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MODIFICATION REPORT
MODIFICATION PROPOSAL P78 –
Revised Definition of System Buy Price
and System Sell Price

Prepared by ELEXON on behalf of the Balancing
and Settlement Code Panel

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Reference	Document
Reference 1	Modification Proposal P78 'Revised Definition of System Buy Price and System Sell Price' Assessment Report (P078AR10, 18 July 2002)
Reference 2	'Proposed Revisions to Balancing Services Adjustment Data (BSAD) Methodology Statement – Consultation by National Grid July 2002' (23 July 2002)

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1 SUMMARY AND RECOMMENDATIONS

1.1 Recommendation

On the basis of the analysis, consultation and assessment undertaken in respect of this Modification Proposal during the Assessment Procedure, and the resultant findings of this report, the BSC Panel recommends that:

Alternative Modification P78 should be made, with an Implementation Date of 25 February 2003 where an Authority decision is received by 6 September 2002. Where an Authority decision is received after this date, but before 19 February 2003, the Implementation Date should be 24 June 2003.

Proposed Modification P78 should not be made. However, if the Authority determine that the Proposed Modification should be made, the Implementation Date should be 25 February 2003, where an Authority decision is received by 6 September 2002. Where an Authority decision is received after this date, but before 8 January 2003, the Implementation Date should be 24 June 2003.

1.2 Background

The Assessment Report for Modification Proposal P78 (Reference 1) contains the detailed background and history of Modification Proposal P78, and this report can be found on the BSC Website, as follows:

ftp://www.elexon.co.uk/ta/modifications/modsprops/P078/P78_AR.pdf

Modification Proposal P78 'Revised Definition of System Buy Price and System Sell Price' was raised by National Grid (the Transmission Company) on 5 April 2002. The Modification requires that the definition of the Energy Imbalance Prices be revised such that there is a main and reverse price. The Modification Proposal requires that the main price be calculated from those balancing actions (including net BSAD) taken to alleviate the Net Imbalance Volume (NIV) of the overall system (as defined in section 4). Thus, for a Settlement Period:

- Where the larger stack is the Bid stack, then the main price will be the System Sell Price, and the reverse price will be the System Buy Price; and
- Where the larger stack is the Offer stack then the main price will be the System Buy Price and the reverse price will be the System Sell Price.

The reverse price is derived from a market price, based on trading on the forwards and spot markets.

The Initial Written Assessment for Modification P78 was considered by the Panel at its meeting of 18 April 2002. The Panel agreed to submit Modification Proposal P78 to the Assessment Procedure at that meeting, with the Assessment to be undertaken by the Pricing Issues Modification Group (PIMG). The Panel also tasked the PIMG with defining the Terms of Reference for Modification Proposal P78.

The Panel also agreed, at its meeting of 18 April 2002, that Modification Proposal P78 should be considered in parallel with Modification Proposal P74 'Single Cost – reflective Cash-out Price', as they both addressed similar perceived defects in the Balancing and Settlement Code.

During the Assessment Procedure, the PIMG met ten times (on 25 April 2002, 1, 8, 15, 22 and 29 May 2002, 12 and 19 June 2002, and 3 and 10 July 2002). Two consultations were issued, the first on 27 May 2002 (responses due 11 June 2002) and the second on 4 July 2002 (responses due 11 July 2002).

One detailed level impact assessment was performed by the BSC Central Service Agent, BSC Parties and ELEXON on 21 June 2002 (CPC0196, responses due 8 July 2002).

The PIMG submitted the Terms of Reference for the Assessment Procedure to the Panel, which were endorsed by the Panel on 18 May 2002. The PIMG submitted an interim report for consideration by the Panel at its meeting of 13 June 2002. In this report, the PIMG requested an extension of one month to the Assessment Procedure in recognition of the complex issues raised by this Modification and the requirement for further analysis and assessment. The Panel agreed to an extension to the Assessment Procedure for Modification Proposal P78.

However, the Authority issued a notice pursuant to the BSC Section F 1.4.3, directing that the extension to the Assessment Procedure should not be made. The reasons for such direction were provided in the notice (dated 19 June 2002) as follows:

"It has been acknowledged by NGC and the industry that the issues that the Modification Proposals [P74 and P78] seek to address are of great importance, which is demonstrated by the considerable amount of time the industry has already devoted to assessing the Modification Proposals to date.

Having had regard to the relevance and importance of the outcome of these Modification Proposals in relation to a number of aspects of the regulatory regime, Ofgem considers that Modification Proposals P74 and P78 should be dealt with within the timeframes as set out within F2.2.9 of the BSC. Therefore Ofgem considers that it is essential for the 3-month Assessment Procedure to be adhered to."

The PIMG, (19 June 2002), in recognition of the time constraints, revised and agreed their work plan for the remainder of the Assessment Procedure, such that an Assessment Report for Modification Proposal P78 could be presented to the Panel meeting of 18 July 2002, thus adhering to the three month Assessment Procedure.

The PIMG noted that, as a consequence of the time constraints, they were unable to fulfil one of the Terms of Reference for the Assessment Procedure, namely a quantitative comparison of Modification Proposal P74 (and any Alternative) with Modification Proposal P78 (and any Alternative). However, the PIMG felt able to provide a qualitative comparison between the Modifications and their Alternatives and this was provided in the relevant Assessment Reports.

The PIMG agreed the provisional recommendations with regards to Modification Proposal P78 (3 July 2002). These were provided, in a draft of the Assessment Report, for industry consultation on 8 July 2002 (responses due 15 July 2002).

With due consideration to the second assessment consultation responses, the PIMG confirmed the provisional recommendations.

The Panel considered the Assessment Report at its meeting of 18 July 2002, and agreed to submit Modification Proposal P78 to the Report Phase. The Panel also unanimously agreed to provisionally endorse the recommendations of the PIMG, namely that:

- The Alternative Modification should be made, with an Implementation Date of 25 February 2003, where an Authority decision is received by 6 September 2002; and
- The Proposed Modification should not be made, but if an Authority decision to the contrary is received, the Implementation Date should be 25 February 2003, where such an Authority decision is received by 6 September 2002.

The draft Modification Report, containing the provisional recommendations of the Panel, was provided to Industry for consultation on 1 August 2002, allowing five working days for consultation (responses due 7 August 2002).

It should be noted that the legal drafting provided in this draft Modification Report for both the Proposed and the Alternative Modification P78 is dependent upon the results of the Transmission Company Balancing Services Adjustment Data (BSAD) consultation (Reference 2), (see section 1.4).

Thirteen consultation responses were received in respect of the draft Modification Report. A number of respondents (seven (15 Parties) of thirteen (46 Parties)) support the provisional Panel recommendations. Five respondents (32 Parties) did not support the provisional Panel recommendations.

The Panel considered the consultation responses made in respect of this draft Modification Report at its meeting of 15 August 2002 and noted that a number of consultation responses expressed concern regarding:

- The perceived reduction in transparency resulting from a move from gross to net reporting of BSAD; and
- The perceived difficulty the Transmission Company may face in differentiating between energy and system BSAD trades (as required by the proposed methodology for both the Proposed and the Alternative Modification P78).

However, the Panel, recognised that BSAD amendments are beyond the vires of the BSC.

The Panel noted that the responses from the Transmission Company's BSAD consultation (Reference 2) favoured Option 2. Therefore, no consequential amendments are required to be made to the legal drafting for either the Proposed or the Alternative Modification P78 as both are based on Option 2 (see section 1.4 of this report).

Subsequent to the consultation on the draft Modification Report, a minor omission was noted in the legal drafting for the Alternative Modification. The Modification Proposal, Assessment Report and Modification Report (section 4.4) state clearly that a negative spread (i.e. where System Sell Price exceeds System Buy Price) should not occur under any circumstances. However, the legal drafting had omitted a default rule to prevent a negative spread occurring under certain (rare) circumstances. Therefore, on the basis of the clear intent of the Modification Proposal and the relevant reports, the Panel agreed the addition of a default rule to prevent this occurrence, (in the proposed amendments to Section T 4.4.5(c)), and agreed that this amendment would not require further consultation.

The Panel, by majority, confirmed its provisional recommendations to the Authority, namely that the Alternative Modification should be made, and the Proposed Modification should not be made.

1.3 Rationale for Recommendations

1.3.1 Proposed and Alternative Modification

The Panel considered the rationale for the recommendations made by the PIMG with regards to the Proposed and the Alternative Modification P78, and the Panel supported the rationale of the PIMG regarding the recommendations made in respect of the Proposed and Alternative Modification P78.

The key difference between the Alternative and the Proposed Modification P78 is the reverse price. Proposed Modification P78 proposes using a market based reverse price, derived from trading on the

forwards and spot markets, whereas Alternative Modification P78 proposes using a balancing action taken by the Transmission Company to set the reverse price.

The Assessment Report for Modification Proposal P78 (Reference 1) provides the detailed rationale for the recommendations made by the PIMG with regards to the reverse price utilised by the Proposed and the Alternative Modification (Section 1 and section 4 of the Assessment Report specifically refer to the rationale for the PIMG recommendations regarding the reverse price). The following presents a high level summary of the rationale.

The mechanism for calculating the Net Imbalance Volume and the resultant Energy Imbalance Price necessarily means that there is no reverse price calculated from the balancing actions on the reverse Bid - Offer Acceptance stack, as these are deemed to be attributable to system balancing. Therefore a reverse price is required to retain the dual cash-out regime. The Modification Proposal proposed a market based reverse price, i.e. one derived from the forwards and spot markets, and suggested a 'straw man' using the Settlement Period Net Imbalance Reference Price (SPNIRP), which is a simple average of the APX and UKPX Reference Prices.

The PIMG considered the market based reverse price and agreed that a market based reverse price should, in principle, reflect the costs of short term energy, be representative of a liquid traded market and be available for publication / calculation close to real time. Therefore the PIMG considered the currently available market indices (section 4 of the Assessment Report for Modification Proposal P78 (Reference 1)) to determine if there were any that met this criteria. The PIMG determined that, in their opinion, none of the currently available indices were reflective of short term energy costs (as they are calculated from trades made some time out from the Settlement Period, and the PIMG believe that short term means only 24 to 48 hours out from the relevant Settlement Period), nor were they available for publication until some time after real time.

Therefore the PIMG agreed that it would be appropriate to request a new index from any source that trades within day (i.e. short term trading) and that has sufficient liquidity in the majority of Settlement Periods close to real time.

However, the PIMG, in considering the market based reverse price, determined that a number of issues made the use of a market based reverse price 'unwieldy' (as set out in section 4.4 of the Assessment Report for P78). The PIMG believe the key issue to be liquidity in the forwards and spot markets (index providers), as there are still periods where there is relatively low liquidity in the index providers, and it could be argued that it is inappropriate to use an illiquid index in the calculation of the Energy Imbalance Price, as it then becomes unrepresentative of the costs of short term energy.

The information on traded volumes currently available from the forwards and spot markets is based upon trading for a Settlement Period over long periods prior to the Settlement Period. Therefore it is difficult to determine the level of within day liquidity. It could be considered that if there are five Settlement Periods a day with insufficient liquidity based upon all trading, that this number may increase (perhaps significantly) if the window for trades being eligible to go forward into the Energy Imbalance Price is reduced. However, it is not possible to estimate the number of Settlement Periods for which the liquidity would be insufficient to set the reverse Energy Imbalance Price.

The PIMG also noted that there is the potential for manipulation of the index provided by trading on the index provider in order to influence the resulting index. However, the PIMG believe that there are probably sufficient safeguards are in place, and that there may be insufficient incentives / rewards to make such manipulation worthwhile.

The PIMG also considered the procurement process for obtaining the market index information from the forwards and spot markets. The PIMG noted that no information is available from the potential providers of the data at this time, despite requests for indicative costs and timescales. Therefore the PIMG believe there to be a relatively high risk associated with the procurement of the data, as the costs of such procurement are currently unquantifiable and have the potential to be substantial.

An additional risk resulting from the unquantifiable procurement costs is the requirement to go through Official Journal of the European Community (OJEC) procurement process if the costs of procuring the entire service exceed £100,000. It is expected that this would take in the region of five to six months to procure the service before any development and implementation of the interfaces to the BSC Central Service Agent can be undertaken.

Given that the procurement process has not been undertaken, it is not clear as to whether any Market Index Data Provider will be able to comply with the requirements and obligations placed on them by the proposed amendments to the Balancing and Settlement Code. Therefore there may be a material operational risk that procuring the services, as described in the proposed amendments to the Code, may either not be possible, or may incur significant costs and timescales. This has consequent risks in terms of the ongoing operation of this aspect of the trading arrangements in terms of ELEXON fulfilling its obligations under the proposed amendments to the Code.

As a consequence of the concerns raised by some members of the PIMG regarding liquidity levels close to real time, some members of the PIMG still believe that there would be significant risks associated with the implementation of Proposed Modification P78, even if the procurement risks could be satisfactorily addressed.

The PIMG therefore considered an alternative mechanism for deriving the reverse price.

The PIMG set out a number of criteria which any reverse price would be required to meet, but agreed that the three most important are:

- Ability for prompt price reporting;
- Robust against manipulation; and
- Reflective of the cost of short term energy.

The PIMG also considered the incentive properties of a reverse price, and in particular the Transmission Company's concerns that BSC Parties should not be inappropriately incentivised by any reverse price valuing uninstructed imbalances more highly than Bid – Offer Acceptances.

On this basis, the potential options were reduced to two:

1. Main price with a non arbitrary spread; and
2. First non Arbitrage Bid - Offer Acceptance in the main stack.

The PIMG considered option (1) and agreed that all spreads proposed, that could be applied, could be considered to be arbitrary (given the timescales for deriving the formulation of a non arbitrary spread). Therefore this option was disregarded.

The PIMG considered option (2) and agreed that since this formulation of the reverse price will be:

- Robust against gaming / manipulation (although it should be noted that there is a converse (minority) view that this could be gamed by tacit collusion amongst BSC Parties);
- Derived from a balancing action taken to alleviate the energy imbalance for the Settlement Period;

- Derived from an action taken by the system operator in the Balancing Mechanism in the Settlement Period, or from a contract struck in the open market (BSAD); and
- Valuing BSC Party actions by rewarding spill at the smallest, in absolute terms, Bid / BSAD price in the Settlement Period, and charging top-up at the smallest, in absolute terms, Offer / BSAD in the Settlement Period. Thus offering no benefit over that Party having Bid – Offered into the Balancing Mechanism for that Settlement Period.

This formulation could be considered, by some, to be sufficiently cost-reflective of short term energy and to preserve appropriate incentives on BSC Parties.

This formulation of the reverse price also creates a smaller spread between the two Energy Imbalance Prices than the current baseline, which could be considered to be appropriate, as it reduces the risk of imbalance exposure, whilst retaining appropriate incentives. Where the first non Arbitrage Bid – Offer Acceptance (or BSAD) is used, then, given the formulation of the Net Imbalance Volume and resulting main price, the resulting reverse price must always be:

- In the case of a positive Net Imbalance Volume (where the main price is the SBP) less than (or equal to, depending upon the depth of Offers) the SBP; and
- In the case of a negative Net Imbalance Volume (where the main price is the SSP) more than (or equal to, depending upon the depth of Bids) the SSP.

The majority of the PIMG agreed that this is the most appropriate reverse price, and proposed that this option be taken forward in preference to the market based reverse price.

The Proposer of Modification P78 does not support the Alternative Modification with the BOA based reverse price. The Proposer believes that it does not better facilitate the Applicable BSC Objectives than the Proposed Modification, (with the market based reverse price), and, by definition, an Alternative Modification has to better facilitate Achievement of the Applicable BSC Objectives than the Proposed Modification (it should be noted that the Proposer believes that the Alternative Modification better facilitates achievement of the Applicable BSC Objectives than the current baseline).

The Proposer believed that the price associated with a Balancing Mechanism action / BSAD will unduly over reward imbalances in the opposite direction to the overall system imbalances, i.e. 'helpful' imbalances. However, a number of PIMG members did not support this rationale.

The PIMG compared the cost-reflectivity of the two reverse price formulations, the market based reverse price and the reverse price derived from the first non Arbitrage Bid – Offer Acceptance / BSAD (BOA based reverse price).

The majority of the PIMG believe that defining any reverse price is complex, on the grounds that the costs (to the system) of imbalances in the opposite direction to the system imbalance cannot be accurately assessed / quantified. Therefore this should be taken into consideration when determining the reverse price to be applied, and when considering the cost-reflectivity of such reverse price.

Therefore applying a market based reverse price was considered by some to be appropriate on the grounds that it values 'helpful' imbalances at a 'neutral price', i.e. the 'get out of imbalance' price, offering no benefit over having traded out of imbalance prior to the Settlement Period.

On this basis, some members of the PIMG believe that the market based reverse price could be considered to be a more cost-reflective option than the BOA based reverse price, on the grounds that a BOA based reverse price is reflective only of the cost of one balancing action in the same direction to the overall system imbalance.

This may not be considered to be reflective of the costs of energy balancing the system, nor may it be considered to be targeting the costs of the System Operator energy balancing the system, as it is based on one balancing action in the opposite direction to the imbalances it is being levied on.

The majority of the PIMG do not support this rationale for the market based reverse price, as they believe that the BOA based reverse price is more cost-reflective of the actions taken to energy balance the system, as a consequence of it being derived from a balancing action (BOA or BSAD) taken to alleviate the energy imbalance for the Settlement Period and is also valuing BSC Party actions by rewarding spill at the smallest, in absolute terms, Bid / BSAD price in the Settlement Period, and charging top-up at the smallest, in absolute terms, Offer / BSAD in the Settlement Period. Thus offering no benefit over that Party having Bid – Offered into the Balancing Mechanism for that Settlement Period.

In considering the cost-reflectivity and cost targeting of the BOA based reverse price, the PIMG indicated that they believe that the incentives that such a reverse price would place on BSC Parties (as a number of PIMG members believe that the BOA based reverse price will incentivise participation in the Balancing Mechanism, the balancing of individual positions and bilateral forward contracting, although it should be noted that some PIMG members believe that Proposed Modification P78 incentivises these things as well) are more important than the cost – reflectivity and cost targeting aspects.

Therefore, the majority of the PIMG prefer the use of the first non Arbitrage Bid - Offer Acceptance / BSAD from the main stack over the market based reverse price, for the reasons set out above.

It should be noted that on balance, the PIMG have concerns over the potentially significant procurement risk, robustness and practicality, as some members of the PIMG believe that there is a significant risk that the market based reverse price is impracticable, or would be based on small, possibly zero, volumes which might not be adequately cost-reflective. The arguments as to why this is considered to be the case are set out in section 4.4 of the Assessment Report for P78. Therefore these aspects of the Proposed Modification have lead to the Alternative being the preferred option of the majority of the PIMG.

The Panel unanimously supported this rationale for recommending that that the Alternative Modification should be made, and the Proposed Modification should not be made.

1.3.2 Proposed and Alternative Modification: Applicable BSC Objectives

The Assessment Report for Modification Proposal P78 (Reference 1) contains the detailed rationale of the PIMG as to the recommendations made by the PIMG to the Panel.

However, with specific regards to the facilitation of the achievement of the Applicable BSC Objectives, the PIMG believe that both the Proposed and the Alternative Modification better facilitate achievement of the Applicable BSC Objectives for the following reasons:

On balance, the majority of the PIMG believe that the Alternative Modification is better than the Proposed Modification in the overall facilitation of the Applicable BSC Objectives. The PIMG believe this to be the consequence of the utilisation of a market based reverse price, as the majority view is that such market based reverse price is not as cost-reflective of the energy balancing actions of the system operator as a Balancing Mechanism based reverse price.

The majority of the PIMG agreed that in all other respects, the Proposed and the Alternative Modification were equal in better facilitating the Applicable BSC Objectives.

Reasons for better facilitating the Applicable BSC Objectives are:

- A proposed outcome of both the Proposed and the Alternative Modification is that the market will come closer to balance. On this basis, the system operator should be able to balance the market more efficiently and effectively;
- A proposed outcome of both the Proposed and the Alternative Modification is that the buy – sell spread of the Energy Imbalance Prices will be reduced, thus reducing the risks of exposure to imbalance, thus improving competition in the sale and purchase of electricity;
- The increased incentive for parties to balance their individual positions ahead of Gate Closure should result in increased accuracy of information provided to the system operator ahead of Gate Closure, thus enabling it to make informed decisions about balancing the system, improving efficiency and economic operation;
- Improving the cost-reflectivity of the Energy Imbalance Prices (assuming that the main price derived from the Net Imbalance Volume calculation is representative of the costs of energy balancing) should promote the efficient, economic and co-ordinated operation of the Transmission Network by providing more accurate signals to the system operator (and BSC Parties) of the costs of balancing the system;
- The Proposed and the Alternative Modification value ‘uninstructed assistance’ to the system (i.e. imbalances in the opposite direction to the overall system imbalance) at the same (Proposed Modification) or a less good price (Alternative Modification) than the current baseline, to reflect that they may be imposing costs on the system. Both could be considered to be more cost-reflective than the current baseline;
- Improving the cost-reflectivity of the Energy Imbalance Prices (again assuming that the main price derived from the Net Imbalance Volume calculation is representative of the costs of energy balancing) means that the cost of energy balancing is more correctly targeted at those causing the imbalance, and therefore this improves competition by preventing cross-subsidies;
- The implementation of a more cost-reflective dual cash-out price regime incentivises participants to balance their individual positions ahead of Gate Closure, therefore minimising the actions that the system operator has to take to correct the system energy imbalance. Thus, this assists in minimising the role of centrally administered mechanisms and facilitates the bilateral trading of energy; and
- Reduction in the risk of exposure to imbalance, whilst maintaining the incentives to balance, and therefore trade bilaterally, ahead of Gate Closure, may have the effect of encouraging participants to trade closer to real-time, with the associated effect of improving liquidity in the forwards and spot markets, thus increasing competition.

The Panel supported the rationale of the PIMG regarding the recommendations made in respect of the Proposed and Alternative Modification P78.

1.4 Balancing Services Adjustment Data (BSAD) Amendments

The implementation of both the Proposed and the Alternative Modification requires amendment to the Balancing Services Adjustment Data (set out in section 4), as follows.

Currently BSAD is formulated and reported on a gross basis, and includes only energy balancing actions taken ahead of Gate Closure by the Transmission Company. However, the mechanism for calculating the Net Imbalance Volume (as set out in Section 4 of this Modification Report) requires that all

balancing actions, system and energy, be utilised in order to derive a true net imbalance (i.e. the energy imbalance of the system). Therefore, the Transmission Company propose to provide a system component for the BSAD, and to report the BSAD on a net basis.

During the Assessment Procedure for Modification Proposal P78, the Transmission Company indicated that they would provide either (as a consequence of the net reporting, explored in section 4 of this Modification Report, and in the Assessment Report for Modification Proposal P78 (Reference 1)):

- The (net) Buy Price Volume Adjustment and a Buy Price Cost Adjustment; or
- The (net) Sell Price Volume Adjustment and a Sell Price Cost Adjustment.

The volume adjustment was proposed to contain a MWh figure derived from both energy and system actions, whereas the cost adjustment would contain only the cost of energy balancing (in £), as it is deemed to be inappropriate to include the cost of the system balancing (as this could then pollute the Energy Imbalance Price). Therefore the net volume adjustment would include both system and energy volumes, whereas the cost adjustment would include only energy.

During the legal drafting to support the Alternative Modification, it was realised that this methodology would not be robust in terms of derivation of a £/MWh price (required for placing BSAD into the Bid – Offer stack for Net Imbalance Volume derivation, and for Net Imbalance Volume Tagging), the following (simple) example indicates why this is the case:

- Energy balancing ahead of Gate Closure was 100 MWh at a total cost of £1000; and
- System balancing ahead of Gate Closure was 150 MWh, no cost notified.

Therefore the price for inclusion in the Bid – Offer stack is price / volume to give a £/MWh price, which results in a price of:

- $£1000 / (100 + 150) \text{ MWh} = £4 / \text{MWh}$.

However, the actual price should have been:

- $£1000 / 100 \text{ MWh}$, i.e. the energy component, = $£10 / \text{MWh}$.

This has a material effect the placing of the BSAD in the Bid – Offer stack, and therefore to the amount to be tagged out, or not. This could lead to system volumes being included in the Energy Imbalance Price.

The Transmission Company provided this approach as an option (Option 1) in their BSAD consultation document, but indicated that they did not believe this option to be robust. However, the Transmission Company indicate that this option had been provided for consultation as a consequence of it being the approach explored in the Assessment Report for Modification Proposal P78.

The Transmission Company proposed another approach (Option 2) in their BSAD consultation in order to address the above deficiency in the BSAD reporting and usage. This was their preferred option as it is more robust than Option 1.

Option 2 splits the energy and system portion such that they are reported separately, as follows:

- (Net) Volume Adjustment (Energy) (MWh);
- (Net) Cost Adjustment (Energy) (£); and
- (Net) Volume Adjustment (System) (MWh).

This is consistent with the approach documented for Modification Proposal P78, i.e. the formulation and reporting of system BSAD volume with no associated price, and energy volumes with an associated price, but with a different implementation approach to the original solution (defined in the Assessment report (Reference 1) and as Option 1 of the BSAD consultation). Therefore Option 2 is the same in intent as Option 1.

It should be noted that the legal drafting provided (for both the Proposed and the Alternative Modification) is based on, and is consistent with, Option 2 set out in the BSAD consultation (Reference 2).

2 INTRODUCTION

This Report has been prepared by ELEXON Ltd., on behalf of the Balancing and Settlement Code Panel ('the Panel'), in accordance with the terms of the Balancing and Settlement Code ('BSC'). The BSC is the legal document containing the rules of the balancing mechanism and imbalance settlement process and related governance provisions. ELEXON is the company that performs the role and functions of the BSCCo, as defined in the BSC.

This Modification Report is addressed and furnished to the Gas and Electricity Markets Authority ('the Authority') and none of the facts, opinions or statements contained herein may be relied upon by any other person.

An electronic copy of this document can be found on the BSC website, at www.elexon.co.uk

3 HISTORY OF THE MODIFICATION

Modification Proposal P78 has been extensively assessed by the PIMG, and the detail of the assessment is provided in the Assessment Report for Modification Proposal P78 (Reference 1), and is therefore not repeated here.

4 DESCRIPTION OF PROPOSED AND ALTERNATIVE MODIFICATION

4.1 Overview of the Proposed and the Alternative Modification

4.1.1 Proposed Modification Overview

At a high level, Proposed Modification P78 will be effected as follows:

The dual Energy Imbalance Price regime will be maintained, but with the concept of a main price, set from balancing actions taken to alleviate the Net Imbalance Volume, i.e. all of the system and energy balancing actions (including pre-Gate Closure actions reported in BSAD), netted off to give the energy imbalance of the overall system. This main price will be levied on energy imbalance volumes in the same direction as the energy imbalance of the system.

The reverse price, i.e. the Energy Imbalance Price to be levied on energy imbalances in the opposite direction to the energy imbalance of the system, is then derived from trading on the forwards and spot markets, and will be a weighted average of the (short term energy) trades in these markets.

The Panel will be required to determine (with supporting analysis from ELEXON) the Market Data Index Providers to be utilised for the provision of a Traded Price and a Traded Volume. The Panel (again with support from ELEXON) will be required to define and maintain a 'Market Index Data Definition

Statement' which will contain the principles behind the market based reverse price, the detailed definition of how it is calculated by each Market Index Data Provider (MIDP) and any liquidity thresholds that the MIDP are required to meet for the provision of data.

The MIDP will then be expected to provide a traded volume and price for each Settlement Period to the BMRA, for publication, no later than the end of the Settlement Period to which the data pertains. On the next Business Day following the Settlement Day, the MIDP is expected to provide a file to the SAA containing all the data for each Settlement Period on the relevant Settlement Day.

The Balancing Mechanism Reporting Agent (BMRA) receives Balancing Services Adjustment Data (BSAD) and Bid – Offer Acceptances for a Settlement Period. These are published on the BMRA (as for now, noting the requirement to report amended BSAD).

The BMRA will also receive the traded volume and traded price from each of the MIDPs. These are published on the BMRA (noting that this is a new requirement).

BMRA, at the end of the relevant Settlement Period, will calculate the (main) Energy Imbalance Price by deriving the Net Imbalance Volume and the associated Energy Imbalance Price. The BMRA will also calculate the (reverse) Energy Imbalance Price by deriving the weighted average price from the traded volume and traded prices provided by the MIDP's. It should be noted that where no data, or zeros (for all MIDPs) are received, the reverse price defaults to the main price.

These will be displayed on the BMRA (to the same service levels as currently), although it should be noted that there will be additional data (derived from the Net Imbalance Volume calculation and the market based reverse price determination) displayed.

The Settlement Administration Agent (SAA) will, when performing a Settlement Run, derive the Net Imbalance Volume and calculate the associated Energy Imbalance Price, and derive the reverse price from the Market Index Data using the same mechanism as the BMRA, but with the latest data. The SAA will report the results of the Settlement Run as currently, via the Settlement Report (SAA – I014, sub flows 1, 2 and 3).

The Settlement Report will contain the (relevant) new variables used for the calculation of the Net Imbalance Price, and a new group to support the reporting of the traded volume and traded price provided by the MIDPs.

The Assessment Report for Modification Proposal P78 (Reference 1) contains a description of the detailed amendments (system functionality and documentation) required to support the Proposed Modification Proposal P78.

The legal drafting to support Alternative Modification P78 is provided in Section 5 of this Modification Report.

4.1.2 Alternative Modification Overview

At a high level, Alternative Modification P78 will be effected as follows:

The Balancing Mechanism Reporting Agent (BMRA) receives Balancing Services Adjustment Data (BSAD) and Bid – Offer Acceptances for a Settlement Period. These are published on the BMRA (as for now, noting the requirement to report amended BSAD). BMRA, at the end of the relevant Settlement Period, will calculate the Energy Imbalance Prices by deriving the Net Imbalance Volume and the associated (main) Energy Imbalance Price. The (reverse) Energy Imbalance Price is then derived from either the BSAD or the first Non-arbitrage Bid – Offer Acceptance on the main stack, dependent upon price.

These will be displayed on the BMRA (to the same service levels as currently), although it should be noted that there will be additional data (derived from the Net Imbalance Volume calculation) displayed.

The Settlement Administration Agent (SAA) will, when performing a Settlement Run, derive the Net Imbalance Volume and calculate the associated Energy Imbalance Prices, using the same mechanism as the BMRA, but with the latest data. The SAA will report the results of the Settlement Run as currently, via the Settlement Report (SAA – I014, sub flows 1, 2 and 3).

The Settlement Report will contain the (relevant) new variables used for the calculation of the Net Imbalance Price.

The Assessment Report for Modification Proposal P78 (Reference 1) contains a description of the detailed amendments (system functionality and documentation) required to support Alternative Modification P78.

The legal drafting to support Alternative Modification P78 is provided in Section 5 of this Modification Report.

4.2 Net Imbalance Volume Derivation and Main Price Calculation: Common to Proposed and Alternative Modification

The following section details the mechanism for deriving the Net Imbalance Volume and calculating the main Energy Imbalance Price. This aspect is common to both the Proposed and the Alternative Modification.

Proposed and Alternative Modification P78 derives a (main) Energy Imbalance Price from balancing actions (including BSAD) taken to alleviate the energy imbalance of the system. The Proposed and the Alternative Modification propose a new mechanism for determining the energy imbalance of the system, by 'stacking' all system and energy balancing actions (BSAD purchases and Offer Acceptances on one stack, and BSAD sales and Bid Acceptances on the other stack), the volumes are then netted to leave the Net Imbalance Volume, which is deemed to be the energy imbalance of the system (with the netted off balancing actions deemed to have been taken for system balancing purposes).

It should be noted that the Proposed and Alternative Modification P78 require amendment to the formulation and utilisation of Balancing Services Adjustment Data (BSAD). The Transmission Company are currently consulting on the proposed amendments, and the following description (and the associated legal drafting) is based upon Option 2 of the Transmission Company's consultation (Reference 2), as this is the preferred option of the Transmission Company, as a consequence of Option 1 (based upon the amendments defined in the P78 Assessment Report, (Reference 1)) being insufficiently robust (section 1.4 of this Modification Report).

Figures 4.1 and 4.2, below, are high level schematics reflecting the stacking of all balancing actions, and the derivation of the Net Imbalance Volume.

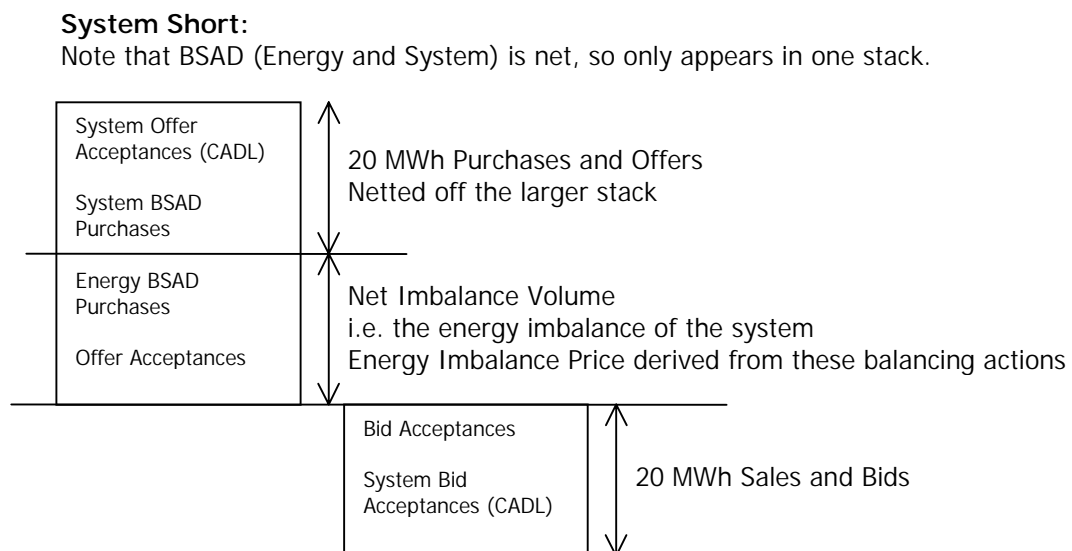


Figure 4.1: Net Imbalance Volume Derivation where the System is Short

System Long:

Note that BSAD (Energy and System) is net, so only appears in one stack.

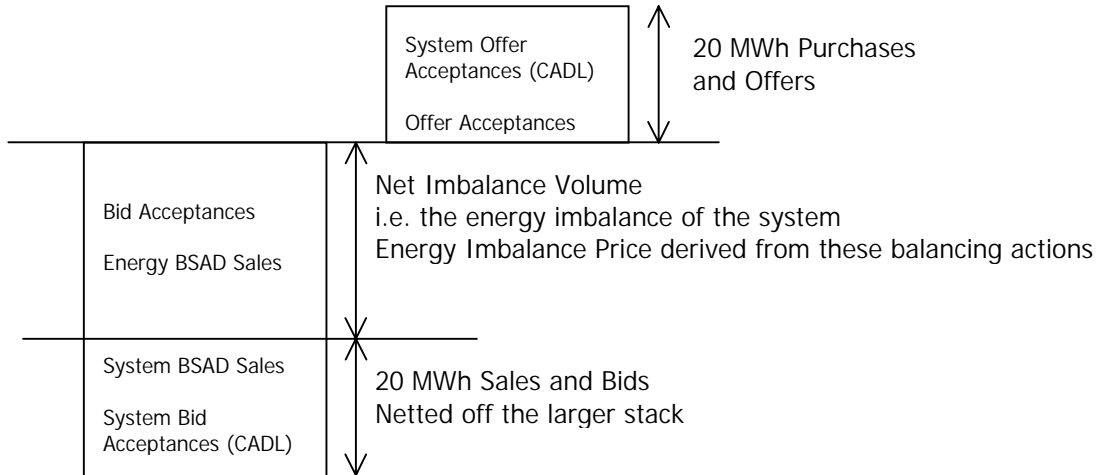


Figure 4.2: Net Imbalance Volume Derivation where the System is Long

Currently, Bid – Offer Acceptances for a Settlement Period have the Continuous Acceptance Duration Limit (CADL) applied to remove Acceptances deemed to have been taken for system balancing purposes. Then De-minimis Acceptances are identified and removed. The remaining Bid – Offer Acceptances are then stacked in price order (as defined in Annex T-1 of the BSC), and subjected to Arbitrage Tagging and Trade Tagging (to the level of the Balancing Reserve Limit). The Acceptances remaining after this tagging is applied, go forward to set the Energy Imbalance Prices. BSAD sales (SCA and SVA), purchases (BCA and BVA) and options fees (BPA and SPA) are also included in the Energy Imbalance Price calculation.

It is generally acknowledged that the current mechanism has the potential to include system balancing actions in the Acceptances going forward to set Energy Imbalance Price, especially on the shorter stack, where they may have an undue influence on the resulting Energy Imbalance Price. However, given the difficulty in distinguishing between a system and an energy balancing action, this could be considered to be inevitable.

Proposed and Alternative Modification P78 create a mechanism for better differentiating between energy and system balancing actions by netting off all system and balancing actions (as reflected in Figures 4.1 and 4.2), to derive the Net Imbalance Volume, i.e. the energy imbalance of the system, and deeming all balancing actions ‘outside’ of the Net Imbalance Volume to have been taken for system purposes (and therefore disregarded for the purposes of setting the Energy Imbalance Price). Those balancing actions taken to alleviate the energy imbalance of the system (the Net Imbalance Volume) are therefore deemed to be attributable to energy balancing only.

The resulting Energy Imbalance Price is then derived from the (energy) balancing actions taken to alleviate the Net Imbalance Volume (Figures 4.1 and 4.2).

This requires amendment to the way in which Bid – Offer Acceptances and BSAD are treated when deriving the Energy Imbalance Price, as follows:

The Bid – Offer Acceptances have the Continuous Acceptance Duration Limit (CADL) applied to determine those Acceptances deemed to have been taken for system balancing purposes.

The De-minimis Acceptances are removed, and Arbitrage Tagging is undertaken.

Then the Bid – Offer Acceptances and BSAD are stacked as follows, in order to derive the Net Imbalance Volume:

The Offer (and purchase) stack is 'built' by:

- The Total System Un-priced Accepted Offer Volume (i.e. CADL'ed Offers) is placed in the Offer stack as if it were the most expensive Offer (i.e. at the top);
- The (net) Buy Price Volume Adjustment (System) (SBVA) is placed in the Offer stack as if it were the second most expensive Offer (i.e. below the CADL'ed Acceptances, but above the Priced Accepted Offers);
- The Priced Offer Acceptances are stacked in price order (below the CADL'ed Offers and the SBVA), placing the most expensive Offers first; and
- The (net) Buy Price Volume Adjustment (Energy) (EBVA) is placed into the Offer stack in order of price (derived from EBCA / EBVA, i.e. a £/MWh price).

This is represented schematically in Figure 4.3 below.

The Bid (and sale) stack is 'built' by:

- The Total System Un-priced Accepted Bid Volume (i.e. CADL'ed Bids) is placed in the Bid stack as if it were the cheapest Bid (i.e. at the bottom);
- The (net) Sell Price Volume Adjustment (System) (SSVA) is placed in the Bid stack as if it were the second cheapest Bid (i.e. above the CADL'ed Acceptances, but below the Priced Accepted Bids);
- The Priced Bid Acceptances are stacked in price order (above the CADL'ed Offers and the SBVA), placing the most expensive Bids first; and
- The (net) Sell Price Volume Adjustment (Energy) (ESVA) is placed into the Bid stack in order of price (derived from ESCA / ESVA, i.e. a £/MWh price).

This is represented schematically in Figure 4.4 below.

Offer (Purchase) Stack

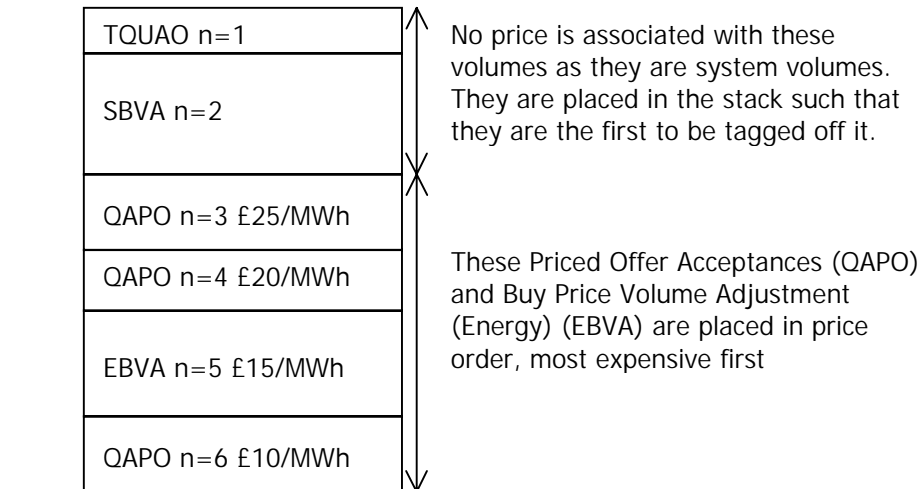


Figure 4.3: Composition of the Offer (Purchase) Stack

Bid (Sale) Stack

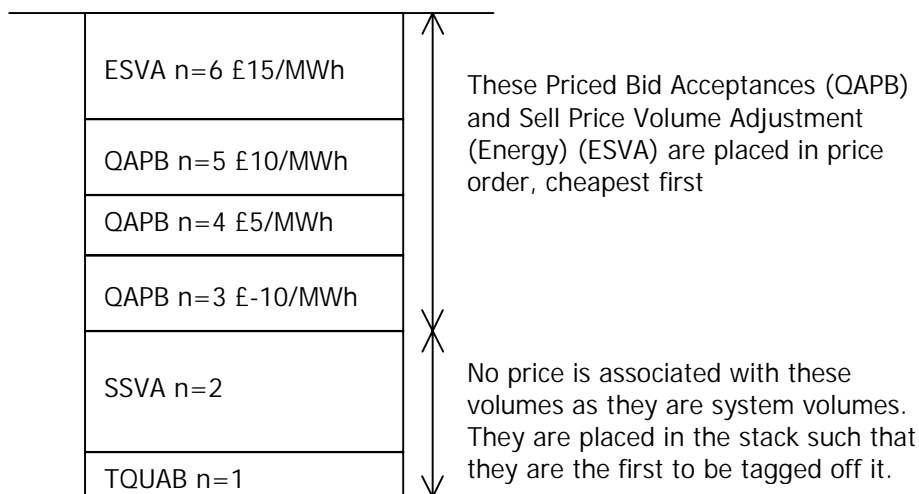


Figure 4.4: Composition of the Bid (Sale) Stack

Once the stacks have been built, the Net Imbalance Volume can be derived by netting, via tagging, the volume of the smaller stack (Offer stack where the system is long, and Bid stack where the system is short) off the larger stack. This is represented schematically in Figure 4.5, where a long system (i.e. more Bid Acceptances (and BSAD sales) than Offer Acceptances (and BSAD purchases)) is used as an example. It should be noted that this schematic assumes net BSAD energy and system volumes in the same direction as the system (i.e. net sales).

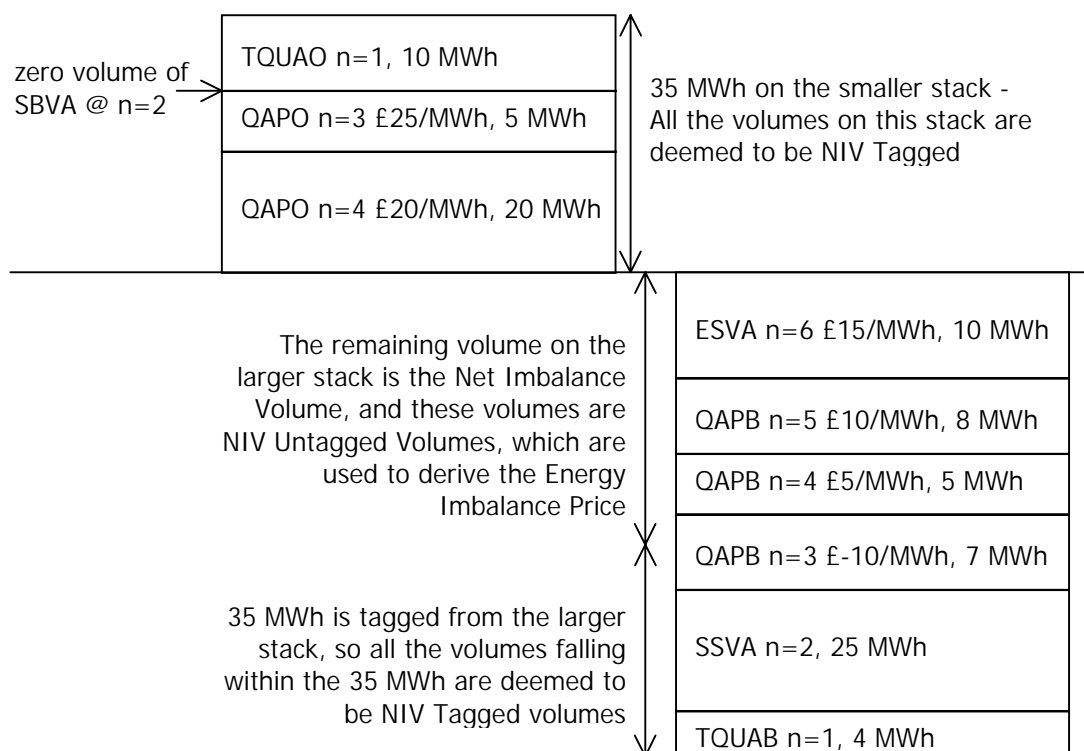


Figure 4.5: Net Imbalance Volume Tagging Example

Once the Net Imbalance Volume has been derived, the balancing actions that comprise it go forward to the Energy Imbalance Price calculation. A weighted average (main) Energy Imbalance Price is derived from the balancing actions taken to alleviate the Net Imbalance Volume.

If the Net Imbalance Volume is zero, then the default Energy Imbalance Price rules are invoked, as described in the subsequent sections (as the default rules for a NIV of zero differ between the Proposed and the Alternative Modification).

4.2.1 Balancing Services Adjustment Data Amendments

The Proposed and Alternative Modification P78 require amendment to the formulation and reporting of Balancing Services Adjustment Data (BSAD), as described in sections 1.4 and 4.1 of this Modification Report.

Currently BSAD reflects energy balancing only, and is reported as follows:

- Buy Price Cost Adjustment, BCA (£);
- Buy Price Volume Adjustment, BVA (MWh);
- Buy Price Price Adjustment, BPA (£);
- Sell Price Cost Adjustment, SCA (£);
- Sell Price Volume Adjustment, SVA (MWh); and
- Sell Price Price Adjustment, SPA (£).

However, for the derivation of a 'true' Net Imbalance Volume under the mechanism proposed by Proposed and Alternative Modification P78, the volumes attributable to system balancing should also be formulated and reported by the Transmission Company for use in the Settlement calculations.

However, it should be noted that only a volume attributable to system balancing will be provided, as it is not considered to be appropriate to 'pollute' the Energy Imbalance Price with 'known' system balancing actions. Therefore the system volumes are (only) used to derive the Net Imbalance Volume.

The following figure, (figure 4.6) taken from the Transmission Company document 'Modification Proposal P78: Revised SBP & SSP' (an expanded annex to Modification Proposal P78, provided in Annex 6 of the P78 Assessment Report (Reference 1)), reflects how the Transmission Company perceive any effect from gross reporting to be ameliorated by the incorporation of net BSAD.

In support of Figure 4.6 the Transmission Company asserts that in the gross reporting of BSAD the Energy Imbalance Price would reflect only BSAD trades, despite them resolving only a proportion of the Net Imbalance Volume, therefore this would not be robust against the Transmission Company (System Operator) having to unwind its pre-Gate Closure trades in the Balancing Mechanism.

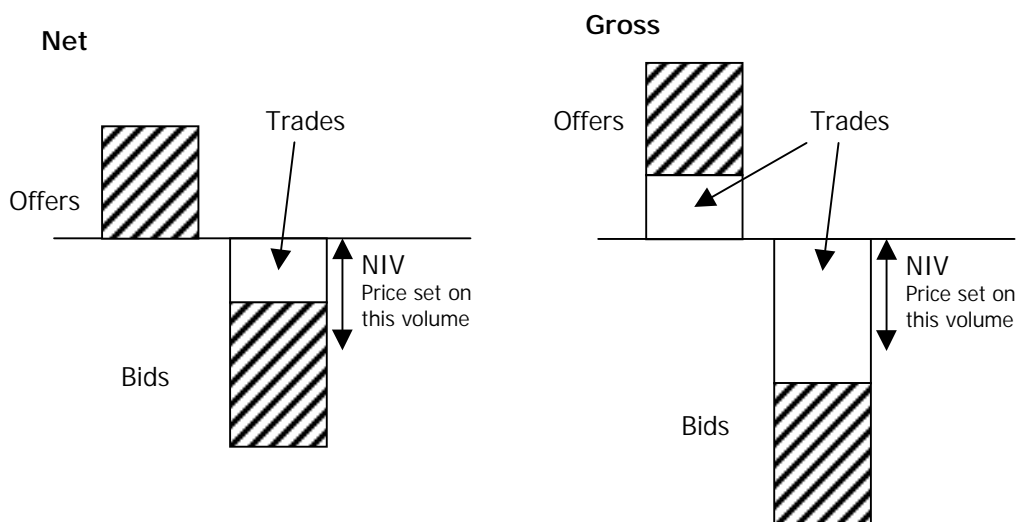


Figure 4.6: Net vs Gross Reporting / Usage of BSAD in the Energy Imbalance Price calculation.

Therefore the Transmission Company is proposing to report only net BSAD, as follows:

- (net) Buy Price Cost Adjustment (Energy) (EBCA) (£);
- (net) Buy Price Volume Adjustment (Energy) (EBVA) (MWh);
- (net) Buy Price Volume Adjustment (System) (SBVA) (MWh);
- Buy Price Price Adjustment (BPA) (£);
- (net) Sell Price Cost Adjustment (Energy) (ESCA) (£);
- (net) Sell Price Volume Adjustment (Energy) (ESVA) (MWh);
- (net) Sell Price Volume Adjustment (System) (SSVA) (MWh);
- Sell Price Price Adjustment (SPA) (£).

This will be validated on receipt to ensure, for the net reported variables, that where a net buy is reported (i.e. values for either or both EBVA and SBVA), that the net sell variables, i.e. ESVA and SSSVA, are zero, and vice versa.

4.3 Proposed Modification: Market Based Reverse Price

For the Proposed Modification, the main price is derived as described in section 4.2, and the reverse price is derived as follows:

Each Market Index Data Provider (MIDP) (i.e. any 'body', designated by the Panel, that trades ahead of Gate Closure, where such trades are notified to the Energy Contract Volume Aggregation Agent (ECVAA) and taken into consideration in Settlement) will calculate a traded volume and traded price, in accordance with the Market Index Data Definition Statement (as agreed by the Panel) for each Settlement Period.

Such traded volume and traded price will be representative of the short-term trading for that Settlement Period (with the exact time constraints set out in the Definition Statement, noting that they may be different for each MIDP, as they may be dependent upon products traded, or the mechanism by which the MIDP trades).

Each MIDP will have a (Panel defined) Individual Liquidity Threshold, which is a minimum volume (in MWh) below which it is deemed that there has been insufficient liquidity for that MIDP, such that the traded volume and traded price can be considered to be unrepresentative of trading, and therefore unsuitable to set the (reverse) Energy Imbalance Price. Therefore where the MIDP has a traded volume below its Liquidity Threshold, then it should default to a traded volume and price of zero.

Each MIDP is required to provide the traded volume and traded price (Market Index Data) to the BMRA no later than the end of the Settlement Period to which the data pertains. The BMRA will use the information provided by each MIDP to calculate the reverse price, as a weighted average of the Market Index Data provided by the MIDPs.

The BMRA will validate the Market Index Data to ensure that the traded volume exceeds the Liquidity Threshold for the relevant MIDP, if the traded volume is below the Liquidity Threshold, then BMRA will default the traded volume and price to zero for that MIDP and Settlement Period (and note the occurrence for the purposes of performance reporting).

If the BMRA does not receive the Market Index Data from an MIDP, then BMRA will default the traded volume and price to zero for that MIDP and publish a warning to that effect (and note the occurrence for the purposes of performance reporting).

Each MIDP is required to provide the traded volume and traded price (Market Index Data) for all Settlement Periods on a Settlement Day to the SAA and BSCCo no later than the end of the next Business Day to which the data pertains. The SAA will use the information provided by each MIDP to calculate the reverse price, as a weighted average of the Market Index Data provided by the MIDPs. BSCCo will publish the latest Market Index Data on the BSC Website.

Each MIDP should resubmit amended Market Index Data to the BMRA, SAA and BSCCo, as soon as the MIDP is aware of any amendments to such Market Index Data. BMRA will publish the amendments on the BMRA, SAA will use the latest data in the next Settlement Run, and BSCCo will publish the amended data on the BSC Website.

The SAA will validate the (latest) Market Index Data to ensure that the traded volume exceeds the Liquidity Threshold for the relevant MIDP, if the traded volume is below the Liquidity Threshold, then

SAA will default the traded volume and price to zero for that MIDP and Settlement Period (and note the occurrence for the purposes of performance reporting).

If the SAA does not receive the Market Index Data from an MIDP, then the SAA will default the traded volume and price to zero for that MIDP, and the Settlement Report will indicate that this is the case by reporting null (or zero) values for Market Index Data for that MIDP.

For the avoidance of doubt, if one of more of the MIDPs provide traded volumes in excess of their Liquidity Threshold, then the reverse Energy Imbalance Price will be derived from the Market Index Data provided by the(se) MIDP(s), i.e. (valid) data from one MIDP is sufficient to set the reverse Energy Imbalance Price.

Default Rules:

If the sum of all the traded volumes is equal to zero for a Settlement Period (i.e. either the MIDPs were below their Liquidity Thresholds, or no Market Index Data has been received), then the SAA / BMRA will default the reverse price to the main Energy Imbalance Price (calculated from the Net Imbalance Volume).

Where there is a negative spread between the main and the reverse Energy Imbalance Prices, i.e. the System Sell Price is greater than the System Buy Price, then both the System Sell Price and the System Buy Price default to the main Energy Imbalance Price derived from the Net Imbalance Volume.

Where the Net Imbalance Volume is zero, then both the System Buy Price and the System Sell Price default to the market based reverse Energy Imbalance Price, i.e. calculated from Market Index Data. For the avoidance of doubt, where the Net Imbalance Volume is zero AND the sum of all traded volumes provided by the MIDPs is zero, then both the System Buy Price and the System Sell Price will be zero.

4.3.1 Supporting Arrangements for the Market Based Reverse Price

Obtaining a market based reverse price (i.e. the Market Index Data) requires management and administration from ELEXON in order to secure provision of the data required to set the reverse Energy Imbalance Price. The following describes the supporting arrangements. The proposed amendment to Sections T1.5 and T1.5A, as described in the legal drafting for the Proposed Modification, provides a detailed description of the obligations and responsibilities regarding procurement and provision of Market Index Data.

The Panel is required to agree, with supporting analysis from ELEXON, the 'bodies' to become the Market Index Data Providers (MIDPs), and to derive the content of the supporting Market Index Data Definition Statement, i.e. the calculation undertaken by the MIDP to derive the Market Index Data, and the relevant Individual Liquidity Threshold for each MIDP.

It should be noted that it is intended that the designation of any MIDP be relatively dynamic, to ensure use of the most appropriate Market Index Data for setting the reverse Energy Imbalance Price, at all times. Therefore it is expected that liquidity (and performance) within existing MIDPs would be monitored (a Panel responsibility, with support from ELEXON) to ensure sufficient levels, and therefore the appropriateness of the resulting Market Index Data (noting that the MIDP can be 'removed' from the designated list at any time, by agreement of the Panel). It should also be noted that this monitoring would be extended to include monitoring of the appearance of any new potential providers, with designation of any such body as an MIDP, as and when their liquidity is sufficient.

ELEXON is required to procure the provision of the Market Index Data from the MIDP, via a commercial contract, with sufficient safeguards to ensure / secure the provision of Market Index Data to the requisite service levels, in the requisite format, and in accordance with the calculation / derivation set out in the Definition Statement.

Once the service has been procured from the MIDP, then ELEXON will be required, with assistance from the BMRA and SAA (in providing the relevant performance reports), to ensure that the MIDP performs to the service levels agreed, i.e. provision of Market Index Data to the BMRA by the end of the relevant Settlement Period, and to SAA and BSCCo by the Settlement Day plus one Business Day, adherence to the default rules for the Liquidity Threshold, and to levy any relevant penalties where service levels are not complied with.

Given that the Market Index Data is utilised for Settlement purposes, it is expected that the BSC Auditor would be required to audit each MIDP to ensure adherence to the Definition Statement in the provision of the information. However, it should be noted that, as a consequence of the commercial nature of the 'bodies' who are likely to be MIDP's, the scope of the BSC Auditor will be limited to the matters in any contract for provision of the Market Index Data, and / or compliance with the Definition Statement.

Again, as Market Index Data is utilised for Settlement purposes, it is expected that the scope of Trading Disputes would be extended to cover adherence to the Definition Statement in the provision of the information. However, it should be noted that, as a consequence of the commercial nature of the 'bodies' who are likely to be MIDP's, the scope of Trading Disputes will be limited to issues of compliance with the Definition Statement.

The scope of ELEXON 'control' is indicated in Figure 4.7 below.

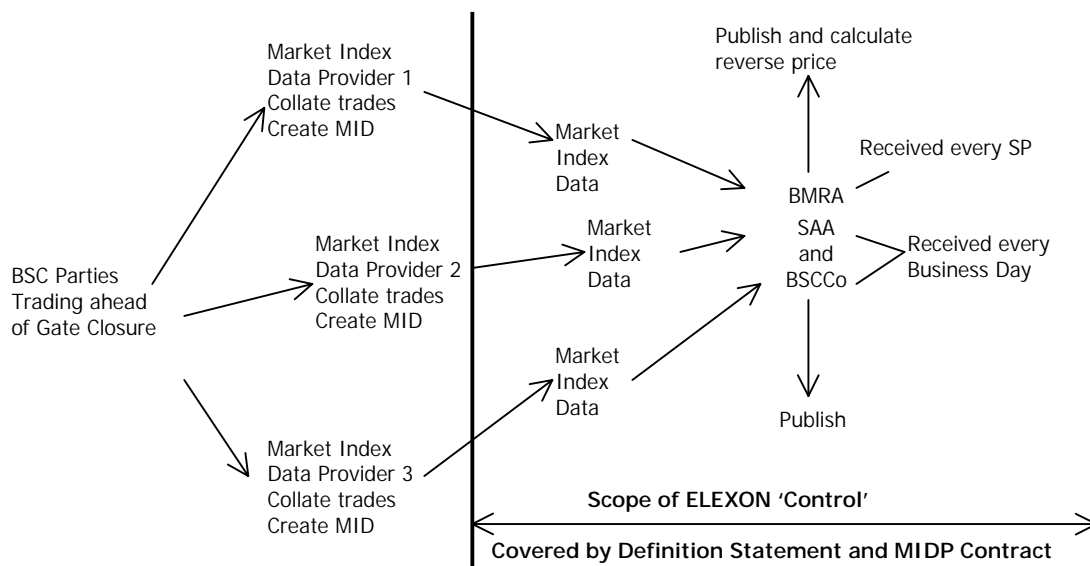


Figure 4.7: Scope of ELEXON 'Control' with Regards to the Provision of Market Index Data.

4.4 Alternative Modification: Balancing Action Based Reverse Price

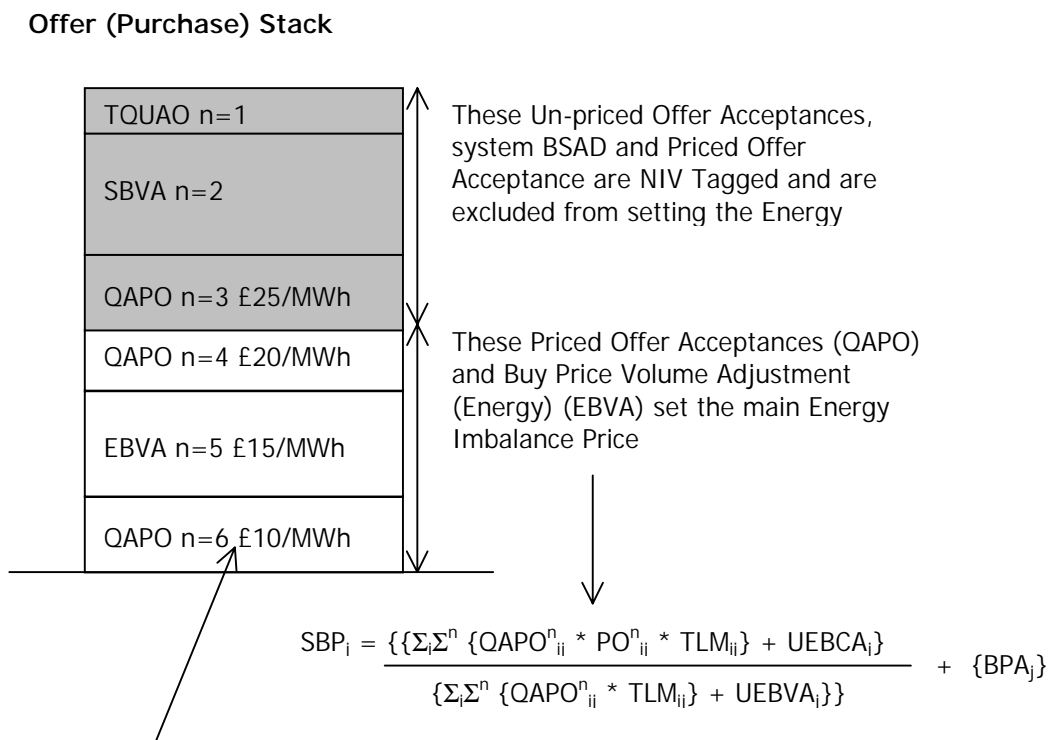
For the Alternative Modification, the main price is derived as described in section 4.2, and the reverse price is derived as follows:

Where the Net Imbalance Volume is positive, i.e. the system is short, the main Energy Imbalance Price is derived from a weighted average of the NIV Untagged balancing actions (Priced Offers and Energy BSAD purchases) taken to alleviate the Net Imbalance Volume (see Figure 4.5 for an example).

The reverse Energy Imbalance Price is then the cheapest (minimum) of the:

- First Non-arbitrage Offer Acceptance; or
- the Buy Price Cost Adjustment Price (BCAP, i.e. a £/MWh price derived from EBCA / EBVA) (where the EBVA was a value other than zero); or
- Where there is no such Offer or BSAD, zero.

This is shown schematically in Figure 4.8 below.



The reverse Energy Imbalance Price (SSP) is derived from the minimum of the first Non-arbitrage Offer Acceptance and the Buy Price Cost Adjustment price. In this example, it is QAPO n=6 @ £10/MWh, so SSP = £10

Figure 4.8: Reverse Energy Imbalance Price Example, where Net Imbalance Volume is Positive

Where the Net Imbalance Volume is negative, i.e. the system is long, the main Energy Imbalance Price is derived from a weighted average of the NIV Untagged balancing actions (Priced Bids and Energy BSAD sales) taken to alleviate the Net Imbalance Volume (see Figure 4.5 for an example).

The reverse Energy Imbalance Price is then the most expensive (maximum) of the:

- First Non-arbitrage Bid Acceptance; or
- the Sell Price Cost Adjustment Price (SCAP, i.e. a £/MWh price derived from ESCA / ESVA) (where the ESVA was a value other than zero); or
- Where there is no such Offer or BSAD, zero.

This is shown schematically in Figure 4.9 below.

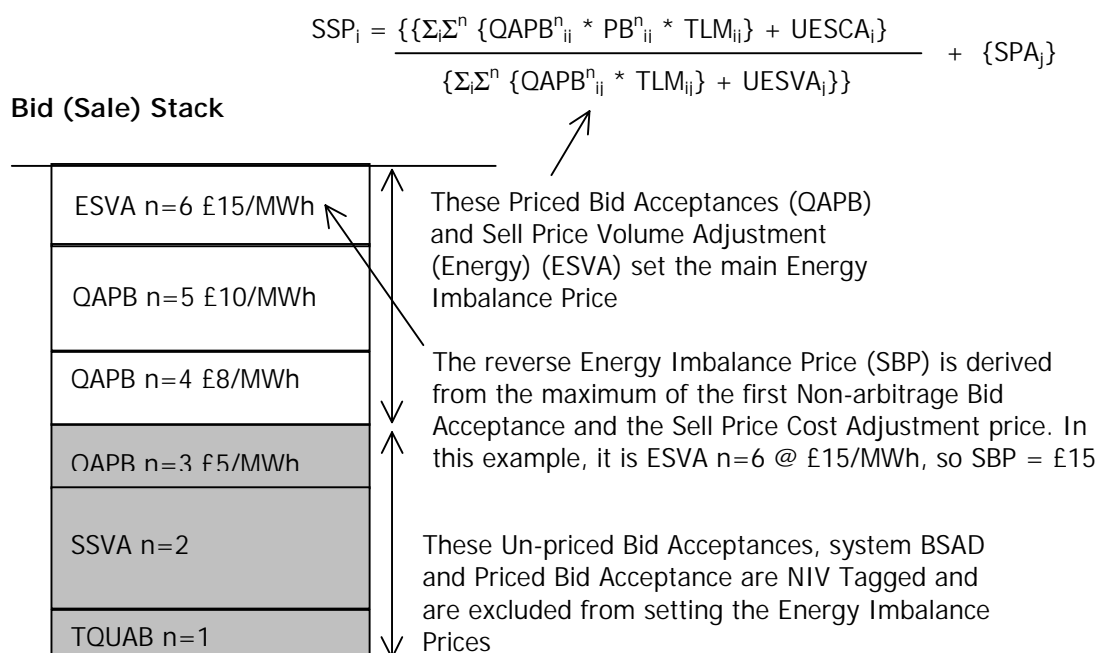


Figure 4.9: Reverse Energy Imbalance Price Example, where Net Imbalance Volume is Negative

The reverse Energy Imbalance Price will be calculated and reported to the same timetable as currently and no further amendments to functionality / reporting are required to give effect to the Alternative Modification.

Default Rules:

Where the Net Imbalance Volume is zero, then:

- The System Buy Price is derived from the cheapest Non-arbitrage Accepted Offer (with a positive pair number), or where there is no such Offer, then the Buy Price Cost Adjustment Price (BCAP), where there is no Offer, and no BCAP, then zero; and
- The System Sell Price is derived from the most expensive Non-arbitrage Accepted Bid (with a negative pair number), or where there is no such Bid, then the Sell Price Cost Adjustment Price (SCAP), where there is no Bid, and no SCAP, then zero.

Where there is a negative spread between the System Sell Price and the System Buy Price, i.e. the System Sell Price is greater than the System Buy Price, then both the System Buy Price and the System Sell Price default to the main Energy Imbalance Price (derived from the Net Imbalance Volume).

5 LEGAL TEXT TO GIVE EFFECT TO THE PROPOSED AND THE ALTERNATIVE MODIFICATION

Both redlined text and clean text for each of the Proposed and Alternative Modification P78 were provided for consultation (with v0.2 of this draft Modification Report) in order to provide an indication to Parties of the changes to the Code required to support the implementation of the Proposed and the Alternative Modification P78.

However, due to the complexity of the Proposed and Alternative Modification, and following advice from the ELEXON Legal Department, the legal drafting being provided (with this Modification Report) to the Authority is an amalgam of both the clean and the redlined text, which gives more clarity when implementing the changes. For each of the Proposed and the Alternative Modification, this draft is in all material respects the same as the two drafts which were consulted on (noting the clarification to the list of BSAD variables resulting from the representations made in respect of the draft Modification Report (section 6)).

5.1 Proposed Modification

For the legal drafting to support Proposed Modification P78 see attached document 'P078RR_Proposed Legal Text'.

5.2 Alternative Modification

For the legal drafting to support Alternative Modification P78 see attached document 'P078RR_Alternative Legal Text'.

6 SUMMARY OF REPRESENTATIONS

Thirteen responses (on behalf of 48 Parties) were received in respect of the draft Modification Report for Modification Proposal P78. In summary:

- Seven responses (15 Parties) supported the provisional recommendations contained within the draft Modification Report. It should be noted that two of these responses (8 Parties) supported the recommendations made in respect of P78, but expressed a preference for Alternative Modification P74;
- Five responses (32 Parties) did not support the provisional recommendations contained within the draft Modification Report, as all five respondents did not support the Modification Proposal (Proposed or Alternative); and
- One response (1 Party) made no comment in respect of the draft Modification Report.

The consultation responses contained no new, substantive arguments.

One response highlighted a discrepancy between the list of variables listed in Option 2 of the BSAD consultation and those listed in the proposed amendments to Section Q 6.3.2 of the Code. The response indicated that, although the list of BSAD variables provided in Section Q 6.3.2 was correct, additional clarity could be added by synchronising this list entirely with that in the BSAD Methodology Statement. It is not believed that this is a material amendment and therefore, for increased clarity, this amendment has been made to the legal drafting (following the consultation) for each of the Proposed and the Alternative Modification.

ANNEX 1 – REPRESENTATIONS

Responses from P78 Draft Report Consultation

Consultation issued 1 August 2002

Representations were received from the following parties:

No	Company	File Number	No. Parties Represented
1.	TXU Europe	P78_MR_001	21
2.	Powergen	P78_MR_002	3
3.	Edison Mission	P78_MR_003	1
4.	Aquila Networks	P78_MR_004	1
5.	SEEBOARD	P78_MR_005	1
6.	LE Group	P78_MR_006	1
7.	British Gas Trading	P78_MR_007	1
8.	Scottish Power	P78_MR_008	5
9.	Innogy	P78_MR_009	6
10.	Immingham CHP LLP	P78_MR_010	1
11.	Scottish and Southern	P78_MR_011	4
12.	Campbell Carr for Electricity Direct and British Sugar	P78_MR_012	2
13.	BP Gas Marketing Limited	P78_MR_013	1

P78_MR_001 – TXU Europe

Thank you for the opportunity to comment on Modification Proposals P74 and P78. The following comments are made on behalf of all TXU Europe companies (21 BSC Parties).

TXU does not believe that either of the modification proposals, or their alternatives, should be implemented at this stage. It is not entirely clear that either proposal will improve the separation of system and energy balancing actions. Further, we believe that both these proposals will severely reduce the incentives on participants to balance their positions ahead of gate closure by eliminating or greatly reducing the system buy/system sell spread. For these reasons we do not feel that P74/P74A/P78/P78A better achieve any of the applicable BSC Objectives.

Ofgem recently approved the reduction of the Balancing Reserve Level to 5 MWh and we believe that the market should allow sufficient time for the impact of this reduction to be fully realised and assessed before making any changes to the calculation of Energy Imbalance Prices.

Yours faithfully

Nicola Roberts

Market Development Analyst, TXU Europe Energy Trading Ltd.

P78_MR_002 – Powergen

I am writing in response to consultation on the modification reports for P74 and P78. This response is made on behalf of Powergen UK plc, Powergen Retail Ltd and Cottam Development Centre Ltd. We do not support the recommendation of the Panel that P74 Alternative and P78 Alternative should be implemented.

During the assessment consultation we stated that we did not believe that either P74 Alternative or P78 Alternative better met the relevant BSC objectives. For P74 Alternative we had concerns about whether a single price would provide enough of an incentive for parties to contract sufficiently ahead of gate closure. For P78 Alternative we felt the reverse price was somewhat arbitrary and not cost reflective. We also pointed out that Gate Closure had only recently been set to 1 hour, that BRL was just about to be reduced to 5MWh and that we felt it was too early to make amendments to cash-out prices until the industry had sufficient experience of operating in these circumstances. These views remain.

We believe that it is not possible to perfectly separate energy and system actions and that there are inevitably going to be some actions which have been taken for both purposes. Therefore, to aim to remove all potential system actions from the energy price is not realistic, as it simply means that more energy related actions would end up in BSUoS.

One benefit of the use of the Net Imbalance Volume (NIV) is that in theory it should provide a simpler way of deciding which actions go into energy prices, as it is not necessary to identify which individual trades were made for energy purposes. However, we do not believe that this potential for simplicity is being exploited sufficiently in alternative proposals P74 and P78 to warrant their implementation. They still require a separate identification of a volume of BSAD which is deemed to be for energy purposes and a volume which is deemed to be for system purposes, prior to the use of NIV.

In short, we do not believe that alternative proposals P74 and P78 are more cost reflective, or provide a simpler and more efficient method of setting price. We therefore do not agree with the recommendation that they better meet the relevant BSC objectives.

Yours sincerely,

Paul Jones

Strategy and Regulation

P78_MR_003 – Edison Mission

Edison Mission Energy does not support the rationale for recommending Modification P78. In the absence of supporting analysis of changes to behaviour there is no basis for asserting that P78 will better meet the applicable BSC Objectives. This modification proposal constitutes a material change to the B&SC that warrants more in-depth analysis before approval should be considered. The following issues have been overlooked:

1. P78 creates an artificial suppression of cashout prices. Cashout prices will be formulated from bids/offers and NGC's forward trades. Short duration bids and offers will undergo one arbitrary treatment (those less than 15 mins are deemed to have been taken for system reasons and are not included in the price calculation). NGC will split the forward trades into system and energy trades even though NGC admits that this judgment is very difficult to make. NGC's net forward energy trades will be placed in the relevant price stack an average price of all energy trades. Bids and offers (other than those that are of a short duration) feed into the stacks at the acceptance price.

There is no consistency of treatment - too many arbitrary, overly complex judgments are being made which lead to cashout prices that cannot be said to represent the costs of energy balancing. Quite what they do represent is unclear. Such complexity does not promote efficiency in the implementation and administration of the balancing and settlement arrangements

2. The reduction in Gate Closure, the Balancing Reserve Level and Pre-Gate closure BMU Transactions may be sufficient to address the concerns that led to these modification proposals being raised. Further complex changes to the cashout mechanism should not be made until the effects of the reduced BRL, PGBTs and Gate Closure can be assessed - next spring at the earliest. This opinion should not preclude an earlier decision on P90 which simplifies the calculation of cashout prices and removes the need for arbitrary rules and non transparent judgements.
3. In an oversupplied market, with risk averse suppliers who over forecast their demand to avoid exposure to SBP and an asymmetric bid-offer price curve, the main cashout price will most often be set from accepted bids. Since the reverse price is based on the first non arbitrated acceptance on the main stack, the reverse price will also generally be set from a bid. The resulting low cashout price provides only a weak incentive on parties to balance that will be detrimental to liquidity in short term markets and discriminate against owners of reliable flexible generation. The modification does not therefore promote competition in generation, instead it will reduce competition in generation.
4. Changing from gross to net reporting of NGC BSAD trades will further reduce the transparency of NGC's forward trading activities. As NGC's forward trades can have a potentially large effect on determining system direction (they could change a system that is apparently short as a result of Bid-Offer Acceptances to one which is long once NGC's forward trades are included) we maintain that an *increased* level of transparency associated with NGC's forward trades is required in order that all parties can verify published prices and respond appropriately to market signals. The proposals as described will only add to the opaqueness of the pricing calculation and create uncertainty over the need to balance in the short term markets. To improve transparency, NGC's trades should be disaggregated, reported prior to or at gate closure and each one included in the relevant stack at the traded price and volume.
5. It is proposed that NGC's forward energy trades are priced at the average of all forward energy trades. Using an average of NGC's forward buys and sells as the price of the net energy volume will not reflect those actions taken to achieve the net energy balance; if NGC is a net forward energy seller, the price will be too high; if a purchaser the price will be too low. The proposed methodology will therefore lead to cashout prices that are not reflective of the costs of energy balancing. It is also not clear which NGC trades are to be included. NGC has indicated at the PIMG that it trades forward up to a year in advance. Trades struck so far in advance should not be included as the cashout price is meant to represent the cost of short term balancing. Included trades should be restricted to those struck either day ahead or within day.

In summary, it is Edison Mission's view that P78 does not better facilitate the Applicable BSC Objectives.

Libby Glazebrook

Manager, Market Development

P78_MR_004 – Aquila Networks

Please find that Aquila Networks response to P78 Consultation on draft Modification Report is 'No Comment'.

regards

Rachael Gardener

Deregulation Control Group & Distribution Support Office, AQUILA NETWORKS

P78_MR_005 – SEEBOARD

With respect to above mentioned proposal and draft modification report dated 31st July. After considering all aspects of this proposal it is felt that recommendations in section 1.1 should be to reject both main and alternate versions of this proposal. There still seems to be some considerable doubt about both versions in terms of providing a valid value for reverse prices.

Given that this is a key area of trading this doubt means that we cannot be fully convinced that this proposal will better facilitate BSC objectives.

Dave Morton

SEEBOARD Energy Limited

P78_MR_006 – LE Group

LE Group (EPN Distribution Ltd, London Electricity plc, London Electricity Group plc, Jade Power Generation Ltd, London Power Networks plc, Sutton Bridge Power, West Burton Ltd) welcomes the opportunity to comment on the draft modification report on P78: Revised Definition of System Buy Price and System Sell Price.

We have the following comments to make.

We agree with the recommendation that P78 original should not be made. We agree with the recommendation that P78 alternative should be made. Our rationale is outlined below.

P78 original is flawed because:

- a lack of liquidity in short term markets will create a gameable reverse price
- there is no evidence to suggest that the pre-gate closure trades that would be used to create the market index reflect the cost of NGC actions taken to balance the system
- there is no guarantee that any 'price reporters' will be able to provide suitable information to construct a market index at the time this modification is implemented

P78 alternative better meets the relevant BSC objectives than the current baseline because:

- the methodology for deriving the main price in P78A better separates system and energy balancing actions through the inclusion of BSAD and CADL'ed Bid-Offer volumes attributable to system balancing in the calculation of the Net Imbalance Volume
- the reverse price is the closest available proxy to the price that NGC would have paid to remove an energy imbalance in the opposite direction to the market imbalance and is based on an action taken by NGC

- the reverse price is robust and not easily manipulated due to the large number of bids and offers submitted to the Balancing Mechanism and the transparency of the Balancing Mechanism
- the reverse price values participant actions by rewarding spill at the smallest, in absolute terms, energy imbalance-removing accepted Bid-Offer / BSAD price in the Settlement Period and therefore offers no benefit to the participant above the value it would have received had it submitted a bid or offer into the Balancing Mechanism
- this alternative modification maintains a price spread and therefore retains a strong incentive for participants to contract ahead of gate closure

Further detail on these points was given in our response to the second assessment consultation.

Yours sincerely,

Liz Anderson,

General Manager, Energy Strategy and Regulation

P78_MR_007 – British Gas Trading

Thank you for the opportunity of responding to this final modification report considering Modification Proposals 78 and 78 Alternative (P78A). British Gas Trading (BGT) support Alternative Modification Proposal 78 subject to the comments below.

BGT welcomes these proposals and is aware of the detailed discussions that have taken place in consideration of them. We believe that before discussing the detail of these proposals that we identify the criteria necessary for a successful regime. We believe these to be:

- a strong incentive on every individual party to balance their own supply and demand.
- a consequentially small residual balancing role for the SO
- overall minimisation of balancing costs
- maintenance of liquidity in the forward OTC and PX markets
- where parties are out of balance, that the imbalance costs incurred are reflective of the costs incurred by the SO in resolving that imbalance.

Looking at the detail, we agree that the current energy imbalance cashout regime is not cost reflective and is arguably penal. However, we believe that the principles of cost reflectivity, cost targeting and provision of an incentive to balance underlying the current price calculations are sound and should be retained in any changes that are made.

P78A has a number of advantages over the other modifications that have been considered in detail during the course of the discussions by the Pricing Issues Modifications Group. The following are key points we believe should be highlighted at this stage.

- The use of the Net Imbalance Volume is more cost reflective of the actions taken by NGC to rectify overall energy imbalance. The limited analysis of historical data that has been undertaken to support this proposal shows that there will be some dampening of energy imbalance prices if this proposal is implemented. A less severe SBP will reduce the incentive on participants to maintain a long position, improving the overall balance and efficiency of system balancing by the SO.

- P78A retains a dual price which maintains a price spread and provides strong incentives on Parties to balance their positions for Gate Closure. A dual price mechanism will retain the incentive on parties to contract bilaterally for energy through forward contracts as opposed to spilling energy onto the system.
- We believe P78A targets costs appropriately to those who cause them. There is no reward for participants who are 'favourably' out of balance thereby reducing the incentive to second guess overall system direction.
- The use of the first non-arbitrage bid or offer on the main stack ensures a promptly reported second price that is an acceptable reflection of energy balancing actions costs given the practicalities with the use of a market price (see below).

Whilst theoretically we would prefer the P78 approach of using a market price as the "reverse price", in our opinion the use of a market price derived from power exchanges in this proposal presents a number of practical problems. Our principal concerns are as follows:

The prompt availability of the prices cannot be guaranteed which may have implications for settlement and the positions taken by Parties.

- Using a power exchange market price means that there is a risk of some participants attempting to set the energy imbalance price in their favour e.g. generation only participants.
- Liquidity in the power exchanges can be low at times and this increases the potential for use of default prices. It is recognised that the current default rules are not robust and this is not a desirable outcome.
- The implementation costs associated with this proposal are significantly higher than those for other proposals. Furthermore, these costs are not final costs as they do not include those for the provision of information from the power exchanges.

We remain concerned that a fundamental underlying issue that remains to be resolved in reforming the energy cashout regime is the proper separation of system balancing actions from the calculation of energy prices. Ideally we would like to see a clear and transparent mechanism of tagging system trades out of the price stacks but, recognising the difficulties associated with achieving this within the BSC, we support P78A as an improvement over the current baseline. Notwithstanding this we are of the opinion that this may only be the first step towards development of the best possible solution

We hope these comments are useful. Should you wish to discuss any of these issues in more detail please do not hesitate to contact me on the number above.

Yours faithfully,

Danielle Lane

Transportation Analyst

P78_MR_008 – Scottish Power

Thanks for the opportunity to respond to this consultation on the P78 Modification Report.

We would reiterate the views, which we expressed in respect of the second Assessment Phase consultation. We continue to support the view that, if we were required to indicate a preference for one of the options presented as solutions, we would choose the P78 Alternative modification. We believe that this option best meets the Applicable BSC Objectives and would agree with the rationale for this as identified by the majority of the Pricing Issues Modification Group.

However, our previous views also indicated concern that these modification proposals did not undergo a more thorough analysis because of their expeditious treatment in terms of the Assessment timetable. We also identified valid reasons why further analysis requires to be undertaken. We believe that our argument for a more thorough consideration of the issues relating to imbalance pricing has been given more credence in two ways. Firstly, because there are now two further modifications being considered in this area, viz. P90 and P95. Secondly, because there is now an opportunity, as a result of the Authority decision on P28, to establish a Pricing Issues Standing Group, which could assess all the relevant issues and present a holistic solution to the problems identified. In our view, this would provide a more efficient and cost-effective method of dealing with market participants' concerns than the current piecemeal approach, which leads to greater uncertainty in the market. It would also allow for a proper perspective to be adopted in respect of the two main recent changes which might impact on imbalance pricing, viz. reduction in Gate Closure to one hour and the revision to the BRL value.

We note that the Modification Report highlights changes to the BSAD Methodology Statement, which will be required to provide consistency between the Statement and the proposed changes to the BSC. We would dispute the view expressed in the Report that the BSC changes should be "dependent upon the results" of the BSAD consultation. We are concerned that the changes being made to the BSAD Methodology are being undertaken prematurely, when the P78 legal drafting has not been finalised. We contrast this with previous changes made to the BSAD Methodology in respect of BSC modifications, when these were consulted upon once the final BSC changes had been identified. It is conceivable, for instance, that the Authority may reject the Panel's recommendations and decide to persevere with the current baseline. This would render the BSAD changes unnecessary. Furthermore, it is clear from the Panel recommendations that none of the proposed solutions can be implemented prior to 25 February 2003 at the earliest. The period between the submission of the final Modification Report to the Authority and the earliest proposed implementation date would allow ample time for a consistent set of changes to the BSAD Methodology to be made and consulted upon.

We note the proposed legal drafting changes in respect of this modification and would agree that they are generally appropriate. However, we would wish to highlight the need to make explicit that the BSAD data to be provided by NGC is net. This would avoid confusion for market participants and could be done simply by inserting the word "Net" in the description of the BSAD cost and volume adjustment variables in Section Q6.3. This is how the same variables are described in the corresponding BSAD changes.

I trust that you will find these comments helpful. Nonetheless, should you require further clarification of any of the above, please do not hesitate to contact me.

Yours Sincerely,

Man Kwong Liu

Calanais Ltd.

For and on behalf of: - *Scottish Power UK Plc.; Scottish Power Energy Trading Ltd.; Scottish Power Generation Ltd.; Scottish Power Energy Retail Ltd.; SP Transmission Ltd.*

P78_MR_009 – Innogy

This submission represents the views of Innogy plc, npower Limited, Innogy Cogen Trading Limited, npower Direct Limited, npower Northern Limited, npower Yorkshire Limited.

Generally we believe that the draft Modification Reports for P74 and P78 represent a fair summary of the rationale for the recommendations, and the description of the processes that have been proposed.

The draft report for P74 indicates that the Modification Group failed to reach a clear view that P74A better achieves the relevant BSC objectives. Given the importance of this Modification to the functioning of the market it seems somewhat unfortunate that the PIMG could not be given the additional time that was requested. This would have enabled them to undertake the relevant modelling that was proposed and thus give them greater confidence in formulating a definite conclusion to their deliberations.

We note that the summary of the representations made by parties has not yet been included in the report. Given past difficulties we would wish to reserve our position concerning any issues that might emerge from these summaries until this part of the drafting is complete. We would trust that the report will faithfully record our support for P74A as a pragmatic single cash-out price model, and note that P74, P78 and P78A are, in our view, inappropriate.

P78_MR_010 – Immingham CHP LLP

Thank you for the opportunity for commenting on the P74/P78 draft Modification reports. Please treat this reply as a response to both draft reports.

The current imbalance price setting rules fail to deliver the intended outcomes. In particular, they load energy imbalance charges, including some associated with system balance, on out of balance parties and unnecessarily increase market risk. The methodology is therefore punitive and penal to parties in imbalance.

As a general remark, we consider that P74 and P78, both original and alternative formulations, better meet the applicable objectives than the existing imbalance pricing rules, and **we support the recommendations in both the draft reports** as endorsed by the BSC Panel. Of the four choices, **we strongly believe P78 Alternative best facilitates the applicable objectives**. The primary reason for this judgement relates both to efficiency as it provides the most cost reflective approach and to facilitating competition in the market by removing barriers to intermittent technologies. In addition we believe this is the modification most likely to incentivise parties to balance their position.

We have previously provided full responses to the initial and full assessment phases on both modifications that lay out our views in greater detail, and these are remain generally applicable to the draft reports.

Maureen McCaffrey

For Immingham CHP LLP

P78_MR_011 – Scottish and Southern

This response is sent on behalf of Scottish and Southern Energy, Southern Electric, Keadby Generation Ltd. and SSE Energy Supply Ltd.

Further to your note of 1st August 2002, and the associated Modification Report for P78, we agree with the proposed BSC Panel recommendation to the Authority that the Original Modification Proposal P78 should not be made and we agree with the proposed BSC Panel recommendation to the Authority that the Alternative Modification Proposal P78 should be made.

For the avoidance of doubt, we would prefer that the Authority approve the Alternative Modification Proposal P78, rather than the Alternative Modification P74.

If the Modification Proposal P78 is approved, we agree with the proposed BSC Panel recommendation on the timing for the Implementation Date, as outlined in Section 1.1 of the Modification Report.

P78_MR_012 – Campbell Carr for Electricity Direct and British Sugar

Although the PIMG could not come to a definitive conclusion on every proposition posed in these two Modifications, there has been an impressive degree of progress on several points. These must have been crucial in the Panel's unanimous recommendation in favour of both of the Alternative Modifications. This response addresses both Modifications together because so many of the areas covered are common.

This response is in two main parts. In the first, we discuss some of the key issues where there is scope for confusion or disagreement in order to offer a clear considered view on the point. In the second, the proposals are assessed against the BSC Objectives.

Main Issues

Cost-reflectivity

The transmission company has clearly stated that no action taken by it in the reverse direction of the system's overall balance is for energy balancing reasons – they are all for systems reasons.

There is therefore no energy cost to reflect in the reverse price. The current pricing mechanism for the reverse price must therefore be penal and cannot be cost-reflective.

The only energy reason for reverse-flow actions over a full trading period is to prepare plant to carry reserve. Given the extent of option contracting by NGC and the extent of part-loading of plant (even without actions taken to buy the market back from its hitherto habitual long position), there seems no foreseeable need for NGC to procure reserve in forward markets or in the balancing mechanism.

There can still be actions for within-period energy imbalances (not all of which will be removed by CADL). Participants cannot trade out of such positions. The within-period imbalance cannot be accurately attributed to any party because a party causing/contributing to the within-period reverse-flow imbalance may have a net imbalance in the opposite direction over the whole of the trading period.

Although the point was exhaustively debated at the time of Modification P18A, there remains considerable confusion about the role of imbalance prices. They are not designed for cost allocation but for cost reflection. It is therefore irrelevant whether particular actions for energy purposes have been excluded from the calculation of the energy price if the inclusion or otherwise of such an action does not significantly move the resulting imbalance price.

A participant imbalance in the reverse direction allows the transmission company to avoid taking a balancing action and so its cost-reflective value should be that of the action avoided. This tends to favour the single-price proposed in P74 (although the reverse-flow price proposed in P78 may be favoured for other reasons).

From a pure economic perspective, the market can only be out of balance in one direction and so there can only be one marginal value of imbalance energy.

Incentive to balance

The current regime is an incentive on suppliers to spill (this is supported by the algebra presented in the Assessment Reports – P74 Annex 6b, 78 Annex 5). This is related to the fundamental nature of price-setting in the balancing mechanism whereby the range of prices of Bid Acceptances will usually be less than the range of Offer Acceptance prices. Even with BSAD adjustments, trade tagging and CADL, the probability of price spikes in the buy direction is considerably higher, hence a supplier incentive to over-contract.

Both proposals reduce the penalty for being out of balance in the reverse direction and so will tend to reduce the incentive on suppliers to spill.

This will lead to a more balanced market.

The frequency of NGC energy purchases (both before and after gate closure) will increase and its energy sales will reduce. BSUoS will inevitably increase but this should not be regarded as an increase in the cost of balancing because that cost is currently being borne by suppliers through excess contracting, the cost of which feeds through to customers. In reality, in a balanced market, there will only be central purchase of residual balancing services and the overall cost should be lower to the customer.

As indicated by the algebra, the incentive to balance in P74 is based purely on the direction of the market but the incentives in P78 are more complex. Both improve on the current mechanism whereby market balance is irrelevant.

Both proposals incentivise suppliers to balance to their own forecasts of demand. This is not fully obvious in P74 because there is an apparent incentive to take a position opposite to the market. In reality, this incentive is a chimera because no party (including NGC) will have sufficient information about the intentions of other parties before gate closure. Any out of balance position taken is therefore a gamble and, to the larger the gamble taken, the greater the risk that the gambler will tip market balance against himself.

Nevertheless, the incentive to take a contrary position is lower in P78 because the potential reward is less. Whether this leads to a more balanced net position cannot be judged – it depends on the extent to which such “voluntary” imbalances offset involuntary ones (when generators trip or else when suppliers mis-forecast).

Incentive to spill

NGC's main contention against P74 is a belief that parties will be happier to take the “average” imbalance price rather than to contract ahead of gate closure or else to submit bids and offers. This is mistaken for the following reasons:

As demonstrated by the algebra already mentioned, the incentive on suppliers is to contract to avoid expected imbalance prices. In a free market, the spot price will adjust up to the point where suppliers are indifferent as between exposure to expected imbalance prices in both directions and taking that spot price. At this point, suppliers will be fully contracted provided that generators are offering energy at that price.

Annex 6c of the P74 Assessment Report demonstrates that generators will be likely to be offering spot contracts at their risk-adjusted expected spill price (and will contract at that price for price certainty rather than spilling at risk of only getting SSP) but will also be better off offering the energy to NGC rather than spilling because their risk-adjusted position is better.

Although the Transmission Company believes that it is wrong that any imbalance should earn more than has been earned from a BM Acceptance, this is a moral position rather than an economic one:

An intentional imbalance is a risk position whose ex ante value must reflect both the expected system prices, whereas a BM Acceptance is a contract at a defined price;

An unintentional balance is also a risk position but one that, by definition, is not in the control of the out-of-balance party. Therefore, in an incentive regime, there is in perverse incentive in rewarding this position at the value of system imbalance.

Liquidity

It has been asserted that liquidity will be drained from the spot and forward markets and replaced by CfDs. It is not certain whether parties will use CfDs rather than spot trading to manage imbalance risk but it should be noted that any long-term contract (base load or shaped) can remove liquidity from shorter-term markets and the fact that the long-term contract is in the form of a CfD is not particularly relevant. A CfD is just another form of long to medium-term contract.

In addition P74 (but not P78) removes notification risk from the market because of the fallback of CfD terms in the event of notification failure. This must increase the potential for liquidity in prompt markets.

Notified contracts are likely to predominate even so for the following reasons:

Once a contract has been notified, only residual credit risk need be allowed for under BSC terms – market credit terms are likely to be less onerous and hence cheaper.

Parties will prefer notified contracts because delivery is made at gate closure rather than on delivery of meter reads (at settlement). This is of particular benefit to suppliers.

Non-physical Traders will be able to take a fallback physical position and so will be in a better position to offer risk management “across the system”. This increases the competition for provision of risk management and is more efficient than reliance solely on Consolidators.

Assessment against the BSC Objectives

Modification P74

This proposal incentivises better balance of the system. As such, NGC only needs to take a residual balancing position rather than habitually needing to dispose of significant volumes of excess energy. This therefore allows more efficient and economic operation of the balancing mechanism.

The Original Proposal priced imbalances in the main direction in the same way as the current mechanism and so, in this respect is at least as good as the current baseline. The Alternative Modification utilises NGC’s assessment of those balancing actions taken for energy balancing reasons and therefore provides a more cost-reflective price than the baseline – again in the main direction.

Both the Original Proposal and the Alternative value reverse-flow imbalances at approximately NGC’s avoided cost of managing energy imbalances and so are both significantly more cost-reflective than the base line. This cost-reflective position therefore facilitates competition in generation and supply by correctly pricing imbalance positions.

Modification P78

This proposal also incentivises better balance of the system, which allows more efficient and economic operation of the system.

The proposal removes more systems-balancing actions from the calculation of the main price and so is more reflective of the cost of energy imbalance than is the baseline.

The principle behind calculation of the reverse price differs from that of P74. The price used is intended to represent the cost that the out-of-balance party could have incurred before gate closure had that party traded out its position then. The price must therefore reflect some form of pre-gate closure market price. Because NGC will not have taken any energy actions in the reverse direction for energy reasons, there is no cost that such a price can reflect. The resultant price is therefore more cost-reflective than the current position, which erroneously reflects the cost of systems actions (and not energy actions).

However, there remains a debate between whether a market index should be used for this reverse price or whether some form of proxy is preferable. The Transmission Company adheres to its original proposal that a market index should be used and this is to be preferred on theoretical grounds. However, the proposed proxy price remains better on practical grounds as is exhaustively explained in the Assessment Report. We therefore support the Panel in recommending the Alternative, noting that the price used is meant to "reflect" the cost that the individual party avoided by going into imbalance rather than seeking to precisely measure that cost and so this proxy seems a sufficiently close approximation for the intended price.

Conclusion

The current price-setting mechanism has serious flaws that distort the market and needs to be improved to facilitate competition. Such distortions will not be improved significantly by the introduction 1-hour gate closure or by the recent reduction in BRL. By punishing all imbalances, parties are led down a "least-bad" route rather than an efficient one that optimises the cost of managing imbalance risk.

Both Modifications and their Alternatives improve the situation by removing distortions and perverse incentives. It is unfortunate that the situation cannot be remedied before the coming winter.

The Panel is correct to recommend the Alternatives of both Modifications. The P74 Alternative improves the cost-reflectivity of the "Main Price" and ensures the promptness of price reporting (although this could have been easily accommodated by a minor change to the Original Proposal).

The case for the P78 Alternative is less clear-cut relative to the Original but is to be preferred because it is close to the Original but with lower implementation risks and costs.

P74 Alternative is to be preferred over P78 Alternative because it is more likely to stimulate market liquidity but both proposals are a significant improvement on the status quo.

Yours sincerely

Robert Barnett

Economics Consultant, Campbell Carr Limited

P78_MR_013 – BP Gas Marketing Limited

Thank you for the opportunity to offer our thoughts on the P78 modification.

BP Gas Marketing Ltd. recognises the drive to maintain a dual cash-out system for imbalance charges. While we do not necessarily agree that this is the most cost reflective method to use, we identify that

the P78 Alternative is a better system than the one currently in use as it incentivises better balance of the system, leading to more efficient and economic operation of the system.

The removal of more systems-balancing actions from the main price calculation allows a more reflective, but not perfect measure, of the true cost involved for use in the reverse price.

Therefore we support P78 Alternative over P78."

Best regards,

Ian M. Mullins

Regulatory Advisor, BP Gas, Power & Renewables