^* e}_j), (-SSVA^{n^* e}_j), (-TQUAB^{n^* e}_j))\}$$

where  $\sum^{n^*}$  is the sum over all Ranked Offer Volumes and  $\sum^{n^* v < e}$  is the sum over those Ranked Bid Volumes for which v is less than e.

Subject to paragraph (g), each Ranked Bid Volume of the Ranked Bid Volumes numbered 1 to e-1 for which this is true will be defined as NIV Tagged Bids, or the NIV Tagged ESVA, or the NIV Tagged SSVA ~~or the NIV Tagged System Total Un-priced Bid Volume~~ (as the case may be). If  $\phi$  is a fraction rather than 0, then the fraction  $\phi$  of the Ranked Bid Volume numbered e will be defined as a NIV Tagged Bid, or the NIV Tagged ESVA, or the NIV Tagged SSVA ~~or the NIV Tagged System Total Un-priced Bid Volume~~ (as the case may be).

For the purposes of the energy imbalance price calculation (Section T 4.4.5 and 4.4.6):

The NIV Untagged ESVA (UESVA<sub>j</sub>) is the portion of the Sell Price Volume Adjustment (Energy) (ESVA<sub>j</sub>) which is not NIV Tagged ESVA (TESVA<sub>j</sub>) for the relevant Settlement Period. If none of the Sell Price Volume Adjustment (Energy) (ESVA<sub>j</sub>) is NIV Tagged ESVA, the NIV Untagged ESVA shall be equal to the Sell Price Volume Adjustment (Energy) (ESVA<sub>j</sub>) (and the NIV Tagged ESVA shall be set to zero). If all of the Sell Price Volume Adjustment (Energy) (ESVA<sub>j</sub>) is NIV Tagged ESVA, the NIV Untagged ESVA shall be set to zero.

The NIV Untagged ESCA (UESCA<sub>j</sub>) is then the portion of the Sell Price Cost Adjustment (Energy) (ESCA<sub>j</sub>) associated with the NIV Untagged ESVA for the relevant Settlement Period determined as follows:

$$UESCA_j = UESVA_j * (ESCA_j / ESVA_j)$$

For the purposes of reporting:

If none of the Sell Price Volume Adjustment (System) (SSVA<sub>j</sub>) for the relevant Settlement Period is NIV Tagged SSVA (TSSVA<sub>j</sub>), the value of NIV Tagged SBVA (TSSVA<sub>j</sub>) shall be set to zero for that Settlement Period.

~~If none of the System Total Un-priced Bid Volume for the relevant Settlement Period is NIV Tagged System Total Un-priced Bid Volume (TTQUAB<sub>j</sub>), the value of NIV Tagged System Total Un-priced Offer Volume (TTQUAO<sub>j</sub>) shall be set to zero for that Settlement Period.~~

- (g) However, for each of paragraphs (c), (d), (e) and (f) (each a "relevant provision") separately, if the application of the relevant provision (the "initial

calculation") would result in there being any Ranked Bid or Ranked Offer which:

- (1) is not defined as (as the case may be) a NIV Tagged Bid, NIV Tagged Offer, NIV Tagged ESVA or NIV Tagged EBVA, but
- (2) has the same price (other than merely by virtue of being a fraction  $(1 - \phi)$  pursuant to the initial calculation) as, in the case of a Ranked Bid, a Ranked Bid which is a NIV Tagged Bid or NIV Tagged ESVA or, in the case of Ranked Offer, a Ranked Offer which is a NIV Tagged Offer or NIV Tagged EBVA,

then:

- (i) all such Ranked Bids  $QAPB^{n'_r}_{ij}$  or  $ESVA^{n'_r}_j$  or Ranked Offers  $QAPO^{n'_r}_{ij}$  or  $EBVA^{n'_r}_j$  (whether or not NIV Tagged Bids, NIV Tagged ESVA, NIV Tagged Offers or NIV Tagged EBVA on the basis of the initial calculation) which have the same price are "threshold Bids" (in the case of Ranked Bids) or "threshold Offers" (in the case of Ranked Offers);

*Replace QAPO with QAO and QAPB with QAB in the above equations*

- (ii) no threshold Bid or threshold Offer shall be defined as a NIV Tagged Bid or NIV Tagged ESVA or NIV Tagged Offer or NIV Tagged EBVA (as the case may be) pursuant to the relevant provision, but instead the fraction  $\delta$  of each threshold Bid  $QAPB^{n'_r}_{ij}$  or  $ESVA^{n'_r}_j$  or threshold Offer  $QAPO^{n'_r}_{ij}$  or  $EBVA^{n'_r}_j$  which satisfies the following shall be defined as NIV Tagged Bids, NIV Tagged ESVA, NIV Tagged Offers or NIV Tagged EBVA (as the case may be):

$$\delta * (\sum^{n'_r} QAPB^{n'_r}_{ij}, ESVA^{n'_r}_j) = \sum^{n'_r} QAPB^{n'_r}_{ij}, ESVA^{n'_r}_j$$

or (as the case may be)

$$\delta * (\sum^{n'_r} QAPO^{n'_r}_{ij}, EBVA^{n'_r}_j) = \sum^{n'_r} QAPO^{n'_r}_{ij}, EBVA^{n'_r}_j$$

where

$\sum^{n'_r}$  is the sum over all threshold Bids or (as the case may be) threshold Offers, and

$\sum^{n'_r}$  is the sum over all threshold Bids or (as the case may be) threshold Offers (including a fraction  $\phi$  thereof) which, on the basis of the initial calculation would have been defined as NIV Tagged Bids or NIV Tagged ESVA or (as the case may be) NIV Tagged Offers or NIV Tagged EBVA.

*Replace QAPO with QAO and QAPB with QAB in the above equations*

ANNEX X-2: TECHNICAL GLOSSARY

Table X-1

Use of Subscripts and Superscripts Applying Except in Relation to Section S

Symbol	Parameter
w	The order number of a ranked accepted Offer or a Ranked <del>Priced</del> -Bid
x	The order number of a Ranked <del>Priced</del> Offer

Table X-2

Terms and Expressions Applying Except in Relation to Section S

Defined Term	Acronym	Units	Definition/Explanatory Text
<del>Continuous Acceptance Duration</del>	<del>CAD<sub>k</sub><sup>k</sup></del>	<del>Minutes</del>	<del>The quantity determined in accordance with paragraph 3.1A of Section T.</del>  <del>The Continuous Acceptance Duration determined in relation to each Acceptance k, as the period of time from earliest spot time associated with Acceptance k, or any other continuous acceptance, to the latest spot time associated with Acceptance k or any other continuous acceptance.</del>
<del>Continuous Acceptance Duration Limit</del>	<del>CADL</del>	<del>Minutes</del>	<del>The value established and from time to time revised and approved in accordance with Section T3.1B</del>
<del>NIV Tagged System Total Un-priced Bid Volume</del>	<del>TTQUAB<sub>j</sub></del>	<del>MWh</del>	<del>Has the meaning given to that term in Annex T-1.</del>
<del>NIV Tagged System Total Un-priced Offer Volume</del>	<del>TTQUAO<sub>j</sub></del>	<del>MWh</del>	<del>Has the meaning given to that term in Annex T-1.</del>
<del>Period BM Unit Total Priced Accepted Bid Volume</del>	<del>QAPB<sub>ij</sub><sup>n</sup></del>	<del>MWh</del>	<del>The quantity determined in accordance with Section T3.9A.</del>  <del>The period BM Unit Total Priced Accepted Bid Volume is the quantity of Bid n, accepted in respect of BM Unit i, in Settlement Period j, as a result of all Acceptances that may contribute to the determination of System Sell Price.</del>
<del>Period BM Unit Total Priced</del>	<del>QAPON<sub>ij</sub></del>	<del>MWh</del>	<del>The quantity determined in accordance with</del>

Defined Term	Acronym	Units	Definition/Explanatory Text
Accepted Offer Volume			<p><del>Section T3.9A:</del></p> <p><del>The period BM Unit Total Priced Accepted Offer Volume is the quantity of Offer n, accepted in respect of BM Unit i, in Settlement Period j, as a result of all Acceptances that may contribute to the determination of System Buy Price.</del></p>
Period Priced Accepted Bid Volume	$QAPB_{ij}^{kn}$	MWh	<p><del>The quantity determined in accordance with Section T3.8A:</del></p> <p><del>The Period Priced Accepted Bid Volume is the volume of Bid n, accepted in respect of BM Unit i I, in Settlement Period j, as a result of Acceptance k that may contribute to the determination of System Sell Price.</del></p>
Period Priced Accepted Offer Volume	$QAPO_{ij}^{kn}$	MWh	<p><del>The quantity determined in accordance with Section T3.8A:</del></p> <p><del>The Period Priced Accepted Offer Volume is the volume of Offer n, accepted in respect of BM Unit i I, in Settlement Period j, as a result of Acceptance k that may contribute to the determination of System Buy Price.</del></p>
System Total Un-Priced Accepted Bid Volume	$TQUAB_j$	MWh	<p><del>The quantity determined in accordance with Section T4.4.2B:</del></p> <p><del>The System Total Un-Priced Accepted Bid Volume is the difference between the System Total Accepted Bid Volume and the sum of the Period BM Unit Priced Accepted Bid Volume over all BM Units in Settlement Period j.</del></p>
System Total Un-Priced Accepted Offer Volume	$TQUAO_j$	MWh	<p><del>The quantity determined in accordance with Section T4.4.2A:</del></p> <p><del>The System Total Un-Priced Accepted Offer Volume is the difference between the System Total Accepted Offer Volume and the sum of the Period BM Unit Priced Accepted Offer Volume over all BM Units in Settlement Period j.</del></p>
Total Accepted Priced Bid Volume	$TQPAB_j$	MWh	<p><del>The quantity determined in accordance with Section T4.4.8:</del></p> <p><del>Total Accepted Priced Bid Volume for Settlement Period j is the sum of the Period BM Unit Total Accepted Bid Volume over all</del></p>

Defined Term	Acronym	Units	Definition/Explanatory Text
			<del>BM Units and over all accepted Bids that are not Arbitrage Accepted Bids or NIV Tagged Bids.</del>
Total Accepted Priced Offer Volume	TQPAO <sub>j</sub>	MWh	The quantity determined in accordance with Section T4.4.7.  <del>Total Accepted Priced Offer Volume for Settlement Period j is the sum of the Period BM Unit Total Accepted Offer Volume over all BM Units and over all accepted Offers that are not Arbitrage Accepted Offers or NIV Tagged Offers.</del>

Table X-3

**Glossary of Acronyms Applying Except In Relation To Section S**

Acronym	Units	Corresponding Defined Term or Expression
<del>CAD<sub>it</sub></del>	<del>Minutes</del>	<del>Continuous Acceptance Duration</del>
<del>CADL</del>	<del>Minutes</del>	<del>Continuous Acceptance Duration Limit</del>
<del>QAPB<sup>kn</sup><sub>ij</sub></del>	<del>MWh</del>	<del>Period Priced Accepted Bid Volume</del>
<del>QAPB<sup>n</sup><sub>ij</sub></del>	<del>MWh</del>	<del>Period BM Unit Total Priced Accepted Bid Volume</del>
<del>QAPO<sup>kn</sup><sub>ij</sub></del>	<del>MWh</del>	<del>Period Priced Accepted Offer Volume</del>
<del>QAPO<sup>n</sup><sub>ij</sub></del>	<del>MWh</del>	<del>Period BM Unit Total Priced Accepted Offer Volume</del>
<del>TQPAB<sub>j</sub></del>	<del>MWh</del>	<del>Total Accepted Priced Bid Volume</del>
<del>TQPAO<sub>j</sub></del>	<del>MWh</del>	<del>Total Accepted Priced Offer Volume</del>
<del>TQUAB<sub>j</sub></del>	<del>MWh</del>	<del>System Total Un-Priced Accepted Bid Volume</del>
<del>TQUAO<sub>j</sub></del>	<del>MWh</del>	<del>System Total Un-Priced Accepted Offer Volume</del>
<del>TTQUAB<sub>j</sub></del>	<del>MWh</del>	<del>NIV Tagged System Total Un-priced Bid Volume</del>
<del>TTQUAO<sub>j</sub></del>	<del>MWh</del>	<del>NIV Tagged System Total Un-priced Offer Volume</del>