

Direct Dial: 020-7901 7327

22 August 2001

The National Grid Company, BSC Signatories and
Other Interested Parties

Your Ref:
Our Ref : MP No: P18

Dear Colleague,

Modification to the Balancing and Settlement Code ("BSC") – Decision and Direction in relation to Modification Proposal P18: "Removing/Mitigating the effect of System Balancing Action in the Imbalance Price Calculations"

The Gas and Electricity Markets Authority (the "Authority") has carefully considered the issues raised in modification proposal P18: "Removing/Mitigating the effect of the System Balancing Action in the Imbalance Price Calculations".

The Balancing and Settlement Code Panel (the "Panel") recommended to the Authority that Modification Proposal P18A Continuous Instruction Duration ("CID")-definition 1a should be implemented and that the value of the Continuous Acceptance Duration Limit¹ ("CADL") should initially be set at 15 minutes. The Panel also recommended to the Authority that no modification to the BSC should be made in respect of Modification Proposal P18B. The Panel recommended that Modification Proposal P18A should be implemented on the Settlement Day falling 5 weeks after the latter of (a) 1 August 2001 and (b) the date on which the Authority's decision to approve the Modification Proposal is made.

The Authority agrees with the majority of the Panel's recommendations and has decided to direct a Modification to the BSC in accordance with Modification Proposal P18A CID definition 1a. However, the Authority has not taken a decision in relation to Modification Proposal P18B, since the consideration of Modification

¹ As outlined in the Panel's Report to the Authority on 13 July 2001, the CADL is also referred to as the Continuous Instruction Duration Limit, or CID Limit. The term CID Limit was particularly used during the consultation on the Modification Proposal.

Proposal P18B was deferred on 20 June 2001 until the feasibility of Modification Proposal P18A was confirmed.

This letter explains the background to the Modification Proposal and sets out the Authority's reasons for its decision. In addition, the letter contains a direction to The National Grid Company plc ("NGC") to modify the BSC as set out in Modification Proposal P18A CID-definition 1a.

Background to the proposal

The Balancing Mechanism ("BM") was designed to enable NGC, amongst other things, as the System Operator ("SO"), to keep the transmission system (the "System") in Electricity Balance close to, and in, real time by adjusting levels of generation and demand in the light of the bids and offers submitted. The BM is also used by the SO to ensure that the System remains within safe operating limits², and that the pattern of generation and demand is consistent with any System transmission constraints. NGC, as SO, therefore incurs costs which can be divided between costs associated with 'Electricity Balancing' and 'System Balancing'.

In the first two months of operation of NETA, participants became concerned that some costs associated with System Balancing actions were being included in the calculation of Energy Imbalance Prices. Participants were concerned that this was leading to Energy Imbalance Prices, which did not reflect the costs of Electricity Imbalances.

On 22 May 2001, Vattenfall AB proposed a modification to the BSC, Modification Proposal P15, which sought to remove Price Spikes associated with System Balancing from Energy Imbalance Prices. On 23 May 2001, NGC proposed two modifications to the BSC, Modification Proposal P18 (options A and B), which sought to remove/mitigate the effect of System Balancing action in the Energy Imbalance Price Calculations and were aimed to address the same problem as Modification Proposal P15.

Ofgem³ considers that, although contained in a single application, Modification Proposal P18A and Modification Proposal 18B were properly considered to be two separate Modification Proposals.

² As prescribed by The Electricity Supply Regulations, 1988 (amended 1998) and consistent with its statutory duties and licence conditions.

³ Ofgem is the office of the Authority. The terms "Ofgem" and "Authority" are used interchangeably in this document.

Vattenfall AB requested that Modification Proposal P15 be treated as an Urgent Modification. The Panel agreed with this request. In addition, the Panel combined Modification Proposal P15 with Modification Proposal P18A and Modification Proposal P18B for joint assessment. The Authority granted the combined Proposed Modification urgent status and agreed the process and the timetable for the combined Modification Proposal in accordance with Section F2.9 of the BSC on 25 May 2001.

The Modification Proposals

Modification Proposal P15 seeks to tag and exclude Bid Offer Acceptances ("BOAs") with an acceptance time less than 30 minutes before the start of the real time half-hour period from the calculation of the System Buy Price ("SBP") and System Sell Price ("SSP").

Modification Proposal P18 includes two options; Modification Proposal P18A and Modification Proposal P18B:

- Modification Proposal P18A proposes to tag and remove from Energy Imbalance Prices BOAs that are less than 15 minutes in duration. In determining which bids or offers are excluded, Modification Proposal P18A considers the Continuous Acceptance Duration ("CAD") of a single acceptance, or group of acceptances. The Continuous Instruction Duration ("CID") is the time against which each CAD is assessed. If a single acceptance, or group of acceptances, which makes up a CAD is less than the CID limit, then the relevant bids or offers will not be included in calculating Energy Imbalance Prices.
- Modification Proposal P18B proposes that the Balancing Reserve Level ("BRL") should be set as a minimum volume of balancing actions from which the Energy Imbalance Prices can be set. When there is a smaller volume of actions, the imbalance price would be set as a weighted average of the price derived from the current rules, and the default price that would apply if no balancing actions had been taken. The weighting would be in proportion to the volume of balancing actions, and BRL minus this volume, respectively.

At the Modification Group two variants on Modification Proposal 18A were discussed and these were included in the Urgent Modification Consultation Document:

- Option 18A(i) proposes that the criteria for tagging BOAs would be applied to each acceptance individually. It therefore disregards multiple acceptances for the same BM Unit⁴.
- Option 18A(ii) proposes using a MWh test to exclude specific BOAs rather than a test based on a CID. ⁵

The initial Consultation Document on Modification Proposals P15, P18A and P18B was issued for comment on 5 June 2001. After consideration of the consultation responses and discussion at the Modification Group meeting, an interim report was issued to the Panel on 13 June 2001. In its report, the Modification Group recommended that an enduring solution should be assessed for Modification Proposal P18A while the consideration of Modification Proposal P15 and Modification Proposal P18B should be deferred, awaiting confirmation of the feasibility of Modification Proposal P18A.

The Modification Group decided to proceed with Modification Proposal P18A as it believed that it would provide a more enduring solution and it would also take less time to implement than Modification Proposal P15. The Panel and the Authority agreed with this recommendation and process.

Given that it was likely that an enduring solution would take six months to implement because of the need to develop, test and implement changes to the central IT systems used to calculate imbalance prices, assessment of both an enduring solution and a workaround was progressed for Modification Proposal P18A. The Modification Group identified and discussed nine CID definitions to assess which acceptances should be included when determining each CAD. Having considered all the

⁴ This was put forward by the Modification Group as an option as it was believed that it made Modification Proposal P18A easier to implement. However respondents thought that it may give NGC significant latitude to determine whether or not acceptances were included in the Imbalance Price Calculations depending on how NGC formatted acceptances. It was also uncertain whether such a change to the Proposed Modification would mean that it is easier to implement. In light of respondents views this alternative option was not progressed by the Panel.

⁵ Option 18A (ii) was also considered as easier to implement than Modification Proposal P18A. However respondents recognised that this was not an ideal solution as for example a System Balancing action of 5 minutes and high MW could be for a greater amount of electricity than an Electricity Balancing action of 45 minutes in duration and only a few MW. It was therefore problematic to determine the correct MWh parameter to differentiate between System and Electricity Balancing actions. The Panel therefore did not progress this option.

potential definitions the Modification Group decided to consult on three CID definitions, namely CID-definitions 1a, 3 and 0.

This second consultation document was issued on 5 July 2001 and described CID-definition 1a, CID-definition 3 and CID-definition 0 as follows:

- CID-definition 1a seeks to exclude BOAs from imbalance price calculations for a settlement period if the CADL exceeds the CAD. The definition seeks to identify whether a group of one or more overlapping acceptances has an overall duration less than the CADL. In this event all acceptances for that particular BM Unit in that Settlement Period will be excluded from imbalance price calculations.
- CID-definition 3 identifies one or more overlapping acceptances by measuring their deviation from Final Physical Notification ("FPN") and compares this value of CAD against the CADL in order to determine which BOAs are excluded from the imbalance price calculations. The methodology would then proceed by recalculating the accepted bids and offers based on those parts of acceptances which were not excluded.
- CID-definition 0 is a simplification of CID-definition 1a and suggests removing only those acceptances where the first acceptance in a group of acceptances has a CAD less than the CADL.

The Modification Group issued a final report to the Panel on Modification Proposal P18A and Modification Proposal P18B on 12 July 2001. In this report the Modification Group recommended that Modification P18A should be implemented with an interim solution based on CID-definition 1a initially via a workaround and that either CID-definition 1a or CID-definition 3 should be implemented as the enduring solution. It was additionally recommended that the initial value of CADL should be set at 15 minutes. The Modification Group recommended that no further action should be taken in relation to Modification Proposal P18B.

Respondents' views

ELEXON received 21 responses to the initial consultation on Modification Proposals P15, P18A and P18B. Of the responses, 14 favoured one of the potential solutions and seven favoured a "wait and see" approach to allow the new arrangements time to 'bed down'.

The majority of the respondents, who supported a change, favoured Modification Proposal P15, as it was thought that this would be quicker to implement than either of

the alternatives, but not necessarily because it was considered to be the better longer term solution.

A number of other respondents believed that, whilst no rule could perfectly distinguish between System Balancing and Electricity Balancing actions, Modification Proposal P18A offers a solution that excludes most System Balancing actions while it excludes relatively few Electricity Balancing actions. The respondents in favour of Modification Proposal P18A generally supported it on the basis that it was the more intellectually pure and robust solution. One respondent suggested that Modification Proposal P18A would better distinguish between System Balancing actions and Electricity Balancing actions than Modification Proposal P15. Moreover, respondents suggested that Modification Proposal P18A would better facilitate the relevant BSC Objectives in comparison to Modification Proposal P15 because fewer Electricity Balancing actions would be excluded from the calculation of Energy Imbalance Prices.

At a meeting on 12 June 2001, ELEXON clarified that, whilst Modification Proposal P15 might be a simpler modification, the incremental time associated with differences in technical complexity was likely to be small. The Modification Group accepted ELEXON's view and recommended to the Panel that given the urgency of the Modification Proposals and the resource implications of undertaking further development of each proposal, only one Modification Proposal should be taken forward. It was not clear from the responses to the initial consultation process which Modification Proposal was favoured in the absence of technical constraints. However, the Modification Group decided that Modification Proposal P18A would provide the most appropriate solution.

ELEXON received 16 responses to the further consultation on Modification Proposal P18A. Of the respondents, 11 considered that Modification Proposal P18A should be implemented and that CID-definition 1a should be implemented as a workaround. Four respondents supported the Modification Group's recommendation to either retain CID-definition 1a or to implement CID-definition 3 as the enduring solution, depending on the relative impact of the systems changes required for implementation.

The respondents who supported CID-definition 1a were generally of the view that it would be the easiest to implement and would provide a rapid solution to an urgent problem.

Panel's Recommendation

The Panel met on 12 July 2001 and considered the Urgent Modification Report, the views of the Modification Group and the consultation responses received.

The Panel recommended that the Authority should approve Modification Proposal P18A CID-definition 1a as a workaround and an enduring solution. The impact assessment for CID-definition 1a concluded that it would take approximately five weeks to develop and implement a workaround solution. The Panel therefore recommended that the effective date of the Modification P18A CID-definition 1a should be the Settlement Day falling five weeks after the later of (1) 1 August 2001 or (2) the date on which the Authority's decision to approve the Modification is made. The Panel also recommended that the value of the CADL should initially be set to 15 minutes, subject to review and alteration with the consent of the Authority.

In addition, the Panel recommended that no Modification to the BSC should be made in respect of Modification Proposal P18B.

Ofgem's view

Ofgem believes that the costs of Electricity Balancing should be targeted to participants who are in electricity imbalance (i.e. where the BSC Parties' notified generation/demand does not equal their actual generation/demand) and should reflect the prices at which NGC buys and sells energy to keep the System in Electricity Balance during that period. The Energy Imbalance Prices were designed to remove System Balancing costs from these calculations through 'Automatic Trade Tagging' (ATT). System Balancing costs, which are not caused directly by any particular users are then targeted back to all users of NGC's System through Balancing Services Use of System ("BsuOS") charges. Ofgem believes that, consistent with the relevant objectives of facilitating competition (by preventing cross subsidies), it is important that electricity imbalance costs are targeted back to those participants that cause them. Similarly, System Balancing costs should be targeted back to all system users.

Ofgem considers that any actions taken by NGC operationally to control the frequency of the System for very short duration's within particular half hours are more appropriately defined as System Balancing rather than Electricity Balancing, given a balancing period of half an hour. However Ofgem accepts that it may be difficult to establish a rule which clearly determines when acceptances relate to System Balancing rather than Electricity Balancing, especially in real time. Modification Proposal P18A is an attempt to distinguish between these different actions and costs

In considering Modification Proposal P18A, Ofgem has given careful consideration to the interaction between the Modification Proposal and the various contracts that NGC already has in place and is presently tendering for. As Modification Proposal P18A is attempting to distinguish between the different actions taken by the SO, Ofgem wrote to NGC asking for its views regarding the Modification Proposal. In particular, Ofgem wanted to be reassured that NGC's operational experience of NETA to date led NGC to believe that it was appropriate to exclude all BOAs with a duration of up to 15 minutes from the Energy Imbalance Prices as, operationally these BOAs were to control the frequency. Ofgem also asked NGC to consider whether the Fast Response Tender that it is presently conducting would have any impact on the distribution of BOAs to control frequency. NGC's response is attached to this letter in Annex 1.

In light of respondents' views, the Panel's recommendation and NGC's response, Ofgem is persuaded that Modification Proposal P18A will better facilitate achieving the relevant objectives of the BSC by augmenting the existing Trade Tagging system and providing better cost targeting by seeking to remove System Balancing costs from the Energy Imbalance Price. Modification Proposal P18A will promote effective competition in the generation and supply of electricity by avoiding any potential cross subsidies between participants by ensuring that imbalance prices better reflect the prices and costs incurred by NGC in buying and selling electricity to keep the system in energy balance.

In addition, Ofgem believes that Modification Proposal P18A will promote the efficient, economic and co-ordinated operation by the SO of the System as it should provide more accurate signals to the SO of the costs of balancing the System.

In light of NGC's response, Ofgem agrees with the Panel's recommendation that the CADL should initially be set at 15 minutes. However, as the Panel's recommendation was based on empirical analysis by the Modification Group which is now supported by evidence from NGC, Ofgem suggests that the CADL is reviewed at frequent and regular intervals by the Panel with guidance from NGC regarding operational experience.

Ofgem considers that all Modification Proposals should be considered fully and be subject to the complete relevant Modification Procedures as outlined in Section F of the BSC. On 20 June 2001, Ofgem consented to defer the consideration of Modification Proposal P15 and Modification Proposal P18B in favour of Modification Proposal 18A given the urgent status of the Modification Proposals. However, Ofgem in consenting to the deferral, did not, and could not, consent to a termination of the relevant modification procedures in respect of Modifications Proposals P15 and P18B.

Therefore, since Ofgem has reached a decision in relation to Modification Proposal P18A, Ofgem now expects that Modification Proposals P15 and P18B should complete their respective Modification Procedures which may include Alternative Modifications.

Finally, Ofgem recognises that the solution relating to the separation of System Balancing and Electricity Balancing was considered and developed in a short timescale and that there may be alternative methods of determining the duration of acceptances which could be developed over time and which may better facilitate achieving the applicable BSC Objectives than Modification Proposal P18A.

The Authority's decision

The Authority agrees with the Panel's recommendation to the Authority that Modification P18A CID-definition 1a should be implemented and that the value of the CADL should initially be set to 15 minutes but should be kept under review. The Authority agrees with the Panel's recommendation that Modification Proposal P18A CID-definition 1a should be implemented immediately through a workaround with an enduring implementation in the BSC central systems at the earliest opportunity.

The Authority has not taken a decision in relation to Modification Proposal P18B, since the consideration of Modification Proposal P18B was deferred until the feasibility of Modification Proposal P18A was confirmed.

The Authority agrees that the effective date of Modification Proposal P18A CID-definition 1a should be implemented on 25 September 2001 unless ELEXON can confirm the feasibility of implementation before this date.

Direction under Condition 7A.5(a) of NGC's Transmission Licence

Having regard to the above, the Authority, in accordance with Condition 7A.5(a) of the licence to transmit electricity granted to NGC under Section 6 of the Electricity Act 1989 as amended (the "Transmission Licence"), hereby directs NGC to modify the BSC as set out in Modification Proposal P18A CID-definition 1a a copy of which is attached to this letter in Annex 2.

The modification is to take effect from 25 September 2001.

In accordance with Condition 7A.5(b) of NGC's Transmission Licence, NGC shall modify the BSC in accordance with this direction of the Authority.

If you have any queries in relation to the issues raised in this letter, please feel free to contact me on the above number.

Yours sincerely,

A handwritten signature in black ink, consisting of several overlapping, fluid loops and strokes, positioned below the closing text.

Stephen Smith

Director of Trading Arrangements

Signed on behalf of the Authority and authorised for that purpose by the Authority



Annex 1

Our Ref:

Your Ref:

Date: 10th August 2001

Market Development

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Dear Sonia

RESPONSE TO QUESTIONS REGARDING MODIFICATION P18A

Our views on the questions that you asked us are as follows:

- 1. Based on operational experience does NGC consider that the appropriate value for the Continuous Acceptance Duration (CAD) is 15 minutes. In your response please can you comment on whether your view on the appropriate value for CAD has changed significantly over the operational experience to date.*

In our experience, the appropriate value for Continuous Acceptance Duration is 15 minutes. We feel that this value will remove the a significant majority of the actions associated with within half-hour balancing and frequency control ('Fast Reserve'), while only removing a small proportion of the volume of actions associated with energy balancing at the half-hour (and longer) level.

In support of our views, we have performed the analysis shown in the attached graphs. This looks at the distribution of Continuous Instruction Duration split between a) two generating stations that are currently the major providers of Fast Reserve, and b) all other market participants. (Note that we have used a definition of Continuous Instruction Duration that is not precisely the same as that proposed for P18A, but we feel that the results give a very good indication of the instructions that will be affected by the modification).

This shows that > 90% of instructions to the major Fast Reserve provider have duration of < 15 minutes, compared to <15% of other instructions.

The graphs show how the distribution of instruction duration has changed from month to month. In general the distribution has remained fairly stable, though there is a noticeable decrease in the duration of the Fast Reserve instructions in the last 1-2 months, which means that the number of >15 minute duration Fast Reserve instructions has reduced. Therefore we feel that the data still indicates that 15 minutes is the most appropriate parameter.

2. In light of the response to the above question, does NGC consider that the distribution of BOA times is likely to remain within the current ranges?

The above analysis shows that the distribution of BOA times has not changed significantly from month to month under NETA to date. We therefore feel that distribution of BOA times is likely to remain within the current pattern unless there is a significant change in market behaviour.

3. Please can you confirm that BOA's of a duration of less than 15 minutes are associated with system and not energy balancing i.e. that in the majority of cases that BOA's are less than 15 minutes that they are to control within half hour excursions of frequency.

We can confirm that the majority of BOA's of a duration of less than 15 minutes are to control within half-hour excursions of frequency.

4. *What is your view on how the distributions are likely to change if you secure fast response contracts through the tendering process that you announced on 1 August?*

We do not feel that the Fast Reserve contracts secured through the tendering process, which are due to commence from 1 October 2001 will have a significant impact on the distributions of BOAs. The tender process should affect the number of providers of the Fast Reserve service and the payment rates for the service. However, we would anticipate that the utilisation characteristics should be unaffected as this is driven by the requirement for the call-off of the service.

It is worth noting that the 15 minutes parameter is consistent with the service definition for Fast Reserve that we announced at the 1 August seminar. The service definition refers to a 'normal delivery duration' of 2-10 minutes (at the required MW level). Once this is added to the time to ramp up and down to the required MW level (typically 0-2 minutes each), this give a typical total duration 2-14 minutes for Fast Reserve call-off.

I hope that this information is useful. Please let me know if you require anything further.



Mike Calviou
Strategy & Portfolio Manager

Annex 2

Legal text to support modification proposal P18a CID Definition 1a

Modification P18A –CID Definition 1a – legal text

Section T

After paragraph 3.1, insert new paragraphs 3.1A and 3.1B as follows:

3.1A Continuous Acceptance Duration (CAD^k)

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 eight 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 eight 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^k) 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).

After paragraph 3.8, insert new paragraph 3.8A as follows:

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 $CAD^{k'} < CADL$, 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) $QAPB^{kn_{ij}} = QAB^{kn_{ij}}$;

After paragraph 3.9, insert new paragraph 3.9A as follows:

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:

$$QAPB^{n_{ij}} = \sum^k QAPB^{k_{ij}}$$

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

After paragraph 4.4.2, Insert new paragraphs 4.4.2A and 4.4.2B as follows

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

$$TQUAO_j = \sum_i \sum^n QAO^{n_{ij}} - \sum_i \sum^n QAPO^{n_{ij}}$$

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.

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

$$TQUAB_j = \sum_i \sum^n QAB^{n_{ij}} - \sum_i \sum^n QAPB^{n_{ij}}$$

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.

In paragraphs 4.4.5, 4.4.6, 4.4.7, 4.4.9 and 4.4.10 replace the term $QAO^{n_{ij}}$ (wherever appearing) with the term $QAPO^{n_{ij}}$

In paragraphs 4.4.5, 4.4.6, 4.4.8, 4.4.9 and 4.4.10 replace the term $QAB^{n_{ij}}$ (wherever appearing) with the term $QAPB^{n_{ij}}$

In Annex T-1, modify paragraph 1.1, and add in paragraph 1.2 as follows:

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 ($QAPO^{n_{ij}}$), and an "accepted Bid" means the Period BM Unit Total Priced Accepted Bid Volume ($QAPB^{n_{ij}}$) 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^{n}_{ij}), and an "accepted Bid" means the Period BM Unit Total Accepted Bid Volume (QAB^{n}_{ij}) 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.

In Annex T-1, replace the term QAO^{n}_{ij} (wherever appearing) with the term $QAPO^{n}_{ij}$; and replace the term QAB^{n}_{ij} (wherever appearing) with the term $QAPB^{n}_{ij}$.

The following addition is required to Table X-2 of Annex X-2:

| | | | |
|---|-----------------|---------|--|
| Continuous Acceptance Duration | CAD^{k}_{i} | Minutes | The quantity determined in accordance with paragraph 3.1A of Section T. <i>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.</i> |
| Continuous Acceptance Duration Limit | CADL | Minutes | The value established and from time to time revised and approved in accordance with Section T3.1B |
| Period BM Unit Total Priced Accepted Bid Volume | $QAPB^{n}_{ij}$ | MWh | The quantity determined in accordance with Section T3.9A. <i>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</i> |

| | | | |
|--|------------------|------------|---|
| | | | <p>result of all Acceptances that may contribute to the determination of System Sell Price.</p> |
| <p>Period BM Unit Total Priced Accepted Offer Volume</p> | $QAPO^{n_{ij}}$ | <p>MWh</p> | <p>The quantity determined in accordance with Section T3.9A.</p> <p>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.</p> |
| <p>Period Priced Accepted Bid Volume</p> | $QAPB^{kn_{ij}}$ | <p>MWh</p> | <p>The quantity determined in accordance with Section T3.8A.</p> <p>The Period Priced Accepted Bid Volume is the volume of Bid n, accepted in respect of BM Unit i, in Settlement Period j, as a result of Acceptance k that may contribute to the determination of System Sell Price.</p> |
| <p>Period Priced Accepted Offer Volume</p> | $QAPO^{kn_{ij}}$ | <p>MWh</p> | <p>The quantity determined in accordance with Section T3.8A.</p> <p>The Period Priced Accepted Offer Volume is the volume of Offer n, accepted in respect of BM Unit i, in Settlement Period j, as a result of Acceptance k that may contribute to the determination of System Buy Price.</p> |
| <p>System Total Un-Priced Accepted Bid</p> | $TQUAB_j$ | <p>MWh</p> | <p>The quantity determined in accordance with Section T4.4.2B.</p> <p>The System Total Un-Priced Accepted Bid</p> |

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|--|--------------------|-----|---|
| Volume | | | 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. |
| System Total Un-Priced Accepted Offer Volume | TQUAO _j | MWh | The quantity determined in accordance with Section T4.4.2A. 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. |