

# INITIAL WRITTEN ASSESSMENT for Modification Proposal P137 Revised Calculation of System Buy Price and System Sell Price

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Decision

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## RECOMMENDATIONS

On the basis of the initial assessment BSCCo recommends that the Panel:

- **DETERMINE that Modification Proposal P137 should be submitted to the Assessment Procedure;**
- **AGREE the Assessment Procedure timetable such that an Assessment Report should be completed and submitted to the Panel for consideration at their meeting of 13 November 2003;**
- **DETERMINE that the Assessment Procedure should be undertaken by the Pricing Standing Modification Group; and**
- **AGREE any refinement to the Modification Group Terms of Reference.**

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<sup>1</sup> ELEXON Ltd currently fulfils the role of the Balancing and Settlement Code Company ('BSCCo'), pursuant to Annex X-1 of the Balancing and Settlement Code (the 'Code').

<sup>2</sup> The current version of the Code can be found at [www.elxon.co.uk/ta/bscresl\\_docs/bsc\\_code.html](http://www.elxon.co.uk/ta/bscresl_docs/bsc_code.html)

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### SUMMARY OF IMPACTED PARTIES AND DOCUMENTS

As far as BSCCo has been able to assess the following parties/documents have been initially identified as being potentially impacted by Modification Proposal P137.

Parties	Sections of the BSC	Code Subsidiary Documents	
Suppliers <input checked="" type="checkbox"/>	A <input type="checkbox"/>	BSC Procedures <input type="checkbox"/>	
Generators <input checked="" type="checkbox"/>	B <input type="checkbox"/>	Codes of Practice <input type="checkbox"/>	
Licence Exemptable Generators <input checked="" type="checkbox"/>	C <input type="checkbox"/>	BSC Service Descriptions <input checked="" type="checkbox"/>	
Transmission Company <input checked="" type="checkbox"/>	D <input type="checkbox"/>	Service Lines <input type="checkbox"/>	
Interconnector <input type="checkbox"/>	E <input type="checkbox"/>	Data Catalogues <input checked="" type="checkbox"/>	
Distribution System Operators <input type="checkbox"/>	F <input type="checkbox"/>	Communication Requirements Documents <input type="checkbox"/>	
<b>Party Agents</b>			
Data Aggregators <input type="checkbox"/>	G <input type="checkbox"/>	Reporting Catalogue <input checked="" type="checkbox"/>	
Data Collectors <input type="checkbox"/>	H <input type="checkbox"/>	MIDS <input type="checkbox"/>	
Meter Operator Agents <input type="checkbox"/>	J <input type="checkbox"/>	<b>Core Industry Documents</b>	
ECVNA <input type="checkbox"/>	K <input type="checkbox"/>	Grid Code <input type="checkbox"/>	
MVRNA <input type="checkbox"/>	L <input type="checkbox"/>	Supplemental Agreements <input checked="" type="checkbox"/>	
<b>BSC Agents</b>			
SAA <input checked="" type="checkbox"/>	M <input type="checkbox"/>	Ancillary Services Agreements <input type="checkbox"/>	
FAA <input type="checkbox"/>	N <input type="checkbox"/>	Master Registration Agreement <input type="checkbox"/>	
BMRA <input checked="" type="checkbox"/>	O <input type="checkbox"/>	Data Transfer Services Agreement <input type="checkbox"/>	
ECVAA <input type="checkbox"/>	P <input type="checkbox"/>	British Grid Systems Agreement <input type="checkbox"/>	
CDCA <input type="checkbox"/>	Q <input checked="" type="checkbox"/>	Use of Interconnector Agreement <input type="checkbox"/>	
TAA <input type="checkbox"/>	R <input type="checkbox"/>	Settlement Agreement for Scotland <input type="checkbox"/>	
CRA <input type="checkbox"/>	S <input type="checkbox"/>	Distribution Codes <input type="checkbox"/>	
Teleswitch Agent <input type="checkbox"/>	T <input checked="" type="checkbox"/>	Distribution Use of System Agreements <input type="checkbox"/>	
SVAA <input type="checkbox"/>	U <input type="checkbox"/>	Distribution Connection Agreements <input type="checkbox"/>	
BSC Auditor <input type="checkbox"/>	V <input type="checkbox"/>	<b>BSCCo</b>	
Profile Administrator <input type="checkbox"/>	W <input type="checkbox"/>	Internal Working Procedures and systems <input checked="" type="checkbox"/>	
Certification Agent <input type="checkbox"/>	X <input checked="" type="checkbox"/>	<b>Other Documents</b>	
MIDP <input type="checkbox"/>		Transmission Licence <input type="checkbox"/>	
TFLA <input type="checkbox"/>			
<b>Other Agents</b>			
SMRA <input type="checkbox"/>			
Data Transmission Provider <input type="checkbox"/>			

<b>Estimated cost for progressing P137 through Modification Procedures</b>	<b>£10,000 + 90 ELEXON man days</b>
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# 1 DESCRIPTION OF PROPOSED MODIFICATION

## 1.1 Modification Proposal

### 1.1.1 Description of the Proposed Amendments

Modification Proposal P137 'Revised Calculation of System Buy Price and System Sell Price' (P137) seeks to amend the Energy Imbalance Price calculation such that the most expensive<sup>3</sup> Acceptance remaining in the Net Imbalance Volume (NIV) sets the 'main' Energy Imbalance Price (i.e. the Energy Imbalance Price applied to Energy Imbalances in the same direction as the system).

P137 also seeks to amend the mechanism for NIV Tagging by including disaggregated Balancing Services Adjustment Data (BSAD) into the NIV Tagging mechanism as if they were Bid – Offer Acceptances, so that 'acceptances' on individual BM Units, non BM Unit specific and forward energy trades are all identified separately, along with an indication of why the 'acceptance' was taken (for example reserve, system Pre Gate Closure BM Unit Transaction (PGBT) etc.). The paper "Promoting Efficiency and Security in the NETA Pricing Arrangements", provided by the Proposer with the Modification Proposal (and provided as an attachment to this IWA) provides further details on how the Proposer believes the effective cost might be calculated.

P137 also seeks to exclude offsetting Bid and Offer 'acceptances' on the same BM Unit from the NIV Tagging mechanism, i.e. when the volume of Offer 'acceptances' exceed the volume of Bid 'acceptances' on a BM Unit, the lowest priced Offers would be removed up to the volume of the Bid acceptances (which would also be removed) and vice versa. The intent is to ensure that offsetting "undo" acceptance volumes on the same BM Unit do not contribute to the NIV tagging process. The same process would be undertaken on the non BM Unit specific BSAD trades.

NIV Tagging would then be undertaken to derive the NIV, and enable the marginal price to be derived.

P137 does not change the derivation of the 'reverse' Energy Imbalance (i.e. the Energy Imbalance Price applied to Energy Imbalances in the opposite direction to the system).

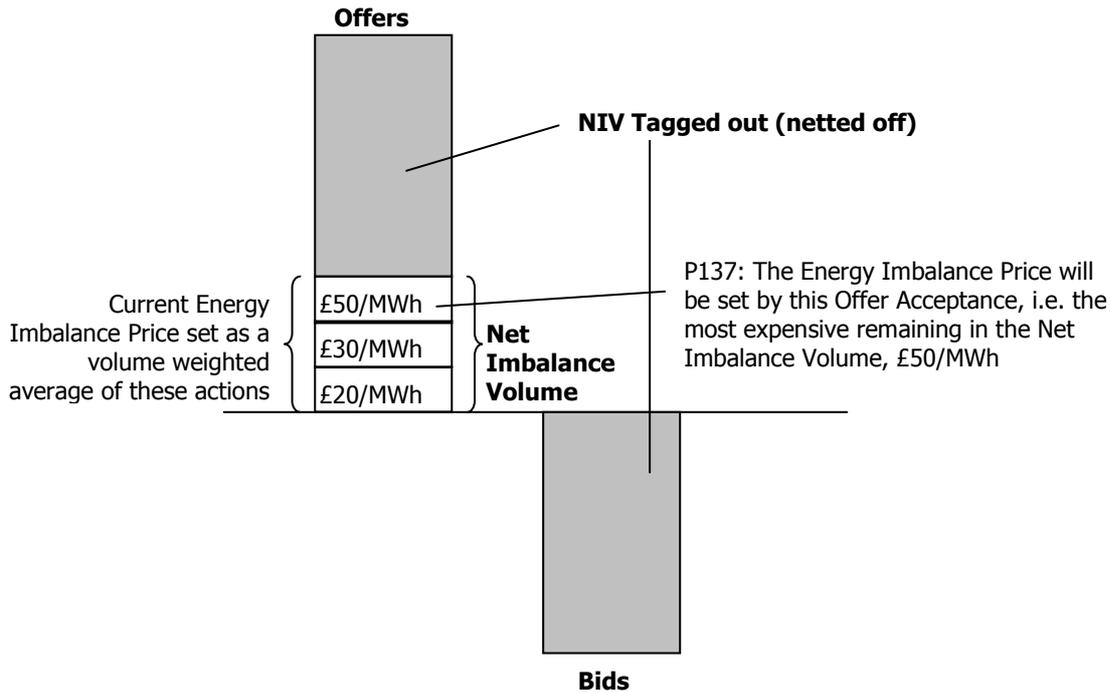
Figure 1 represents the price setting mechanism. The NIV Tagging mechanism derives the 'length' of the system by comparing the Accepted Offer (and BSAD purchase) volume with the Accepted Bid (and BSAD sales) volume. Where the Offer volume exceeds the Bid volume, then the Net Imbalance Volume is positive, and the system is considered to have been short (insufficient generation to meet demand) in that Settlement Period.

The current mechanism calculates a volume weighted average price from the Accepted Offers (and Energy BSAD (Balancing Services Adjustment Data) if present) remaining in the NIV (i.e. the volume 'left' when the Accepted Bid volume is netted off the Accepted Offer volume). The NIV represents the volume associated with energy balancing the system. The system balancing actions are those that are netted off by NIV Tagging.

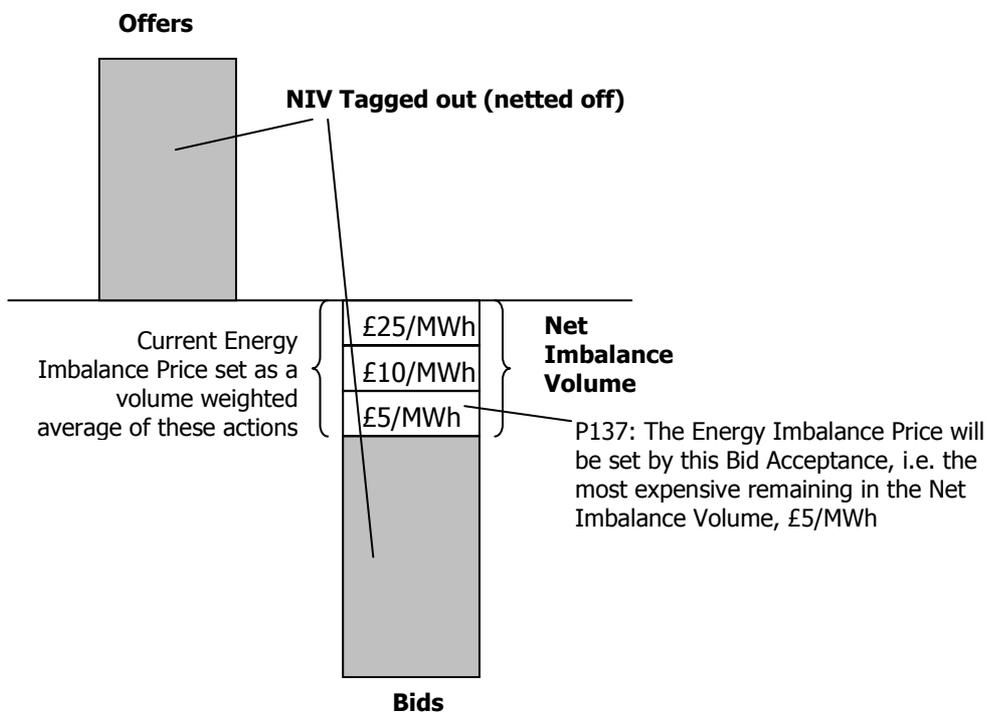
Where the Bid volume exceeds the Offer volume, then the NIV is negative, and the system is considered to have been long (generation exceeds demand) in that Settlement Period. This is shown in Figure 2 below.

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<sup>3</sup> It should be noted that 'most expensive' should, in this context, be considered in relation to the benefit of the system. Regarding Offer Acceptances, Offers are bought by the system for an increase in energy, thus the 'most expensive' will be the Offer that cost the most to take, so in Figure 1 it will be the one priced at £50/MWh. Regarding Bids, since Bids are paid to the system by Parties for a reduction in energy, the most expensive Bid will be the one that pays the system the least, so in Figure 2 it will be the one priced at £5/MWh. A point to note is that a negative Bid price will be even more expensive to the system, as the system is paying (rather than being paid) to reduce energy.



**Figure 1:** Positive Net Imbalance Volume



**Figure 2:** Negative Net Imbalance Volume

P137 also requires amendment to BSAD and the BSAD Methodology Statement. Both the BSAD and the BSAD Methodology Statement fall under the vires of the Transmission Licence and any requisite amendments would have to be progressed under that governance.

### **1.1.2 Proposers Justification for the Modification**

The Proposer asserts that the current derivation / definition of the 'main' Energy Imbalance Price, by an average price methodology, fails to reflect the underlying costs of market shortage, and in particular underestimates the marginal cost of balancing the system at times of shortage. Furthermore, the Proposer asserts that the current Net Imbalance Volume Tagging methodology inappropriately tags out accepted Offers at times of system shortage.

The Proposer also believes that the Buy Price Price Adjuster (BPA) in the BSAD does not reflect the opportunity cost of using pre-contracted reserve (including standing reserve) when reserve is called, since the option fees paid for reserve are averaged over the Settlement Periods for which the reserve is made available, rather than those Settlement Periods in which the reserve is actually utilised. Furthermore, the current derivation of the System Buy Price does not account for the use of non BM Unit specific standing reserve.

The Proposer asserts that P137 will promote effective competition in the generation and supply of energy (Applicable BSC Objective 3 (c)) by ensuring that the Energy Imbalance Prices better reflect the underlying opportunity costs of balancing the system, thereby promoting efficient market responses to emerging shortages (or surpluses) and efficient investment in generation capacity.

### **1.1.3 Modification Proposal P136 'Marginal Definition of the 'main' Energy Imbalance Price'**

Modification Proposal P136 'Marginal Definition of the 'main' Energy Imbalance Price' (P136) was raised on 1 August 2003 by National Grid (the Transmission Company). P136 seeks to amend the Energy Imbalance Price such that the most expensive Acceptance remaining in the NIV sets the 'main' Energy Imbalance Price (i.e. the Energy Imbalance Price applied to Energy Imbalances in the same direction as the system). P136 does not change the mechanism for NIV Tagging or the derivation of the 'reverse' Energy Imbalance (i.e. the Energy Imbalance Price applied to Energy Imbalances in the opposite direction to the system).

The Initial Written Assessment for P136 is also being considered at the Panel meeting of 14 August 2003, and BSCCo are recommending that P136 is progressed in parallel with P137 (also by the PSMG), as it addresses similar issues and proposes a similar solution. However, the differing solution to P137 (namely the additional amendments to the NIV Tagging mechanism) makes it a substantially different Modification Proposal, and therefore BSCCo do not recommend that these Proposals be amalgamated.

### **1.1.4 Urgent Modification Proposal P135 'Marginal System Buy Price During Periods of Demand Reduction'**

Urgent Modification Proposal P135 'Marginal System Buy Price During Periods of Demand Reduction' (P135) was raised on 1 August 2003 by National Grid Transco (the Transmission Company). The Transmission Company requested Urgent status for the Proposal and this was granted by the Panel on 1 August 2003, and by the Authority on 4 August 2003. The Urgent Modification Report will be provided to the Panel on 11 September 2003, and to the Authority (containing the deliberations and recommendations of the Panel) on 12 September 2003. P135 is being assessed by the Pricing Standing Modification Group.

P135 seeks to amend the Energy Imbalance Price only during periods of Demand Reduction (defined in OC6 of the Grid Code), such that the most expensive Acceptance remaining in the NIV sets the 'main' Energy Imbalance Price (i.e. the Energy Imbalance Price applied to Energy Imbalances in the same direction as the system), where the main price is the System Buy Price.

Although P135 addresses the similar issue of marginal Energy Imbalance Pricing, it is very limited in scope in comparison with P136 and P137. P135 is limited to addressing Settlement Periods where Demand Reduction has been exercised by the Transmission Company, so that P135 could be implemented in time for this coming winter. Therefore P136 and P137 are not contingent on the outcome of P135. Furthermore there would be no benefit to waiting on the outcome of P135 before assessing P136 and P137.

## **1.2 Issues raised by the Modification Proposal**

An initial assessment of Modification Proposal P137 has identified the following potential areas of impact and issues which will need to be considered and addressed in progressing the Modification Proposal. Section 5 expands these points further.

Determination of the Impacts:

- The impact of P137 on the BSC Agent Systems, specifically the Balancing Mechanism Reporting Agent (BMRA) and the Settlement Administration Agent (SAA);
- Impact on the Transmission Company systems, processes and documentation, including the Balancing Services Adjustment Data Methodology Statement;
- The impact of P137 (and any Alternative, where relevant) on the systems and processes of BSC Parties; and
- Ensuring that the impact of P137 on the Settlement calculations results in a coherent and consistent set of calculations.

Assessment of the Modification:

- The interaction of this Modification Proposal with other Modification Proposals, such as Approved Modification P78, P135 and P136. The interaction of these Modifications with P137 is explored in more detail in sections 1.1 and 5;
- The amendment to the formulation of Option fees proposed by P137: Modification Proposal P3 'Correction of Price Spikes Generated by De-Minimis NGC Purchases' and Approved Modification P8 'Introduction of a Price Adjuster to Reflect Option Fees for Balancing Services Contracts in Setting System Buy Price and System Sell Price' were both assessing / considering the use / representation of Option Fees in the Energy Imbalance Price calculation. Therefore the Authority determinations in relation to these Modifications may provide useful information;
- Assessment of whether P137 addresses the issues detailed without being outweighed by detrimental impacts elsewhere;
- Assessment of the incentives on BSC Parties, and the impact on Party behaviour from P137;
- Comprehension of the impact of P137 on other markets (such as the Transmission Company BSAD); and
- Industry opinion, gained by consultation, on the proposed Modification and any Alternative Modifications proposed, where relevant.

These issues are to be included in the Modification Group's Terms of Reference. A draft version (based on the Terms of Reference for Approved Modification P78) is provided in Annex 2.

Furthermore, these issues will have to be fully considered in order to enable an assessment as to whether P137 better facilitates the Applicable BSC Objectives.

## 2 INITIAL ASSESSMENT OF IMPACTS OF MODIFICATION PROPOSAL

### 2.1 Impact on BSC Systems and processes

An initial assessment has been undertaken in respect of all BSC Systems and processes and the following have been identified as potentially being impacted by the Modification Proposal.

BSC System / Process	Potential Impact of Proposed Modification
Balancing Mechanism Activities	The amendment of the Energy Imbalance Price calculation impacts the derivation of the Indicative Energy Imbalance Prices by the BMRA following the end of the Settlement Period.  Furthermore, amendment to BSAD may impact the receipt and publication of the data on the BMRA.
Settlement	The amendment of the Energy Imbalance Price calculation impacts the derivation of the Energy Imbalance Prices by the SAA.
Reporting	The Settlement Report (SAA – I014) will require amendment to reflect the changes to BSAD variables.  It may also be appropriate to amend the Settlement Report to make the pricing mechanism more transparent (for example flagging in some way the Bid – Offer Acceptance that has set the marginal price).
Dispute Resolution	Although the process is not directly impacted, it should be recognised that where any dispute amends a Bid – Offer Acceptance (including Manifest Error correction), then the Energy Imbalance Price may change, as an alternative Bid – Offer Acceptance may be used to set the Energy Imbalance Price. These changes will be more visible, and potentially larger than currently, as, under the existing mechanism, changes of this nature tend to be ‘absorbed’ in the average price methodology.

### 2.2 Impact on other systems and processes used by Parties

An initial assessment has been undertaken in respect of systems and processes used by parties and the following have been identified as potentially being impacted by the Modification Proposal.

System / Process	Potential Impact of Proposed Modification
Settlement	Where Parties verify the Settlement Report / Settlement calculations, then there is an impact on any systems or processes in place in order to take account of the amended calculation.

### 2.3 Impact on documentation

#### 2.3.1 Impact on Balancing and Settlement Code

An initial assessment has been undertaken in respect of all Sections of the Code and the following Sections have been identified as potentially being impacted by the Modification Proposal.

Section	Potential Impact of Proposed Modification
Q	Section Q6.3 will require amendment to reflect amendments to BSAD.
T	Section T4.4 will require amendment to reflect the amendments to the Energy Imbalance Calculation.
X	Where any data item definitions change (for example BSAD), or new data definitions are created, then Section X will require amendment to reflect the amended definition(s).

### 2.3.2 Impact on Code Subsidiary Documents

An initial assessment has been undertaken in respect of all Code Subsidiary Documents and the following documents have been identified as potentially being impacted by the Modification Proposal.

Item	Potential Impact of Proposed Modification
SAA Service Description	Will require amendment to reflect the changes to the Settlement calculations (it should be noted that the BMRA Service Description references the SAA Service Description for the Indicative Energy Imbalance Price calculation, and does not repeat the calculations).  Amendment to BSAD variables will require reflection of the change in the service description.
BMRA Service Description	Amendment to BSAD variables will require reflection of the change in the service description.
NETA Data File Catalogue	Amendments to reporting (BSAD, and potential amendments to the Settlement Report SAA – I014) will need to be reflected in the NDFC.
Reporting Catalogue	Amendments to reporting (BSAD, and potential amendments to the Settlement Report SAA – I014) will need to be reflected in the Reporting Catalogue.

### 2.4 Impact on Core Industry Documents

An initial assessment has been undertaken in respect of Core Industry Documents and the following documents have been identified as potentially being impacted by the Modification Proposal.

Item	Potential Impact of Proposed Modification
Supplemental Agreements	The Balancing Services Adjustment Data Methodology Statement will require amendment to reflect the changes to BSAD derivation, composition and configuration.

### 2.5 Impact on other configurable items

An initial assessment has been undertaken in respect of other configurable items and the following have been identified as potentially being impacted by the Modification Proposal.

Item	Potential Impact of Proposed Modification
BMRA URS	The BMRA User Requirements Specification will be impacted by the amendments to the calculation of the Indicative Energy Imbalance Price calculation, and by any amendment to the BSAD configuration and

	validation.
SAA URS	The SAA User Requirements Specification will be impacted by the amendments to the calculation of the Energy Imbalance Price calculation, and by any amendment to the BSAD configuration and validation.
IDD Part 1 IDD Part 2	The Interface Definition and Design (IDD) document will require amendment to reflect the changes to reporting (BSAD, and potential amendments to the Settlement Report SAA – I014).

### 3 IMPACT ON BSCCO

An initial assessment has been undertaken in respect of BSCCo and the following have been identified as potentially being impacted by the Modification Proposal.

Area of Business	Potential Impact of Proposed Modification
BSCCo Systems	TOMAS will require amendment to reflect the changes to the Energy Imbalance Price calculation, and to receive the amended Settlement and BSAD reports.
BSCCo Procedures	Disputes handling: Although the process is not directly impacted, it should be recognised that where any dispute amends a Bid – Offer Acceptance (including Manifest Error correction), then the Energy Imbalance Price may change, as an alternative Bid – Offer Acceptance may be used to set the Energy Imbalance Price. These changes will be more visible, and potentially larger than currently, as, under the existing mechanism, changes of this nature tend to be 'absorbed' in the average price methodology.
BSCCo Procedures	Credit Cover: Any amendment to the Imbalance Pricing mechanism may have an impact on the Credit Cover arrangements, specifically in relation to the Credit Assessment Price. Use of a marginal price may mean that the Energy Imbalance Price is generally higher, and thus the Credit Assessment Price may need to be reviewed with potential for increasing it to ensure adequate Credit Cover for Parties.
BSCCo Contracts (Excluding BSC Agent Contracts)	No impact
Other (e.g. costs, staffing, etc.)	No impact

#### 4 IMPACT ON BSC AGENT CONTRACTUAL ARRANGEMENTS

An initial assessment has been undertaken in respect of BSC Agent contractual arrangements and the following have been identified as potentially being impacted by the Modification Proposal.

BSC Agent Contract	Potential Impact of Proposed Modification
Logica (BMRA, CRA, CDCA, SAA, ECVAA, TAA(CVA))	No impact
EPFAL (FAA)	No impact
ESIS (TAA(SVA))	No impact
Cap Gemini (SVAA)	No impact
PwC (BSC Auditor, Certification Agent)	No impact
EASL (Teleswitch Agent, Profile Administrator)	No impact

#### 5 RATIONALE FOR BSCCO'S RECOMMENDATIONS TO THE PANEL

BSCCo recommends to the Panel that P137 be submitted to a three month Assessment Procedure, such that the Assessment Report be provided to the Panel for consideration at its meeting of 13 November 2003.

BSCCo also recommend that the Assessment Procedure be undertaken by the Pricing Standing Modification Group (PSMG), given that P137 seeks to amend the Imbalance Pricing mechanism.

BSCCo also recommend (for the reasons set out in section 1.1.4) that P137 be considered by the PSMG in parallel with P136.

As this Modification affects a key area of the trading arrangements, namely Imbalance Pricing, BSCCo recommend a three month Assessment Procedure in order to enable due consideration of the wide ranging issues raised by the Modification Proposal (see below), and to undertake the relevant industry consultation(s), and impact assessments.

The following issues will need to be considered and addressed in progressing P137. It should be noted that a more detailed set of proposed assessment criteria are provided in Annex 2 to this IWA (in the form of a set of Terms of Reference specific to P137. These Terms of Reference are based on the (Assessment Procedure) ToR for Approved Modification P78 'Revised Definitions of System Buy Price and System Sell Price', as the Assessment criteria and issues for consideration are likely to be similar):

- The impact of Modification Proposal P137 on the Transmission Company systems, processes and documentation.

P137 requires amendment to BSAD definitions and will require creation / amendment / deletion of BSAD data items, and progressing of the amendments to BSAD Methodology Statement.

P137 may impact on the CUSC / Ancillary Service Agreements in the area of balancing services provision and compensation, as a consequence of the amendment to the application of Energy Imbalance Prices. The Transmission Company may also be impacted by any change to operational behaviour caused by the implementation of P137.

The impact on the Transmission Company will not be assessed by the Modification Group, however, the impacts should be understood such that any further ramifications on parties as a consequence of Transmission Company amendments can be assessed by parties. Any dependencies between the implementation of P137 and consequential changes to the Transmission Company should be identified in order to ensure a consistent approach to implementation;

- The impact of Modification Proposal P137 on the behaviour of BSC Parties. A stated aim of the Modification Proposal is to improve the pricing signals to BSC Parties to create efficient market responses, therefore an assessment as to whether the Modification will influence Parties behaviour in the appropriate manner, and whether there are other incentives (perverse or otherwise) created by P137, is required;
- Interaction with existing Modification Proposals, as set out in Section 1.1. There are a number of Modification Proposals which have a degree of interaction with P137. Namely:

Approved Modification P78 'Revised Definitions of System Buy Price and System Sell Price', as the issues considered during the Assessment Procedure for that Modification may have some relevance to P137, and the Authority determination on P78 may also provide useful indicators and guidance for progressing P137;

Modification Proposal P135 'Marginal System Buy Price During Periods of Demand Reduction';

Modification Proposal P136 'Marginal Definition of the 'main' Energy Imbalance Price';

Therefore the assessment of P137 should take into consideration issues arising from other Modification Proposals, where appropriate;

- The amendment to the formulation of Option fees proposed by P137: Modification Proposal P3 'Correction of Price Spikes Generated by De-Minimis NGC Purchases' and Approved Modification P8 'Introduction of a Price Adjuster to Reflect Option Fees for Balancing Services Contracts in Setting System Buy Price and System Sell Price' were both assessing / considering the use / representation of Option Fees in the Energy Imbalance Price calculation. Therefore the Authority determinations in relation to these Modifications may provide useful information;
- Assessment as to whether the proposed solution for P137 fully addresses the issues detailed in the Modification Proposal, without being outweighed by any detrimental impacts; and
- Assessment of the impact of P137 on the Settlement calculations and cashflows. An assessment of P137 should include the impact on the other aspects of Settlement, to ensure a consistent and cohesive set of Settlement calculations.

## **6 PROCESS, TIMETABLE AND COST FOR PROGRESSING THE MODIFICATION PROPOSAL**

BSCCo recommends that this Modification Proposal be submitted to the Pricing Standing Modification Group (PSMG) for further assessment. The PSMG should be actioned to provide its report to the Panel by 13 November 2003. It is envisaged that, in order to consider the issues / assessment criteria for P137, consult fully with BSC Parties and the Transmission Company and obtain impact assessments from BSC Parties, the Transmission Company, BSC Agents and any other impacted parties, approximately 5 meetings of the PSMG will be required. The timescales are set out in the Gantt chart provided in Annex 3. It is envisaged that P137 will cost £10,000 to progress through the Modification Procedure.

## **7 DOCUMENT CONTROL**

### **7.1 Authorities**

<b>Version</b>	<b>Date</b>	<b>Author</b>	<b>Reviewer</b>	<b>Change Reference</b>
0.1	08/08/03	Mandi Francis	Justin Andrews	
0.2	08/08/03	Mandi Francis	Justin Andrews	
1.0	08/08/03	Change Delivery		

**ANNEX 1 MODIFICATION PROPOSAL**

<b>Modification Proposal</b>	<b>MP No: 137</b> <i>(mandatory by BSCCo)</i>
<b>Title of Modification Proposal</b> <i>(mandatory by proposer):</i> Revised Calculation of System Buy Price and System Sell Price	
<b>Submission Date</b> <i>(mandatory by proposer):</i> <b>1 August 2003</b>	
<p><b>Description of Proposed Modification</b> <i>(mandatory by proposer):</i></p> <p>The modification would set the main imbalance cash out price equal to the highest-priced untagged energy offer acceptance when the system is short and the lowest-priced untagged energy bid acceptance when the system is long. For these purposes, no distinction would be made between offers and bids accepted in the balancing mechanism and individual balancing services actions taken before gate closure by NGC. There would be no changes to the operation of the Balancing Mechanism and, in particular, balancing actions would continue to be paid at the respective offer or bid prices. The current P78 mechanism would also be retained with the main price being calculated on a marginal basis and the reverse price calculated – as now – from market index data. The existing tagging methodology would also be retained, but with the addition of tagging for offsetting bid and offer acceptances on individual BMUs and for forward energy trades which offset the net system imbalance. Attachment 1 to this proposal outlines the envisaged method for calculating SBP and SSP.</p> <p>Attachment 2 places the proposed BSC modifications in the context of a wider discussion on security and efficiency in the England and Wales electricity market and <i>inter alia</i> contains a detailed discussion of the proposed modification to the BSC and the analysis and justification underlying these modification proposals. However, for the avoidance of doubt, the scope of Attachment 2 means that it also includes analysis and proposals which fall outside the immediate scope of the proposed modifications to the BSC.</p>	
<p><b>Description of Issue or Defect that Modification Proposal Seeks to Address</b> <i>(mandatory by proposer):</i></p> <p>The current calculation of cash-out prices fails to reflect the underlying costs of market shortage and, in particular:</p> <ul style="list-style-type: none"> <li>– Weighted average pricing underestimates the marginal cost of balancing the system at times of shortage</li> <li>– The current tagging methodology leads to inappropriate tagging out of accepted offers at times of system shortage</li> <li>– the Buy-Price Adjustment fails to reflect the opportunity cost of using pre-contracted reserve (including standing reserve) on those occasions that the reserve is called since the option fees paid to reserve are averaged over those periods in which the reserve is made available rather than those periods in which it is actually used</li> <li>– The current calculation of SBP does not account for the use of standing reserve from non-BMU sources</li> </ul> <p>Further details on the defects in the current pricing arrangements that the modification seeks to address are provided in Attachment 2.</p>	
<p><b>Impact on Code</b> <i>(optional by proposer):</i></p> <p>Section T Paragraph 4 and Annex T-1 would need to be revised.</p>	
<p><b>Impact on Core Industry Documents</b> <i>(optional by proposer):</i></p> <p>None identified.</p>	

<b>Modification Proposal</b>	<b>MP No: 137</b> <i>(mandatory by BSCCo)</i>
<b>Impact on BSC Systems and Other Relevant Systems and Processes Used by Parties</b> <i>(optional by proposer):</i>	
Change to imbalance price calculation software	
<b>Impact on other Configurable Items</b> <i>(optional by proposer):</i>	
None	
<b>Justification for Proposed Modification with Reference to Applicable BSC Objectives</b> <i>(mandatory by proposer):</i>	
The proposal will promote effective competition in the generation and supply of electricity by ensuring that imbalance cash out prices better reflect the underlying opportunity costs of balancing the system, thereby promoting efficient market responses to emerging shortages (or surpluses) and efficient investment in generation capacity.	
<b>Details of Proposer:</b>	
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<b>Attachments:</b> Yes	
<b>If Yes, Title and No. of Pages of Each Attachment:</b>	
<b>Attachment 1: Proposed Method for Setting Imbalance Prices – 2 pages</b>	
<b>Attachment 2: Promoting Efficiency and Security in the NETA Pricing Arrangements – 23 pages</b>	

The attachments are provided as separate documents 'P137 att1.pdf' and 'P137att2.pdf'.

## ANNEX 2 – PROPOSED TERMS OF REFERENCE

### a Definition Issues

- 1.1 Definition of an appropriate marginal price: P137 defines the marginal price in the Modification Proposal, however, there may be additional issues that need to be considered in terms of the exact application of that price (for example, issues as to whether the Acceptance in question was delivered, or whether there is a sufficient volume of that Acceptance remaining in the Net Imbalance Volume for it to set a price, and whether a de-minimis volume needs to be defined); and
- 1.2 Definition of the Settlement calculations to support P137: P137 provides a detailed view of the mechanism for calculating the main price. However, there are aspects of the calculation that need to be explored and defined further, for example, the exact nature of the inclusion of BSAD into the calculation, and the impact on the complex defaulting rules.

### b Assessment Issues

- 1.3 Assessment of the Modification Proposal against the Applicable BSC Objectives: Consideration should be given as to whether, and how, P137 better facilitates achievement of the Applicable BSC Objectives than the current baseline. Specific issues arising from the achievement of Applicable BSC Objectives may include (but are not limited to);

- 3(b) – ‘The efficient, economic and co-ordinated operation by the Transmission Company of the Transmission System’. The basis for assessment could use:

The following points have been developed by considering certain views of the Authority, as expressed in a number of decision letters regarding previous Modifications.

- Provision of more accurate signals to the Transmission Company (System Operator) of the costs of balancing the system;
- More efficient incentives to achieve individual balance and overall system balance;
- The improved accuracy of (physical position) information given to the Transmission Company (System Operator) in advance of Gate Closure to ensure that it can make informed decisions about balancing the system, and the incentives on participants to provide such information.

- 3(c) – ‘Promoting effective competition in the generation and supply of electricity, and (so far as is consistent therewith) promoting such competition in the sale and purchase of electricity’. The impact of P137 on all energy markets and mechanisms (including the Balancing Mechanism) should be assessed. The basis for assessment could use:

The following points have been developed by considering certain views of the Authority, as expressed in a number of decision letters regarding previous Modifications.

- The improvement of targeting of energy imbalance costs back to those participants that cause them, and the extent to which this promotes competition by preventing cross subsidies;
- The extent to which Energy Imbalance Prices are more reflective of the costs the Transmission Company (System Operator) has incurred in taking energy balancing actions; and

- The impact on the promptness of Energy Imbalance Price reporting and its effect on market transparency.

The following points are additional to those defined above, and are considered to be relevant to the assessment of the Modification Proposal against this Applicable Objective:

- The formation of Energy Imbalance Prices should not distort the forwards / spot markets in electricity; and
  - The extent to which participant imbalances may distort competition.
- 3(d) – ‘efficient administration’. An assessment of whether the potential improvements in the above Applicable Objectives outweigh the costs of administering the modified trading arrangements.

- 1.4 The assessment of the previously defined arguments will contribute to, but not constrain, the development of more detailed points for assessing the Modification against the current baseline. The PSMG will then consider how the Modification changes the incentives provided to market participants and consequently draw qualitative conclusions on the likely impact of the Modification. If required, appropriate quantitative analysis may be performed in order to assess the likely range of outcomes, for example, cash-out prices, forward markets etc.

### **c Interaction with Other Markets**

- 1.5 Transmission Company amendments: Any amendments to the Transmission Company processes, systems and documentation required to support this Modification Proposal will not be assessed by the PSMG. However, the Assessment Report for P137 should highlight any dependencies between implementation of P137 and consequential changes to the Transmission Company to ensure a consistent implementation approach. Also, amendments to the Transmission Company’s documentation may require further changes to the BSC / Code Subsidiary documentation, and these need to be identified and assessed as part of the solution to the Modification Proposal; and
- 1.6 Balancing Services Adjustment Data: Following on from the above point, the Modification proposes that BSAD be amended. This Modification will require amendment to the Transmission Company owned ‘BSAD Methodology Statement’, and consequentially to the BSC Systems that receive, publish and utilise BSAD. Therefore these amendments have an impact on the BSC and BSC Systems which needs to be understood and assessed as part of the solution to P137.

### **d Interaction with Other Modification Proposals**

- 1.7 Approved Modification P78 ‘Revised Definitions of System Buy Price and System Sell Price’, as the issues considered during the Assessment Procedure for that Modification may have some relevance to P137, and the Authority determination on P78 may also provide useful indicators and guidance for progressing P137;
- 1.8 Modification Proposal P135 ‘Marginal System Buy Price During Periods of Demand Reduction’;
- 1.9 Modification Proposal P136 ‘Marginal Definition of the ‘main’ Energy Imbalance Price’;
- 1.10 The amendment to the formulation of Option fees proposed by P137: Modification Proposal P3 ‘Correction of Price Spikes Generated by De-Minimis NGC Purchases’ and Approved Modification P8 ‘Introduction of a Price Adjuster to Reflect Option Fees for Balancing Services Contracts in Setting

System Buy Price and System Sell Price' were both assessing / considering the use / representation of Option Fees in the Energy Imbalance Price calculation. Therefore the Authority determinations in relation to these Modifications may provide useful information;

## **e Technical Implementation Issues**

- 1.11 Impact on other Settlement calculations: The impact of the implementation of P137 on other aspects of Settlement should be considered, for example, ensuring that the complex default rules are robust to all potential circumstances. This should ensure a complete and consistent solution to the Modification Proposal; and
- 1.12 Settlement Day implementation: A Settlement Day implementation leads to an overlap of Settlement calculations for a period after implementation. Issues may arise from this implementation and these should be considered and addressed, for example, BSC Parties, ELEXON and the Transmission Company will be required to support two versions of the Settlement Report (SAA-I014), one for Settlement Days prior to the Implementation Date and one for Settlement Day post implementation, as a consequence of the amended reporting requirements of P137.

### ANNEX 3 GANTT CHART - PROPOSED TIMETABLE FOR ASSESSMENT

