

30 October 2001

**MODIFICATION REPORT**  
**MODIFICATION PROPOSAL P27 –**  
**Amendmenet to the Derivation of**  
**Imbalance Prices**

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

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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 Phase, and the resultant findings of this report, the BSC Panel recommends that the Proposed Modification should not be made.

### 1.2 Background

Modification Proposal P27 was submitted by Electricity Direct on 26 June 2001, proposing the BSC be modified to amend the derivation of imbalance prices. It was argued by the proposer that the imbalance prices did not reflect costs imposed on the System, which had the effect of impairing development of spot markets for electricity. Thus, it was argued, the Proposed Modification, if made, would better promote effective competition in the sale and purchase of electricity.

An Initial Written Assessment was considered by the BSC Panel on 23 July. The Panel directed that the Proposal should proceed straight to the Assessment Phase, to be considered by the Pricing Issues Modification Group.

The Modification Group held meetings on 21 August 2001, 27 September 2001 and 5 October 2001, with an Assessment Report being presented to the Panel on 18 October 2001. The Modification Group concluded that the Proposed Modification would better facilitate the achievement of the Applicable BSC Objective of *“promoting effective competition in the generation and supply, and (so far as consistent therewith) promoting such competition in the sale and purchase of electricity”*. However, the Modification Group also concluded that the Proposed Modification would impair the achievement of the Applicable BSC Objective of *“efficient, economic and co-ordinated operation ... of the Transmission System”*. The Modification Group was unable to conclude which effect would outweigh the other, and hence was unable to conclude whether the Proposed Modification would, overall, better facilitate the achievement of the Applicable BSC Objectives.

There was a view expressed within the Modifications Group that an Alternative Modification would be desirable. However, no proposal for an Alternative Modification was identified which received support from members of the Modification Group.

### 1.3 Rationale for Recommendations

The Panel recommended that the Modification should not be made on the grounds that, whilst there it felt that there was some merit in addressing the issues that the Modification sought to address, it had not been established that the particular Modification would better facilitate the achievement of the Applicable BSC Objectives.

## 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](http://www.elexon.co.uk)

### 3 PURPOSE AND SCOPE OF THE REPORT

BSC Section F sets out the procedures for progressing proposals to amend the BSC (known as ‘Modification Proposals’. These include procedures for proposing, consulting on, developing, evaluating and reporting to the Authority on potential modifications.

The BSC Panel is charged with supervising and implementing the modification procedures. ELEXON provides the secretariat and other advice, support and resource required by the Panel for this purpose. In addition, if a modification to the Code is approved or directed by the Authority, ELEXON is responsible for overseeing the implementation of that amendment (including any consequential changes to systems, procedures and documentation).

A Modification Report must be prepared and submitted to the Authority in respect of each proposed modification and must contain:

- (a) The recommendation of the Panel as to whether or not the Proposed Modification or any Alternative Modification should be made;
- (b) The proposed Implementation Date for implementation of the Proposed Modification or any Alternative Modification;
- (c) The matters set out in Annex F-1 of the BSC. This will usually be in the form of the relevant Assessment Report where the Proposal has been submitted to a Modification Group prior to the Report Phase;
- (d) An explanation of the Panel’s rationale should the Panel form a different view of any matters contained in the Modification Group Report; and
- (e) A summary of the representations made by Parties and interested third parties during the consultation undertaken in respect of the Proposed Modification and any Alternative Modification.

## 4 DESCRIPTION OF PROPOSED MODIFICATION

Modification Proposal P27 proposes an amendment to the derivation of System Buy Price and System Sell Price. It suggests that:

- (1) when the System is long, the calculation of System Sell Price should be unchanged, but the System Buy Price should be derived as the System Sell Price plus an offset; whilst
- (2) when the System is short, the calculation of System Buy Price should be unchanged, but the System Sell Price should be derived as the System Buy Price less an offset.

The offset price is derived by:

- (i) in case (1), spreading the aggregate cost of accepting Offers relative to the cost of buying that energy in the forwards markets across the total of short (i.e. negative) Account Energy Imbalance Volumes; and
- (ii) in case (2), spreading the aggregate cost of accepting Bids relative to selling that energy in the forwards market across the total of long (i.e. positive) Account Energy Imbalance Volumes.

The Proposal thus derives the imbalance price for energy imbalances that oppose the overall imbalance of the system by allocating the cost of balancing actions that oppose the net direction of balancing actions over those opposing energy imbalance volumes.

The Modification Proposal requires that the cost of buying or selling energy in the forwards markets is determined by reference to a “Market Price”. This is a measure of the price of energy in publicly traded markets using a source designated by the Panel to be used for this purpose.

## 5 HISTORY OF PROPOSED MODIFICATION

The Proposal was submitted by Electricity Direct on 26 June 2001.

An Initial Written Assessment was considered by the BSC Panel on 26 July 2001. The Panel decided that the Proposal should proceed to the Assessment Phase. During the Assessment Phase, Pricing Issues Modifications Group meetings took place on 21 August 2001, 27 September 2001 and 5 October 2001. A consultation on the Initial Written Assessment was issued 20 July. Nine responses were received, which were considered by the Modifications Group during the Assessment.

The Modification Group concluded that the Proposed Modification would better facilitate the achievement of the Applicable BSC Objective in Condition 7A(ii)(c), namely *“promoting effective competition in the generation and supply of electricity, and (so far as consistent therewith) promoting such competition in the sale and purchase of electricity”*. However, the Group concluded also that the Proposed Modification would impair the achievement of the Applicable BSC Objective in Condition 7A(ii)(c), namely *“the efficient, economic and co-ordinated operation ... of the Transmission System”*. The Modification Group was unable to conclude whether the Proposed Modification would, overall, better facilitate the achievement of the Applicable BSC Objective. Hence, in accordance with F2.4.14 of the BSC, the Assessment Report instead included a summary of the views of the members of the Modification Group.

There was a view expressed within the Modifications Group that an Alternative Modification would be desirable. However, no proposal for an Alternative Modification was identified which received support from members of the Modification Group.

The Assessment Report was considered by the BSC Panel on 18 October 2001. The Panel discussed whether there would be merit in referring the Modification Proposal back to the Modification Group for further analysis. However, the period of three months permitted by the Code for the Assessment Phase had elapsed, and the representative of the Authority indicated that it would not look with approval on any extension. Accordingly, the Panel accepted the recommendations of the Modification Group that the Proposed Modification should proceed to the Report Phase. The Panel further decided that it should recommend that the Proposed Modification should not be made.



## 6 ASSESSMENT

During the Assessment Phase, the Modification Group considered a number of issues and the effect that these would have on achievement of the Applicable BSC Objectives.

### 6.1 Market Efficiency

A number of aspects were discussed regarding the ability of the Proposed Modification in better, *“promoting effective competition in the generation and supply of electricity, and (so far as consistent therewith) promoting such competition in the sale and purchase of electricity”*.

#### 6.1.1 Imbalance Price Spreads

In the Proposed Modification, according to whether the market, i.e. the aggregate of all Trading Parties’ Account Energy Imbalance Volumes, is long or short, either the SSP or SBP, respectively, would be calculated in the same manner as now. The ‘other’ price, i.e. respectively either SBP or the SSP, would be equal to the ‘main’ price modified by the Reverse Flow Unit Offset Price (RUOP). The Group agreed that the effect of the Proposed Modification consequently would be to reduce the spread between SBP and SSP.

With a lower spread, the Proposer argued that the Proposed Modification would make it easier for Trading Parties to contract to match their physical exposures, whether by writing financial derivative contracts<sup>1</sup> or by notifying physical contracts. The Modification Group agreed, and noted that this greater ability to contract could increase the efficiency of the market. The Proposer also argued, and the Modification Group did not disagree, that this improvement would be particularly important for smaller players who currently have a disproportionate problem – at least in the absence of fully-developed consolidation services - in managing imbalance risk. To the extent that there were economies of scale in electricity supply, generation of trading, the Proposed Modification would thus also create a barrier to entry by increasing the costs until a new entrant can achieve that economy of scale.

#### 6.1.2 Incentive to Balance

The Group recognised that presently the trading arrangements, and the resulting prices, give an incentive for the market to “go long”. Due to the uncertainty of physical demand, and the greater consequences of being exposed to System Buy Price compared with System Sell Price, Suppliers will tend to buy greater contract volumes than their unbiased expectation of their demand. Generators will be willing to sell these greater volumes of contracts, but will intend - making physical notifications accordingly - to generate these greater volumes so as not to go short. Thus, the System Operator typically has to accept Bids in order to balance the System.

A view was that the Proposed Modification would reduce the incentive to go long, because the consequences of being short (and thus exposed to SBP) in a long market would be less severe. Whether a Party was to be exposed to SSP or SBP would now be dependent on whether the market overall were long or short, and hence the best strategy would be to avoid imbalance in either direction. Another view was that, to the extent that SBP and SSP can be forecast now, the incentive would be to estimate the probabilities that the market would be either long or short. Trading Parties would then compare the expected price to the price in forward markets.

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<sup>1</sup> E.g. contracts for differences.

Thus, the Modification Group concluded that simple arbitrage would then dictate that Trading Parties would go as long as possible or as short as possible, until the arbitrage opportunity had been closed. Elimination of the bias of the market to go long, the Group believed would result in more efficient prices.

### 6.1.3 Linkage between markets

The arbitrage effect described in the previous section would increase the demand or supply of contracts in the short-term forward markets until the market price was equal to the expectation of SBP and SSP. The Group noted that this would create more ‘linkage’ between the forward markets and imbalance prices, which may increase market efficiency.

## 6.2 Effect on System Operation

The Group agreed, by the reasoning given in Section 6.1.2, that the Proposed Modification would reduce the incentives on Trading Parties to self-balance their own portfolio, but that it would increase the incentive to self-balance against the whole market. Accordingly, the Modification Group agreed that the Proposed Modification could impair *“the efficient, economic and co-ordinated operation ... of the ... Transmission System”*. However, the Modification Group was unable to reach a consensus on whether this effect would be material, and sufficient to outweigh any market efficiency benefit.

The Transmission Company stated that a possible result of this Proposed Modification could be to reduce the incentive on Trading Parties to contract, which could increase the number of balancing actions, potentially impairing the *“the efficient, economic and co-ordinated operation ... of the ... Transmission System”*. However, the Modifications Group, again, was unable to reach a consensus on whether this effect would be material.

## 6.3 Timing of Imbalance Price Publication

The Group identified that the Proposed Modification had an effect on the timing with which imbalance prices could be determined and published. As originally envisaged in the New Electricity Trading Arrangements, imbalance prices should be available on the Balancing Mechanism Reporting System within 15 minutes of the end of the Settlement Period, although certain modifications, such as P18A, “Removing the Effect of System Balancing Actions”, have compromised the ability to do this, particularly using the interim implementation from 25 September 2001. Although the Reverse Flow Imbalance Cost, could be determined shortly after the Settlement Period, provided that Balancing Services Adjustment Data (BSAD) and Market Price were available, the Reverse-Flow Unit Offset Price could not be determined finally until all of the imbalances on all of the Trading Parties’ accounts had been established.

The Transmission Company confirmed that it was working towards providing BSAD data half-hourly at Gate Closure by 1 April 2002<sup>2</sup>. The availability of Market Price data in real-time would depend on what source or sources of data were designated for the purposes of establishing the Market Price. However, it was understood that it is possible for exchanges to provide a reference price in timescales comparable to Gate Closure.

However:

- (i) it was noted by the Modification Group that the Initial System Sell Price and the Initial System Buy Price would continue to be available in the same timescales as now. In addition, whether

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<sup>2</sup> Ref. Table 4, NGC Procurement Guidelines, V1.1, 21 September 2001.

the market was long or short could also be known in real-time, and hence whether the two imbalance prices were close to Initial System Sell Price or Initial System Buy Price could also be determined.

- (ii) it was argued that uncertainty for Trading Parties over the Reverse Flow Unit Offset Price would be no greater than the uncertainty associated with the Residual Cashflow Reallocation Cashflow. A counter-argument was that this argument was dependent on the relative sizes of Reverse Flow Imbalance Cost and Total System Residual Cashflow and the corresponding bases over which the costs were spread, i.e. the total volume of Accepted Offers and Bids, or the total Credited Energy Volumes<sup>3</sup>.

Given that the exact Reverse Flow Unit Offset Price could not be known in the timescales required for display on the BMRA, and, if the uncertainty associated with it were indeed small, then an implementation option identified by the Modification Group of *not* calculating and displaying data on the BMRA appeared to be feasible.

## 6.4 Price Volatility

A further observation was that the Proposal may increase the volatility of imbalance prices. Though the spread between System Buy Price and System Sell Price would be likely to be reduced by the Proposal, whether the two imbalance prices were close to the existing System Buy Price or to the existing System Sell Price would depend, from Settlement Period to Settlement Period, on the whether the System were deemed to have been long or short. Thus the volatility of System Buy Price and System Sell Price would each increase.

However, it was noted that a Trading Party seeking to maintain a balancing position was already subject to such volatility. This was not so much as a result of volatility in the individual prices, but as a result of uncertainty over *which* price the Trading Party would be exposed to.

## 6.5 Modification Group Conclusions

Thus it was concluded that the Proposed Modification would better facilitate the achievement of the Applicable BSC Objective of, *“promoting effective competition in the generation and supply of electricity, and (so far as consistent therewith) promoting such competition in the sale and purchase of electricity”*. Concerns about the effect on the timing of imbalance price publication and on the volatility of imbalance prices were considered by the Modification Group to be misplaced.

The Modification Group also concluded that the Proposed Modification could impair the *“the efficient, economic and co-ordinated operation ... of the ... Transmission System”*.

However, the Modification Group was unable to conclude which effect would outweigh the other, and hence was unable to conclude whether the Proposed Modification would, overall, better facilitate the achievement of the Applicable BSC Objectives.

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<sup>3</sup> To be precise, Credited Energy Volumes summed over all BM Units in delivering Trading Units minus Credited Energy Volumes summed over all BM Units in off-taking Trading Units.

## **7 RATIONALE FOR PANEL RECOMMENDATIONS**

The Panel noted the inability of the Modification Group to reach an unambiguous conclusion as to whether the Proposed Modification would better facilitate the achievement of the Applicable BSC Objectives. The Panel also noted that the period of three months Assessment Phase permitted by the Code for the Assessment Phase had elapsed, and the representative of the Authority had indicated that it would not look with approval on any extension. Thus the Panel decided that the Modification Proposal should proceed to the Report Phase.

The Panel decided to recommend that the Modification should not be made on the grounds that, whilst there was some merit in addressing the issues addressed by the Modification, it had not been established that the particular Modification would better facilitate the achievement of the Applicable BSC Objectives.

## **8 LEGAL TEXT TO GIVE EFFECT TO THE PROPOSED MODIFICATION**

In view of the recommendation of the Panel to recommend to the Authority that the Modification should not be made, the Panel has consulted with the Authority, and the Authority has agreed that, at this stage, proposed text to modify the Code need not be included in the Modification Report.

## **9 SUMMARY OF REPRESENTATIONS**

[Summary of responses to consultation on Draft Modification Report will be included here, with copies of responses appended in Annex 1.]

## **ANNEX 1 – REPRESENTATIONS**

[Insert copies of representations on Draft Modification Report]