GB CONSULTATION DOCUMENT for Modification Proposal P167
Erroneous Calculation of Bid Offer Acceptance (BOA) Volume

Prepared by: Settlement Standing Modification Group (SSMG)

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PURPOSE OF THIS DOCUMENT

This consultation document describes the discussions of the SSMG to date, and seeks the views of market participants on, among other issues, the following (in the context of the GB baseline):

- Whether or not P167 would better facilitate achievement of the Applicable BSC Objectives;
- Views on whether the issue raised under P167 constitutes a defect in the current baseline;
- Comments on the estimated materiality;
- Comments on the potential impact on Imbalance Prices;
- Comments on the cost benefit of addressing the perceived defect;
- Views on the potential for exploitation;
- Views on whether submission of MEL and MIL data to the Transmission Company would be detrimentally impacted;
- Views on exception scenarios;
- Views on how Bid Offer Upper and Lower Ranges should be derived under P167;
- Details of any BETTA specific issue which should be considered; and
- Whether there are any substantive issues that need to be brought to the attention of the Group.

I CONTENTS TABLE

SUMMARY OF IMPACTED PARTIES AND DOCUMENTS

The following Parties/documents have been identified as being potentially impacted by Modification Proposal P167.

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

X = Identified in Report for last Procedure
N = Newly identified in this Report

1 INTRODUCTION

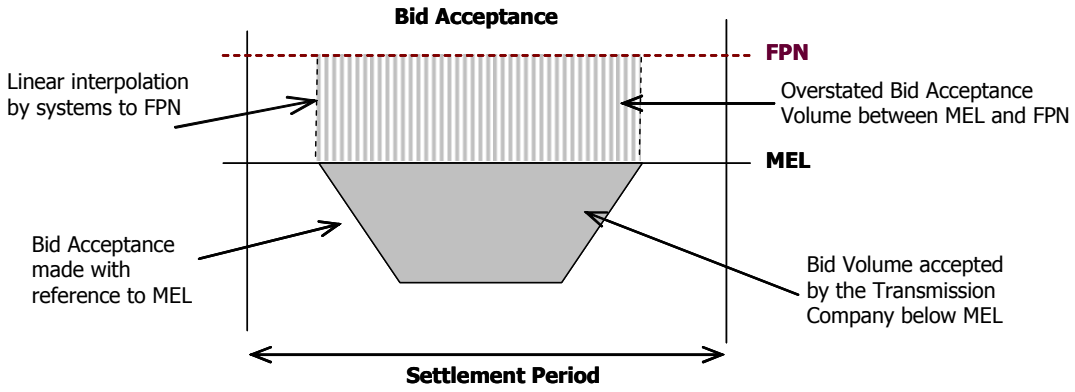
Modification Proposal P167 'Erroneous Calculation of Bid Offer Acceptance (BOA) Volume' (P167) was raised on 28 June 2004 by British Gas Trading (BGT). P167 seeks to amend the methodology for calculation of Acceptance Volumes, to account for changes in BM Unit Maximum Export Level (MEL) and Maximum Import Level (MIL). The perceived defect was initially raised to the Settlement Standing Modification Group (SSMG) as Issue 7-'Potential anomaly in respect of Bid Offer Acceptance (BOA) volume' (Issue 7), see References 1-4.

Currently the Balancing and Settlement Code (the 'Code') requires that Acceptance Volumes are calculated based on the Final Physical Notification (FPN) submitted by the Lead Party of the relevant BM Unit. The Proposer contends that this approach is not appropriate in all instances, specifically where a Party has re-declared MEL or MIL post Gate Closure (MEL below FPN, or MIL above FPN) prior to an Acceptance being issued.

The issue that P167 seeks to address is that the Transmission Company considers the physical dynamics of the BM Unit at the time the Acceptance is instructed (i.e. its notified output; FPN, or MEL (if MEL has been re-declared below FPN), or MIL (if MIL has been re-declared above FPN)), whereas the Code requires that the volume of the Acceptance is always calculated with reference to FPN. This results in the calculation and creation of Acceptance volumes, in Settlement, that were essentially not instructed by the Transmission Company. Therefore, P167 seeks to ensure that Acceptance Volumes are calculated with reference to the output level the Transmission Company actually instructed against (i.e. FPN or MEL / MIL), and thus the 'correct' Acceptance Volumes feed into the Settlement calculations.

For clarification, P167 is not proposing to amend the actions undertaken by the Transmission Company, as the Transmission Company is acting in accordance with its obligations (as set out in the Grid Code and the BSC). Furthermore, the calculation of Acceptance Volumes for Settlement is being undertaken in accordance with the current baseline. However, the Proposer of P167 is of the view there is an anomaly in the baseline and therefore seeks to amend the settlement calculation to ensure that the calculation of Acceptance Volumes accounts for MEL and MIL re-declarations post Gate Closure.

At a high level, the perceived defect can be illustrated via the simple example of a Party which re-declares its MEL below FPN after Gate Closure (once the FPN cannot be amended) and subsequently has a Bid accepted. The Transmission Company accepts the Bid with reference to the MEL at the time the Bid was taken. However, the Acceptance Volume is calculated by Settlement with reference to the FPN prevailing at Gate Closure for the Settlement Period, as illustrated diagrammatically below.



As a result of calculating the Acceptance Volume in relation to the FPN, the Accepted Bid Volume for the BM Unit is overstated. Overstating the Acceptance Volume has consequential effects on the Credited Energy for the Party, by removing some, or all, of the imbalance between FPN and MEL, i.e. the Party is essentially protected from exposure to imbalance to the extent of the overstated Bid volume. Furthermore, overstating the Accepted Bid Volume has implications on the Net Imbalance Volume (NIV) calculation, and therefore on

the resulting Energy Imbalance Price. This has implications on other Settlement calculations, such as the Residual Cashflow Reallocation Cashflow (RCRC) derivation, directly for the affected Party, and indirectly for all other Parties.

The Proposer is of the view that P167 would better facilitate Applicable BSC Objective (c) "Promoting effective competition in the generation and supply of electricity and promoting such competition in the sale and purchase of electricity" in the following ways:-

- Imbalance positions are being incorrectly calculated under the current baseline, mitigating Party exposure to imbalance prices. Correcting the perceived defect would improve the accuracy to which imbalance positions are reported and level of imbalance Parties are exposed to;
- Correcting the perceived defect will help to ensure that all Parties are receiving appropriate RCRC payments; and
- Amending the methodology for calculating Acceptance Volumes will result in a more appropriate calculation of imbalance prices.

1.1 Description of Issue

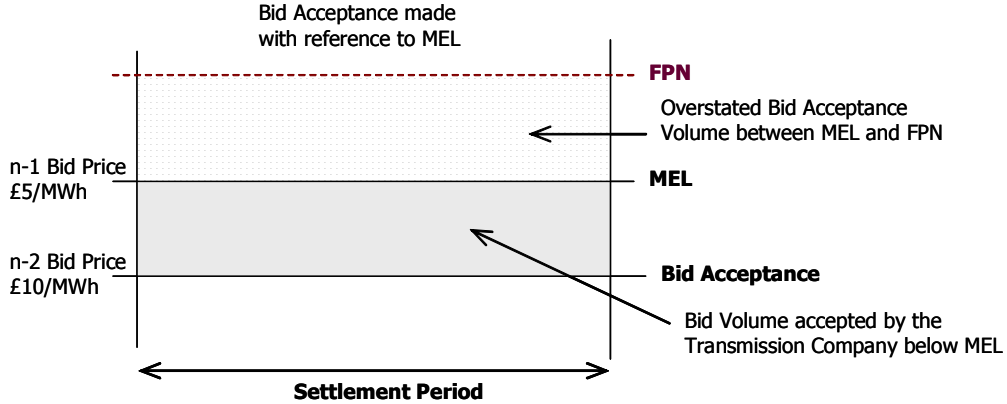
This section provides details of the perceived defect identified under P167, and a simplified example is provided to illustrate the effects on Settlement calculations.

The Code, Section Q 5.1.3(a)(ii)(1) obliges the Transmission Company to ensure Bid – Offer Acceptance data is consistent with the following data prevailing at the time the Bid – Offer Acceptance is made:

- The Physical Notification;
- Dynamic Data set;
- MEL and MIL; and
- Quiescent Physical Notification (QPN).

As a result, where the MEL or MIL for a BM Unit is re-declared below / above FPN, respectively, and the Transmission Company accepts a Bid or Offer, the volume the Transmission Company expects to be delivered is from the MEL or MIL rather than the FPN. However, the Code currently derives Bid – Offer Acceptance data in relation to FPN, and does not take into consideration amendments to MEL or MIL, this can cause the Acceptance Volume to be overstated. The following simplified example is provided to illustrate the effect on Settlement calculations.

BM Unit A has an FPN of 500 MW in place for a Settlement Period. After Gate Closure, the MEL is re-declared to 400 MW. A Bid is then accepted taking the BM Unit down to 300 MW, as illustrated below:



The Transmission Company has accepted a Bid volume of -50 MWh (100 MW * Settlement Period Duration (SPD)), hence the BM Unit operating at a MEL of 400MW is reduced to the Bid level of 300MW. At the Bid

Price of £5 / MWh (i.e. the price of the n-1 Bid) accepted by the Transmission Company, the Party is 'expected' to pay the system £250 for the Bid.

Settlement calculates Acceptance Volumes with reference to FPN, therefore the Bid Volume is calculated as the difference between the FPN of 500MW and the final level 300MW, i.e. -100 MWh (200 MW * SPD). As a result, the Party will actually pay the system £750 for the Bid (50 MWh at £5/MWh and 50 MWh at £10/MWh), i.e. the Party has to pay the relevant Bid Price for the overstated Acceptance Volume.

Had the Bid price been negative, the system would have paid out more for the Bid Acceptance. Furthermore, it is assumed that the Transmission Company did not consider the Bid Price of the overstated volume (i.e. the difference between MEL and FPN) when issuing the Acceptance[1]. This may lead to issues where the Bid Price for the 'additional' portion of volume (effectively that between FPN and MEL) is unfavourable, and the Transmission Company may have taken a Bid on a different BM Unit had the Bid Price of the volume between FPN and MEL been considered.

Looking at the Settlement calculations, the effect of overstating the Bid Volume can be illustrated (simplistically) as follows:

1. Settlement calculates the Period BM Unit Balancing Services Volume (QBS) as -100 MWh (FPN to Bid level), rather than -50MWh (MEL to Bid level);
2. The QBS is used to derive the Expected Metered Volume for the BM Unit, which is calculated to be 150 MWh instead of 200 MWh (Expected Metered Volume = FPN – QBS);
3. Had the BM Unit been subject to any percentage Metered Volume Reallocation Notifications (MRVNs), the reallocated volume would be adjusted for the incorrect volume;
4. In the absence of any MVRNs, the Lead Party has a Credited Energy of 150 MWh (i.e. the Metered Volume for the BM Unit);
5. The Energy Imbalance Volume is calculated as the Credited Energy Volume, minus the Balancing Services and Contracted Volumes. Assuming the Party contracted to FPN, this would give 150 – (-100) – (250) = 0 MWh, rather than 150 – (-50) –(250) = -50 MWh;
6. Given the negative Imbalance Volume, the Party should have an Energy Imbalance Volume of -50MWh exposed to System Buy Price (SBP) (as they did not meet the contracted level). Assuming an average SBP of £18/MWh (using the Credit Assessment Price), the Party is protected from exposure to £900 worth of SBP. This avoided imbalance more than offsets the 'over' payment for the Bid, hence the affected Party receives a net benefit. It is likely that directly affected Parties will benefit in the majority of circumstances, since SBP is usually above contract price and Bid Prices are likely to be below contract price (in order to maximise the commercial benefit of delivering a Bid).
7. Avoided imbalance for the directly affected Party impacts all Parties via the RCRC, as there is a 'missing' imbalance volume and thus an impact on Imbalance charges;
8. Had the Party had MVRNs in place, then its Credited Energy is incorrect, and this will affect its RCRP (Residual Cashflow Reallocation Proportion), and thus have implications for other Parties.

Aside from the implications on directly affected Parties, the overstated Bid volume will be used in the derivation of the Net Imbalance Volume (NIV), overstating the market length. The NIV will include a Bid volume that was not instructed by the Transmission Company, and thus the Energy Imbalance Price calculated from the NIV will be incorrect. Typically the market would appear longer than it is in reality, and in extreme cases may be switched from short to long by the overstated Acceptance Volume(s).

1.1.1.1

[1] NB: Bid Prices are derived in relation to a movement away from a specified starting point, therefore the Transmission Company only considers the Bid Prices for the volumes they are instructing. If the Transmission Company believes they are instructing 100MW they would look at the price of 100MW change in output. If the instruction is then found to be 200MW in settlement, going into the next Bid Price band, the Bid price generated differs to that actually accepted by the Transmission Company.

The 'over payment' by the Party (or where the Bid price was negative, the 'over payment' to the Party) for the overstated Bid volume will also be reflected in Balancing Services Use of System (BSUoS) charges.

1.2 Background and Scope

The Initial Written Assessment (IWA) for P167 (Reference 6) was presented to the Panel at its meeting on the 8 July 2004. The Panel agreed with the recommendation that P167 be submitted to a two month Assessment Procedure conducted by the SSMG.

During the Assessment Procedure to date, the SSMG has met twice (on the 15 July and the 5 August 2004) and it was agreed that P167 be issued for industry consultation to seek the views of industry participants on the issues discussed and to support the group's assessment against the Applicable BSC Objectives.

Following BETTA Go-Active on 1 September 2004 this consultation document is being issue to allow participants to consider P167 on a GB basis. P167 was originally issued for industry consultation on the 10 August 2004 under the England and Wales BSC, the purpose of this consultation is for participants to consider P167 on a GB basis as well as for new Scottish participants to consider this consultation and related documents against the Applicable BSC Objectives (Please note the Applicable BSC Objectives were amended at BETTA Go-Active, refer to the consultation document for details).

Responses to previous consultations will be deemed applicable to the GB Code unless stated otherwise in further response to this consultation.

2 MODIFICATION GROUP DISCUSSION

To date, the SSMG have considered the following aspects of the Proposed Modification:

- The required changes to the Code and BSC Systems to account for MEL and MIL resubmissions in the calculation of Acceptance and Non-Delivery volumes, and the associated costs;
- The impact of the perceived defect on Party imbalance positions, imbalance prices, and the RCRC;
- The potential for exploitation of the issue (deliberate avoidance of imbalance via re-declaration of MEL or MIL post Gate Closure);
- Interaction with the Grid Code, in particular the potential impact on the submission of FPN, MIL and MEL data; and
- Exception rules for specific circumstances where it would be inappropriate for the Acceptance Volume to be calculated from MEL / MIL;
- Historic rationale for the current approach to the calculation of Acceptance Volumes; and
- The implications of Parties benefiting from re-declaration acting as a disincentive to submit accurate FPNs.

Details of SSMG discussions on these issues are included in the remainder of this document.

2.1 Changes required to the Code and BSC Systems

This section outlines the changes required to the Code and BSC systems to implement P167. It should be noted that the information included here is a high level overview of the changes required, for further detail please refer to the P167 Requirements Specification (Reference 5).

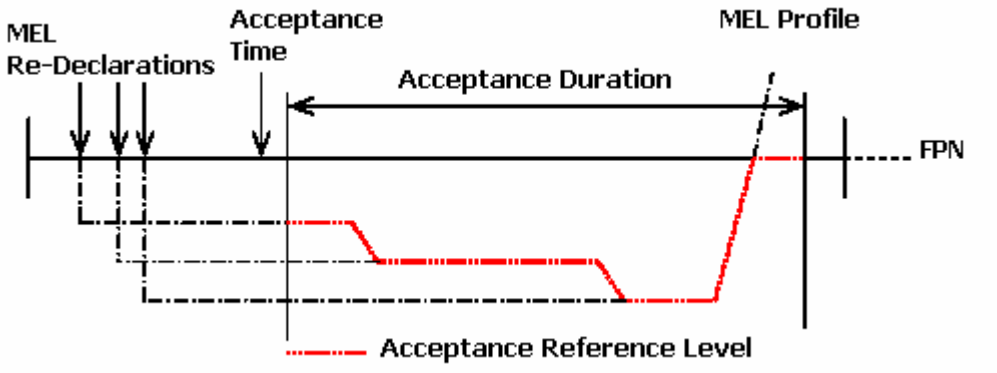
2.1.1 Acceptance Reference Level

P167 requires the volume of Acceptances to be calculated with reference to the physical dynamics of the BM Unit prevailing at the time the Acceptance is instructed (i.e. FPN or MEL/ MIL). In order to do this, a new variable would be created- the 'Acceptance Reference Level' (ARL), the ARL would be calculated for each Acceptance, and would be used instead of the FPN through all Bid – Offer Acceptance and Acceptance Non – Delivery volume calculations (noting that the ARL may be equivalent to FPN).

Whether the FPN or the MEL/ MIL are used as the Acceptance Reference Level would depend on the relative timings of Bid – Offer Acceptances being made and re-declarations of MEL/ MIL. Simplistically the Acceptance Reference Level would be either:

- FPN, where, at the point the Acceptance was issued, the most recently declared MEL is above FPN and the most recently declared MIL is below FPN for the duration of the Acceptance; or
- For each point in time during the acceptance:
  - Where MEL has been declared below FPN the smallest magnitude value of the most recently declared value of MEL issued prior to the Acceptance time and FPN; or
  - Where MIL has been declared above FPN the smallest magnitude value of the most recently declared value of MIL issued prior to the Acceptance time and FPN.

The derivation of the ARL is illustrated in the example below where the ARL follows the level of all MEL re-declarations below FPN which were issued prior to the Acceptance time.



For further detail on the derivation of the ARL refer to Reference 5.

2.1.2 Calculation of Acceptance Volumes

Currently Acceptance Volumes are calculated within Settlement by reference to the BM Unit FPN. Under P167 both the Code and BSC Systems would be amended to calculate the volume of each Acceptance from the 'Acceptance Reference Level' (as consider in detail within Reference 5).

2.1.3 Calculating Acceptance Non – Delivery Volumes

Currently Non – Delivery volume calculations are performed against the Period Expected Metered Volume for a BM Unit (QME_{ij}), where the Period Expected Metered Volume is defined as FPN_{ij} + QBS_{ij}, i.e. FPN for the BM Unit adjusted for Bid – Offer Acceptance Volumes and delivered Applicable Balancing Services volumes.

However, use of FPN as the baseline for deriving the expected Acceptance delivery volumes under P167 could create discrepancies where the Transmission Company made an Acceptance against a level other then FPN. Where this occurs, then the expected Acceptance Volume will be overstated if the comparison is made to FPN for all Acceptances. Therefore, as for Acceptance Volumes, Non – Delivery should be determined according to the Acceptance Volume the Transmission Company was expecting, and this means deriving the Non – Delivery volume for each Settlement Period with reference to the Acceptance Reference Level overlaid on MEL and FPN.

Non – Delivery charges would be derived as they are now, namely a Settlement Period Non – Delivered Volume would be derived, and the charges calculated and applied as currently defined.

Period Expected Metered Volume Calculation:

In order to calculate Non-Delivery Volumes, for each Settlement Period, the Period Expected Metered Volume would need to be derived. Two different variables would be introduced as a consequence of the differing intents of the two calculations, one for Information Imbalance charging and one for Non Delivery:

- Information Imbalance should be the difference between what was declared prior to Gate Closure and what was delivered post Gate Closure. Therefore, for Information Imbalance Charging the expected Metered Volume would be calculated as FPN adjusted for Bid –Offer Acceptance and Applicable Balancing Services Volumes. Hence, the existing definition of Expected Metered Volume would be utilised for this calculation; and
- The Non – Delivery Volume should be the difference between what the Transmission Company expected to be delivered when instructing a Bid – Offer Acceptance, and what was actually delivered by the BM Unit. Therefore the Non – Delivery volume would be calculated against the Acceptance Reference Level, rather than FPN.

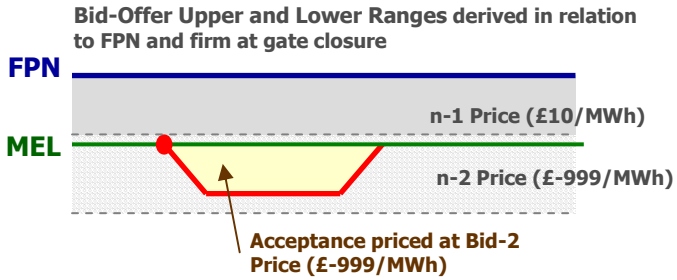
Therefore, under P167, separate definitions of Expected Metered Volume for the purpose of Information Imbalance and Non - Delivery Volume calculation would be required, the formulation of these separate variables is considered further in Reference 5.

2.1.4 Bid-Offer Upper and Lower Range Derivation

The SSMG have considered how Bid-Offer Upper and Lower Ranges should be derived under P167, two options have been considered as follows:

Option 1: Bid-Offer Upper and Lower Range Derivation fixed at FPN

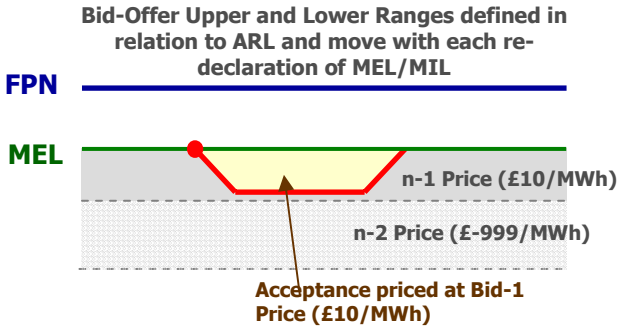
Under this approach Bid-Offer Upper and Lower Ranges would always be derived from FPN (as is the case under the current baseline). This approach would ensure that Bid-Offer Upper and Lower Ranges are firm at Gate Closure. However, both Parties and the Transmission Company would need to consider whether an Acceptance was from FPN or MEL/ MIL in order to determine the price of the Acceptance (since the relevant price band will be dependent on the point from which the Acceptance is issued).



In the example, a Party has submitted a Bid price which indicates they do not wish to reduce output to the level of the n-2 band (i.e. a high negative Bid price in the second band). With the Bid Upper and Lower Ranges derived from FPN, the price for an Acceptance taken from MEL would be calculated from the n-2 band and the Party would receive the associated payment for reducing output to an undesirable level if the Bid is accepted.

Option 2: Bid-Offer Upper and Lower Range Derivation derived in relation to ARL

Under this approach, Bid-Offer Upper and Lower Range Derivation would be from the Acceptance Reference Level. As a consequence, the cost of any Acceptance Volume would be independent of the level from which the Acceptance is taken (since the Bid-Offer Upper and Lower ranges will be derived in relation to the point from which the Acceptance is issued). This means Parties may not be able to price different output levels as considered below.



In the example, the Party has submitted a price which indicates to the Transmission Company that they do not wish to reduce output to the level of the n-2 band (i.e. a high negative Bid price in the n-2 band). However, following a re-declaration of MEL, the Bid Upper and Lower Ranges would be derived in relation to MEL and the price for an Acceptance taken from MEL would be calculated from the n-1 band. The Party would therefore not receive the associated payment for reducing output to an undesirable level if the Bid is accepted.

Initial SSMG Conclusion:

- **Views on how Bid-Offer prices should be derived to be obtained by industry consultation; and**
- **View of the impact of different Bid Offer pricing on the Transmission Company to be obtained via Impact Assessment.**

2.1.5 Reporting

Under P167 new reporting requirements would be specified to indicate (to Parties and the Transmission Company in the Settlement Report) the level from which Acceptance Volumes have been calculated (as consider in Reference 5).

2.2 Implementation Costs

It was noted by the SSMG that under P167 there would be an impact on Parties (verifying the amended Settlement calculations) and on the BSC Systems (associated with the inclusion of MIL and MEL into the Settlement Calculation, since these are not currently used in Settlement). Furthermore, BSC Systems would need to be amended to take into account the timings of MIL and MEL submissions / re-declarations. Therefore, the SSMG have considered the cost of implementing P167 as follows.

2.2.1 BSC Agent Costs

A requirement specification detailing potential solutions to the perceived defect was developed by the SSMG under the scope of Issue 7. Impact Assessment of the requirement specification by BSC Agents indicated the following costs for amending their systems to address the anomaly:

- **Change Specific Costs of the order of £350k;**
- **Incremental Costs of the order of £20k; and**
- **Fixed Release Costs of the order of £250k.**

It was noted by the SSMG that the actual BSC Agent cost associated with implementing a solution would lie somewhere between the Total Cost (~£620k) and the sum of the Change Specific and Incremental Costs (~£370k) (the difference between these values being the Fixed Release cost). The Fixed Release cost is an amount associated with any Release of the Central Systems, this value is independent of the changes

included in the release. Hence, the proportion of the fixed release cost realised by an individual change is dependent on the scope of the Release. For example were the P167 Central System solution implemented on its own it would realise the entire Fixed Release Cost (£250k). However, if implemented with 3 other significant changes, 1/4 of the cost would be associated with the change.

2.2.2 Party Costs

It was noted by the SSMG that, were P167 approved, there could be an impact on Parties, as they would be required to update their systems (in particular to account for the timing of MEL and MIL submissions). One member of the SSMG indicated that addressing the anomaly would require changes to one individual Party's systems at an estimated cost of £75K. It was suggested by another SSMG member that the total cost to Parties could be of the order of 10 times the central costs. Participant impact assessment is being conducted in parallel with this consultation in order to establish the extent of the cost to Parties of supporting implementation of P167.

2.2.3 BSCCo Costs:

The SSMG noted that there would be an additional cost in terms of impact on BSCCo to be considered, both in terms of implementation effort and operational impact. In particular there would be an impact on BSCCo's Market Monitoring system (TOMAS). Under P167 changes to TOMAS to allow calculation of Bid – Offer Acceptance Volumes from spot point data in respect of the relevant output level (MIL / MEL) and with the correct acceptance / declaration timings applied would be required. Full BSCCo impact assessment is being conducted in parallel with this consultation in order to establish the extent of the cost to BSCCo of supporting implementation of P167.

2.3 Impact of Perceived Defect

The SSMG have considered the impact of the perceived defect, both in terms of the financial benefit to those Parties directly affected and the cash flows in the market as a whole. The materiality of the perceived defect, in terms of the net benefit received by directly affected Parties under the current baseline, has been estimated to be between £100-400k pa, this section details the sources of this impact and the approach used for estimating the materiality.

2.3.1 Sources of impact

The perceived defect impacts on the calculation of Acceptance Volumes and results in an overstated Acceptance Volume being used in Settlement. As a result there is an impact on Imbalance Charges, payments made for Bids, the RCRC and BSUoS charges. It should be noted that the potential impact on Imbalance Prices is considered separately in section 2.3.4 of this document.

- ***Imbalance Cashflow***

The perceived defect impacts the imbalance position for directly affected Parties. The effect of overstating the Acceptance Volume(s) for the BM Unit has consequential effects on the Credited Energy for the Party (by removing some, or all, of the imbalance between FPN and MEL/MIL). Depending on the imbalance position of the Party prior to the Acceptance, this could result in the Party being less short, reducing the SBP liability, alternatively the Party could be made more long, resulting in a greater exposure to System Sell Price (SSP). Therefore, Parties directly affected by the perceived defect are currently benefiting in terms of the imbalance cashflow.

- ***Bid/ Offer payments***

The perceived defect impacts the payments made to the Transmission Company for Bids by directly affected Parties. The overstatement of Acceptance Volumes typically results in increased Bid payments from directly affected Parties to the Transmission Company (assuming Bids are priced positively). Therefore, Parties directly affected are currently at a dis-benefit in terms of Bid payments as a result of the perceived defect.

The converse effect would be observed in terms of Offer payments, since, where MIL has been re-declared above FPN and an Offer Accepted by the Transmission Company, the impacted Party would typically receive an increased payment. However this issue is not considered material in the current market due to the limited involvement of the demand side within the Balancing Mechanism.

- ***RCRC***

As discussed previously, the perceived defect impacts the imbalance position for directly affected Parties, resulting in a decrease in imbalance payments by these Parties (or increase in imbalance payments to these Parties). Therefore, the perceived defect results in a decrease in the RCRC, such that the majority of Parties with a physical position are currently at a dis-benefit in terms of the RCRC due to the perceived defect.

- ***BSUoS Charges***

It was recognised by the SSMG that changes to BSUoS charging methodology are not within the scope of P167, however it is necessary to consider how the perceived defect impacts on BSUoS charging in order to understand the impact on the overall market cashflow.

As discussed previously, the perceived defect typically results in an increase in payments made by directly affected Parties to the Transmission Company for Bids. Therefore, the perceived defect results in a decrease in BSUoS charges, such that such that the majority of Parties with a physical position are currently receiving a benefit in terms of the BSUoS charges.

2.3.2 Materiality Estimate

In order to understand the net effect of the perceived defect and resulting impact in terms of the overall cashflow within the market, the SSMG have performed analysis of live occurrences of the perceived defect and produced an estimate of the annually materiality as outlined in this section. It should be noted that the SSMG performed its analysis in respect of overstated Bid volumes (MEL re-declared below FPN) as this is the commonest form of the anomaly (due to the current level of demand side participation in the Balancing Mechanism).

- ***Initial Estimate***

An initial estimate of the materiality of the perceived defect was made under the scope of Issue 7 as outlined in this section.

Identifying genuine occurrences of the anomaly requires timing information (in respect of MIL / MEL re-declarations) that is not currently available in a format that allows automated processing. Therefore, an approximation was used to identify potential occurrences of the perceived defect over a 12 month period.

Settlement Periods, where the 'period' MEL was less than the 'period' FPN[2] and an Acceptance had been issued, were identified as potential occurrences of the anomaly. Initial analysis using this approach identified approximately 7,000 potential occurrences of the anomaly over a 12 month period. It should be recognised that some of these occurrences were not genuine, as it depends upon the sequence of issuing Acceptances and MEL re-declarations (which was not taken into account at this stage of analysis).

For each potential occurrence, the difference between FPN and MEL for the Settlement Period was used to estimate the overstatement of Acceptance Volume resulting from the perceived defect. It should be noted that this approach tends to increase the materiality estimate (since the Acceptance is assumed to last the duration of the Settlement Period, this is considered in the following section). Utilising this estimate of overstated Acceptance Volumes and the corresponding Bid prices, an estimate of the annual materiality in terms of decreased Bid payments from directly affected Parties was made (£500,000pa).

The estimated change in imbalance payments was calculated by multiplying the estimated change in bid volume by SBP, giving an estimated annual materiality in terms of decreased imbalance payments of £2,000,000pa. It should be noted that this estimate is based on the assumption that the relevant Party account was short and would be subject SBP, in some cases the Party may actually have been long and subject to SSP, hence this approach tends to overestimate the materiality.

Therefore, initial analysis indicated that Parties directly affected by the anomaly would receive a net benefit of the order of £1,500,000 pa. However, the SSMG recognised that there were significant assumptions made in producing this estimate that would tend to overestimate the materiality and it was agreed that further analysis should be conducted in order to refine this estimation.

- ***Capping of estimated overstated Acceptance Volume***

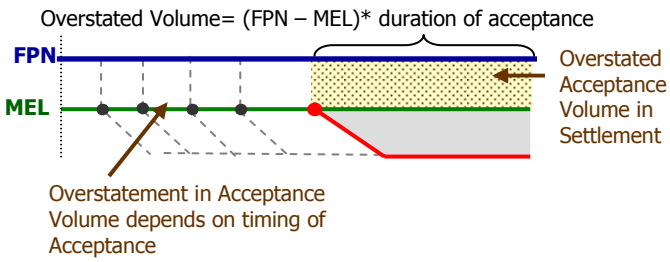
The SSMG recognised that estimating the change in Acceptance Volume as the difference between the period FPN and the period MEL would result in an over estimation of the materiality in some cases and have allowed for this overestimation as considered in this section.

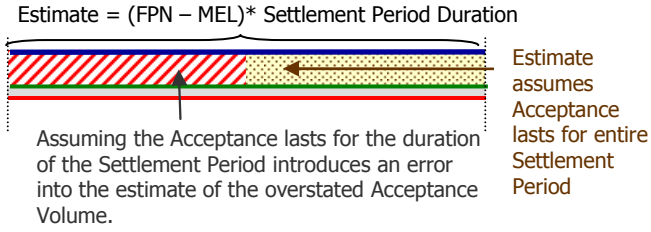
In order to estimate the overstated Acceptance Volume that is introduced into Settlement by the perceived defect, it was initially assumed that overstatement of Acceptance Volume is the difference between FPN and MEL multiplied by the Settlement Period Duration (i.e. that all affected Acceptances were issued at the start of the Settlement Period). However, since Acceptances can be issued at any point in the Settlement Period, the actual overstatement of Acceptance Volume is the difference between FPN and MEL multiplied by the duration of the Acceptance within that Settlement Period. Therefore, where the Acceptance is issued late in

1.1.1.1

[2] The average value of the MEL across the Settlement Period was compared to the average value of the FPN, however at this stage no allowance could be made for the timing of the MEL submissions.

the Settlement Period there is a significant overestimation of the overstated Acceptance Volume, as illustrated diagrammatically below:





In the Settlement systems, the Acceptance taken from MEL is interpolated from MEL to FPN, resulting in an overstatement of the Acceptance Volume; the extent of this overstatement depends on the point in the Settlement Period at which the Acceptance is issued.

In the estimation, it is assumed the Acceptance lasts for the duration of the Settlement Period, hence the estimated over statement of Acceptance Volume in Settlement is larger than the actual overstatement.

In particular, the SSMG noted that, in some cases, this approach had resulted in an estimated overstatement of Acceptance Volume that was greater than the total Settlement Period Acceptance Volume. Clearly the actual overstatement of the Acceptance Volume cannot exceed the total Settlement Period Acceptance Volume (since the total Settlement Period Acceptance Volume is the sum of the actual Acceptance Volume and the Overstated Acceptance Volume). Therefore, the estimate of materiality was refined by capping the estimated change in Bid Volume to the magnitude of the original Bid Volume. This refinement in the analysis resulted in a reduction of the estimated net materiality from £1,500,000pa to £650,000pa.

- ***Sensitivity to SBP and SSP***

In producing the initial estimate of materiality it was assumed that in all cases the directly affected Party would be short and that the benefit in terms of avoided imbalance would be received at SBP. However, it was recognised by the SSMG that the Party may actually be long and the imbalance benefit received at SSP. Analysis indicated that, over the 12 month period being considered, Parties were long 75% of the time. The SSMG have therefore produced three separate estimates of the annual materiality based on the assumptions that:

- In all cases the Party was short and the imbalance benefit was received at SSP;
- in all cases the imbalance benefit was received at a 'mid price' (where the mid price is derived as 25% SBP and 75% SSP, in recognition of the proportion of cases where Parties were actually long in the time period considered); and
- In all cases the Party was long and the imbalance benefit was received at SSP.

- ***Validation***

In recognition of the fact that the initial analysis would have identified a number of potential occurrences which were not genuine (due to the fact timing information in relation to MEL submissions and Acceptances had not been taken into account), the SSMG performed further analysis in an attempt to remove the contribution of false occurrences from the materiality estimates.

It was noted by the SSMG that 35% of the overall materiality was associated with only 100 of the 7000 potential occurrences (1.5%). Therefore, these 100 potential occurrences were verified manually via the use of BMRS data and those occurrences not considered to be genuine were removed from the estimate.

In order to account for the inclusion of false occurrences in the unverified portion of the data set, a week's data (approximately 160 potential occurrences) was interrogated manually (via reference to the BMRS and

use of MEL submission times provided by the Transmission Company). Analysis of this subset of the data indicated that approximately 60% of the occurrences were genuine and 40% were false, furthermore the average materiality of genuine and false occurrences was found to be approximately equal. It was therefore assumed that false occurrences would be contributing around 40% of the materiality of unverified occurrences and the total materiality estimates were reduced accordingly.

It should be noted that it is possible that the method used to identify potential occurrences of the perceived defect may have missed some genuine cases, however no allowance has been made for this in the materiality estimates.

Conclusion:

The SSMG have produced estimates of the annual materiality associated with P167 (in terms of avoided imbalance payments and increased Bid payments) as follows:

- **Settlement Periods where the period FPN is less than the period MEL and an acceptance has been issued are potential occurrences of the perceived defect;**
- **The overstated Acceptance Volume is approximately equal to the difference between period FPN and period MEL (capped to total Settlement Period Acceptance Volume);**
- **Separate estimates have been produced recognising the sensitivity to whether Parties were long or short and imbalance benefit may be received at SBP or SSP;**
- **False occurrences with significant materiality were removed, based on manual verification of the 100 most significant cases; and**
- **40% of the materiality of unverified occurrences was removed to account for false cases, based on manual verification of a subset of the data.**

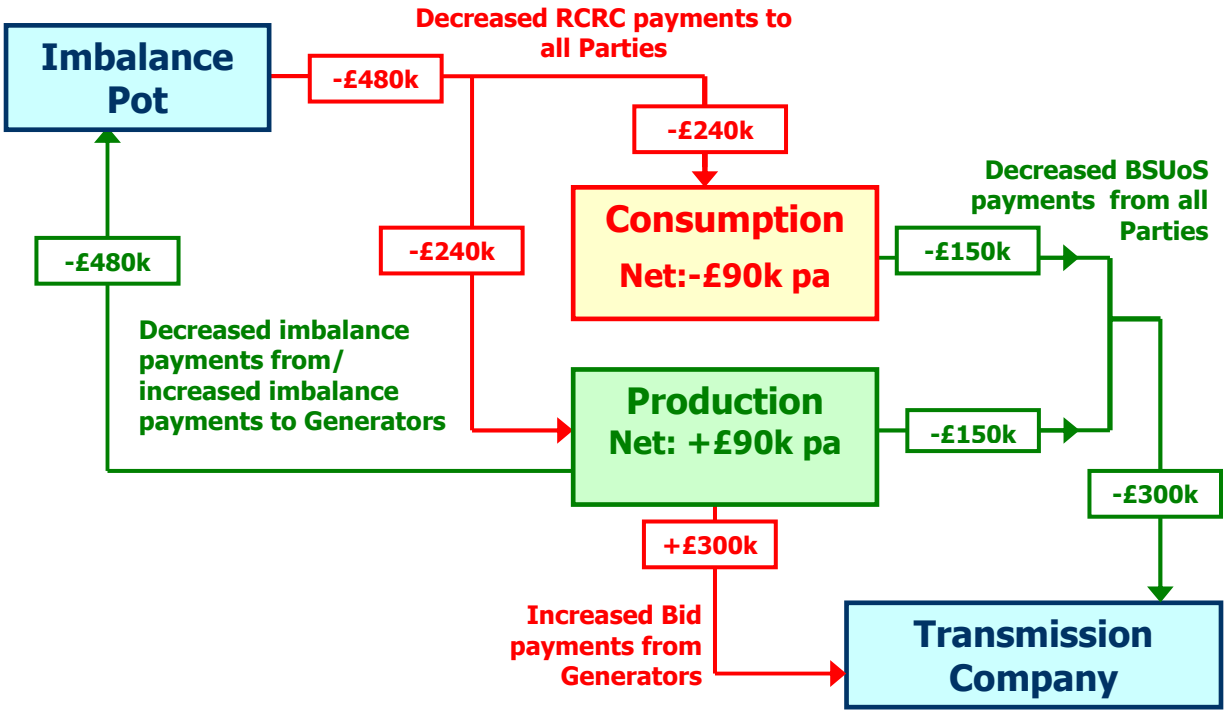
Final Estimate	SBP (£pa)	Mid price (£pa)	SSP (£pa)
Materiality of decreased imbalance payments	700,000	480,000	400,000
Materiality of increased Bid payments	-300,000	-300,000	-300,000
Net Materiality	**400,000**	**180,000**	**100,000**

It should be noted that, although every effort has been made to refine these values as far as possible, it has been necessary to make a number of assumptions in order to estimate the materiality of the perceived defect, therefore this analysis should not be interpreted as a definitive assessment of the materiality; rather it should be interpreted as an indicative guide to the potential materiality.

2.3.3 Overall Impact on Market Cashflows

Having estimated the impact in terms of the net benefit to directly affected Parties the SSMG considered the impact on the overall cashflow within the market. The following simplistic diagram illustrates, at a high level, how the perceived defect is currently impacting the various different cashflows within the market. It should be noted that the materiality figures included in the diagram are based on the mid price estimates of annual materiality (see section 2.3.2).

For the purpose of this analysis it has been assumed that the decrease in the RCRC is equal and opposite to the materiality in terms of avoided imbalance (since a reduction in imbalance payments by directly affected generators results in a reduction in the RCRC received by all Parties). It has also been assumed that the increase in BSUoS charges is equal to the materiality in terms of increased Bid payments (since the increase in Bid payments by directly affected generators results in a reduction in BSUoS charges for all Parties).



It was noted by the SSMG that the perceived defect is currently resulting in a net flow of cash from the consumption side, to the production side, of the market (such that implementation of P167 would result in a net cashflow from production to consumption). In order to understand the impact of the perceived defect on Parties with different portfolio types, in particular where Parties have a balance of supply and generation assets, the SSMG have considered how the impact on the various cashflows illustrated above would be distributed amongst participant types as follows:

- **Suppliers**

  For the purpose of this analysis a Supplier is considered to be a Party that either has predominantly supply assets or has generation assets not directly affected by the perceived defect. It is also assumed that a Supplier has a 20% share of the supply market and 10% of the entire market (and receives an associated proportion of the impact on each cashflow affected).

- **Vertically integrated participants**

  For the purpose of this analysis a vertically integrated participant is considered to be a Party with an equal mix of supply and generation assets. It is also assumed that a vertically integrated participant has a 20% share of both the supply and generation market and therefore a 20% share of the total market (and receives an associated proportion of the impact on each cashflow affected). The SSMG noted that, in practice, it is unlikely that any participant will have precisely matched Supply and Generation assets,

therefore the actual impact observed would tend towards the portion of the business which dominates i.e. vertically integrated participants with more generation will tend to towards the impact for a generator whilst those with more supply assets will tend towards the impact for a Supplier.

- **Generators**

For the purpose of this analysis a generator is considered to be Party with predominantly generation assets participating in the Balancing Mechanism and directly affected by the perceived anomaly. For the purpose of this analysis it has been assumed that a generator has a 20% share of the generation market and a 10% share of the entire market (and receives an associated proportion of the impact on each cashflow affected).

It should be noted that this analysis is intended to be relatively high level and to give an indication of the impact on general Party types depending on their balance of supply and generation assets. The examples should not be taken as a definitive assessment of the impact on any individual Party, as both the relative proportion of generation and supply assets and market shares will clearly vary significantly between individual Parties.

	Supplier	VIP	Generator
Supply Market Share	20%	20%	0
Generation Market share	0	20%	20%
Total Market Share	10%	20%	10%
Imbalance Benefit (£k pa) (Total impact on Imbalance Payments * generation market share)	0 (0% of 480)	+96 (20% of 480)	+96 (20% of 480)
RCRC Benefit (£k pa) (Total impact on RCRC benefit * total market share)	-48 (10% of -480)	-96 (20% of -480)	-48 (10% of -480)
Bid Benefit (£k pa) (Total impact on Bid benefit * generation market share)	0 (0% of -300)	-60 (20% of -300)	-60 (20% of -300)
BSUoS Benefit(£k pa) (Total impact on BSUoS * total market share)	+30 (10% of 300)	+60 (20% of -300)	+30 (10% of -300)
Net Benefit (£k pa)	**-18**	**0**	**+18**

SSMG Initial Conclusions:

- **Suppliers are currently receiving a net dis-benefit from the perceived defect, and would therefore financially benefit from the implementation of P167;**
- **Vertically Integrated Participants (with equal generation and supply assets) are currently neutral to the perceived defect; and**
- **Generators are currently at a net benefit from the perceived defect, and therefore would be at a financial dis-benefit from the implementation of P167.**

2.3.4 Impact on Imbalance Prices

Overstating Acceptance Volumes has the potential to impact on the calculation of imbalance prices, as these overstated volumes are used in the derivation of the Net Imbalance Volume (NIV), as follows:

Figure 1 represents the price setting mechanism. The NIV Tagging mechanism derives the 'length' of the system by comparing the Accepted Offer (and Balancing Services Adjustment Data (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 is intended to represent the volume associated with energy balancing. The system balancing actions are considered to be 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.

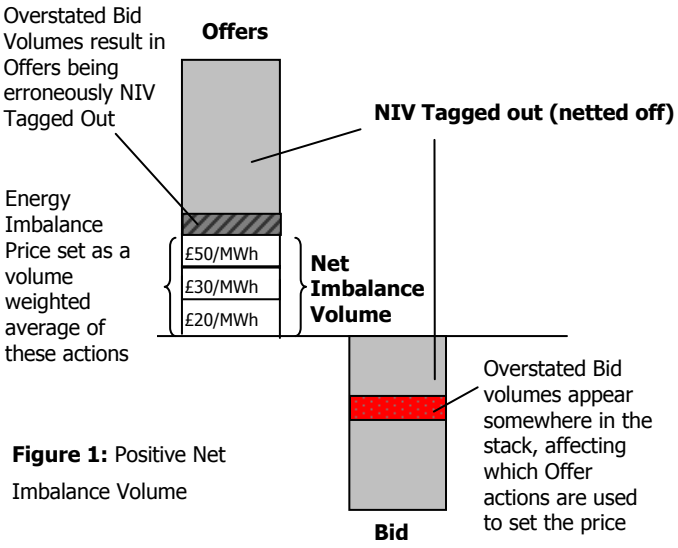


Figure 1: Positive Net Imbalance Volume

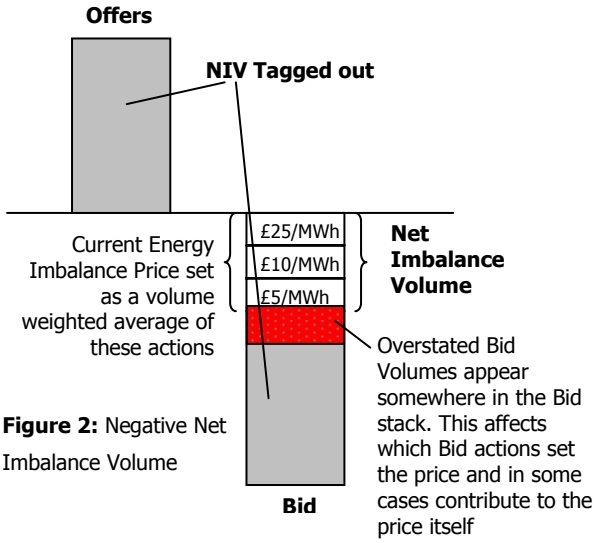


Figure 2: Negative Net Imbalance Volume

Overstated Acceptance Volumes, resulting from the perceived defect identified under P167, will feed into the NIV Tagging mechanism, thereby impacting the calculation of the Imbalance Prices. For example an overstated Bid Volume may cause the market to appear longer, affecting which actions set the imbalance price, and could, in extreme cases, causing the market to switch from short to long.

The SSMG have considered the potential impact of the perceived defect on imbalance prices and this section details the analysis of the SSMG in this area.

2.3.4.1 Analysis of impact on Imbalance Prices

The SSMG have conducted analysis of the impact of the perceived defect on imbalance prices. It should be noted that there are two (main) caveats that apply to the analysis undertaken that should be considered when reviewing / assessing the results:

– The analysis has been performed on potential occurrences of the anomaly identified via comparison of period MEL and Period MIL, taking no account of the relative timings of the Acceptance and MEL re-declaration. Therefore, given that the issue is highly timing dependent, it is possible that genuine occurrences of the issue have been excluded, and that erroneous instances have been included; and

– It is also impossible to determine whether MEL has been re-declared more than once, and therefore whether the Acceptance Volumes are being calculated with reference to the 'correct' MEL.

In light of these assumptions, this analysis should not be interpreted as a definitive assessment of the materiality in respect of the implications on the Energy Imbalance Prices; rather it should be interpreted as an indicative guide to the potential materiality.

- **Process Followed**

Settlement Periods from 20 March to 12 April and from the 28 June to 21 July 2004 were considered. For this time period (approximately 2300 Settlement Periods), potential occurrences of the anomaly were identified for BM Units where the Settlement Period MEL was lower than the Settlement Period FPN and an Acceptance had been instructed on the BM Unit. It should be noted that this approach makes no allowance for the timing of the MEL submission and will typically over estimate the number of affected Settlement Periods.

For all the Settlement Periods identified as potentially affected the Energy Imbalance Prices were recalculated on the basis of Acceptance Volumes derived in relation to MEL for the relevant BM Unit.

Cases where one (or both) of the Energy Imbalance Prices (System Sell and / or System Buy) had changed significantly were identified for further manual investigation. These cases were considered individually (via manual reference to BMRA data) in order to identify whether or not an apparently genuine occurrence of the anomaly exists. This judgement was based on the following criteria:

– MEL is less than FPN throughout the Settlement Period;

– The Acceptance points correspond to the MEL. This is assumed to indicate that the BM Unit was operating at MEL prior to the Acceptance instruction, thus implying the MEL re-declaration was issued prior to the Acceptance.

In the absence of MEL submission information, these criteria were used to identify cases where maximum confidence can be taken that the occurrence of the anomaly is genuine. Therefore, it should not be assumed that cases that do not meet these criteria are not genuine occurrences.

- **Results**

In the period from 20 March to 12 April and from the 28 June to 21 July 2004 (comprising approximately 2300 Settlement Periods) the number of Settlement Periods flagged as potentially affected was 816 (approximately 35% of the total Settlement Periods). It should be noted that the 35% figure is derived from the approximation that BM Units on which Acceptances were taken and the period MEL is below the period FPN for the Settlement Period are occurrences of the perceived defect, this approach is caveated above.

Of these 816 Settlement Periods, recalculation of the Energy Imbalance Prices indicated a change of +/- £0.25 or more in 62 cases (7.6% of the 816 Settlement Periods, and 2.7% of the total number of Settlement Periods (2300)). From these 62 cases, 7 have been identified as having both a potentially material impact on the imbalance prices and a high likelihood of being genuine (noting that other potential occurrences may also be genuine). It was also noted by the SSMG that in some cases the overstated Acceptance Volume had caused the market to flip from long to short (or vice versa). For these example cases the absolute change in imbalance payments in the Settlement Period affected has also been estimated by multiplying the change in relevant imbalance price by the total Imbalance Volumes (long and short) in the affected Settlement Periods.

The following table outlines the analysis of the Imbalance Price impact in the 7 example cases:

Date	SP	BMUs Affected	Original SBP	Original SSP	Revised SBP (change)	Revised SSP (change)	Change in Imbalance Payments (absolute)
21-Mar-04	45	T_MEDP-1	£19.13	£-20.63	£19.13 (0)	-£14.78 (28%)	£2,600
22-Mar-04	47	T_WBUPS-4	£15.42	£14.62	£15.00 (3%)	£15.00 (2.6%)	£154
01-Apr-04	28	T_DRAXX-6	£28.63	£13.60	£28.63 (0)	£14.49 (6.5%)	£560
11-July-04	23	T_TILB-9 T_LBAR-1 T_SEAB-1	£28.73	£15.70	£21.75 (24%)	£21.75 (39%)	£9,400
14-July-04	18	T_DIDC2	£21.71	£16.05	£42.83 (97%)	£21.71 (83%)	£4,400
20-July-04	28	T_SEAB-2 E_BRYP-1	£25.77	£13.94	£45.54 (76%)	£25.77 (84%)	Not estimated (SF data not available)

The SSMG have also estimated the annual materiality of the impact on Imbalance Prices in terms of imbalance payments by Parties. For Settlement Periods in 48 of the Settlement Days considered (28 June-19 July and the 20 March – 12 April 20043) which had been flagged as potentially affected by the perceive defect, the impact on imbalance payments made by Parties was estimated (by multiplying the change in relevant imbalance price by the total Imbalance Volume (long or short as appropriate) in the affected Settlement Periods). This gave an absolute change in imbalance payments in the 48 Settlement Days considered of approximately £72,000. This estimate was then reduced by 40% to £43,000, in recognition of the contribution of false occurrences (see section 2.3.2). Annualising this 48 day estimate gave an estimate of materiality of the impact on Imbalance Prices in terms of imbalance payments by Parties of £327,000 pa.

SSMG initial conclusions:

- **The perceived defect has the potential to impact the Imbalance Prices in up to 35% of Settlement Periods;**
- **The estimated annul materiality of the impact on Imbalance Prices, in terms of absolute Imbalance payments by Parties, is £327,000 pa;**
- **In the majority (at least 97% of Settlement Periods) of potentially affected Settlement Periods the impact is less than £0.25 on both imbalance prices; and**
- **The impact on the imbalance price in any individual Settlement Period could be significant (97% in one example).**

2.4 Potential for exploitation of the issue

The SSMG have considered the potential for exploiting the perceived defect (i.e. re-declaration of MEL/ MIL below FPN in order to avoid imbalance). It is the initial view of the SSMG that the opportunity for Parties to gain a commercial advantage by targeting the anomaly would be limited for the following reasons:

- It cannot be predicted whether the Transmission Company is going to take the Bid on that BM Unit;
- The Bid Price would have to be favourable to the Transmission Company to make the Bid attractive and increase the possibility of it being called (potentially reducing the 'profit' for the BM Unit when the Bid is

1.1.1.1

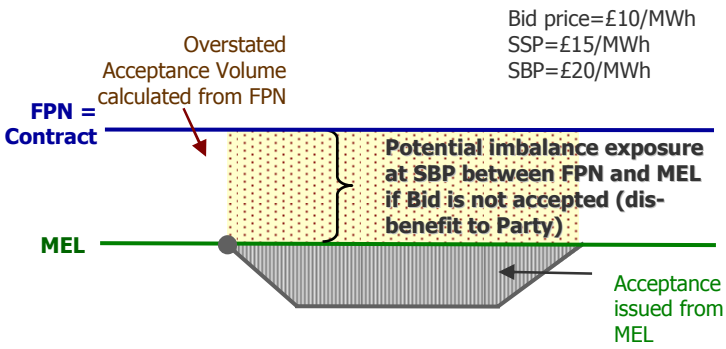
[3] These dates were chosen as Settlement Final (SF) data was available at the time of conducting the analysis.

called outside of the circumstances when this issue arises);

- The Bid Price would have to be below the relevant system price for there to be any advantage from re-declaring MEL below FPN;
- Acceptances may not last for the entire Settlement Period, therefore even if a Bid is accepted, the overstated Bid Acceptance Volume may not 'cover' the imbalance volume (i.e. FPN minus MEL) exposing the Party to imbalance for the 'uncovered' volume (i.e. during the portion of the Settlement Period where there is no Acceptance the Party may still be exposed to Imbalance). It should be noted that this assumes the Party has contracted at FPN, although this may not be the case; and
- To efficiently exploit the perceived defect the Party would need to predict the length of the market in the Settlement Period.

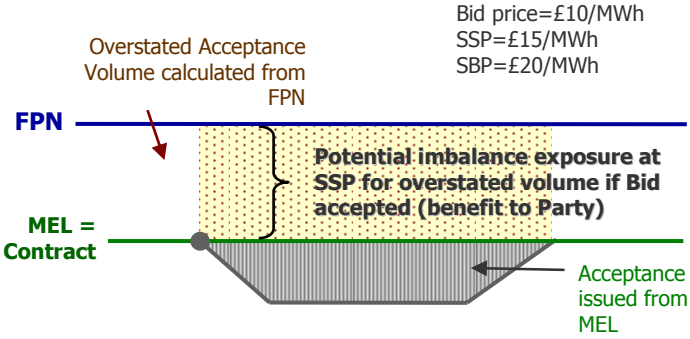
It was also noted that the Transmission Company has procedures in place to check, as far as possible, the veracity of MEL and MIL re-declarations. Furthermore, the SSMG noted that analysis of live occurrences had not shown any indication of Parties exploiting the anomaly to date.

The SSMG have also considered the potential for a Party to exploit the perceived defect by contracting away from FPN. The majority of analysis within this document assumes that the Party has contracted at or around its FPN, in this situation there is a potential imbalance exposure as a result of operating at MEL (i.e. if the Transmission Company does not issue an Acceptance the Party will be subject to imbalance for the difference between FPN and MEL). However, if a Party actually contracts at MEL this imbalance exposure would be removed (since the Party will not be subject to imbalance exposure if an Acceptance is not issued). The following example illustrates how the Party could exploit the issue when contracting to MEL.



Contracting to FPN:
If the Bid is accepted, the Party pays for the overstated Acceptance Volume (at Bid price of £10/MWh). The Party also avoids imbalance for the overstated Acceptance Volume (at SBP of £20/MWh). Therefore, if the Bid is accepted the Party receives a net benefit for the Overstated Acceptance Volume at the difference between SBP and the Bid price (£10/MWh). However, if the Bid is not accepted the Party will be exposed to SBP for the difference between FPN and MEL. This potential imbalance exposure reduces the potential for the Party to exploit the perceived defect when contracting to FPN.

The previous example illustrates that it is possible for the Party to exploit the perceived defect at no risk by submitting an FPN much higher than the contracted level but re-declaring MEL to the contracted level post Gate Closure. If the Party then has a Bid accepted it will receive a net benefit for the overstated Acceptance Volume at the difference between the Bid price and SSP, however if a Bid is not accepted there will be no imbalance exposure and hence no risk to the Party. The SSMG noted that if a Party were to attempt to exploit the perceived defect in this way it would loose potential income from Offers and that this would act as a disincentive against exploitation.



Contracting to MEL:
If the Bid is accepted, the Party pays for the overstated Acceptance Volume (at Bid price of £10/MWh). The Party will also be credited with the overstated Acceptance Volume, this will result in the Party being long (since contract = MEL) and receiving SSP (£15/MWh) for the overstated volume. Therefore, if the Bid is accepted the Party receives a net benefit for the Overstated Acceptance Volume of the difference between SSP and the Bid price (£5/MWh). However, if the Bid is not accepted the Party is neutral, since contract is at MEL and, as such, there is no imbalance exposure. Hence there is no risk to the Party when exploiting the perceived defect.

SSMG Initial Conclusions:

- **To date there is no evidence of exploitation of the perceived defect;**
- **Going forward the possibility for exploitation of the issue is extremely limited due to the number of variables influencing the possible benefit to Parties.**

2.5 Drivers on MEL and MIL submissions

It was noted by the SSMG that MEL and MIL are currently defined within the Grid Code and there is no commercial driver on submissions. In order to address the perceived defect it would be necessary to include MEL and MIL submissions within the Settlement calculation, this could place a commercial driver on, and affect Parties approach to, such submissions. For example a Party may avoid re-declaring MEL for a BM Unit if it is considered that the Transmission Company may issue a Bid on the plant, since if a Bid is issued prior to the MEL re-declaration the Acceptance Volume will be calculated from FPN (rather than MEL) and the Party would be protected from Imbalance Exposure. As a consequence, there is a potential adverse impact on MEL and MIL submissions if Parties were to postpone re-declaring MEL or MIL in order to achieve a commercial benefit through Settlement. It was noted by the SSMG that submission of accurate and timely MEL and MIL information is a Grid Code requirement and any Party delaying submission of such information in order to achieve a commercial benefit within Settlement could be held to account and could be subject to a Significant Incident Report.

The SSMG noted that the Transmission Company require accurate information about the physical output of BM Units operationally, it was therefore agreed that impact assessment of this issue by the Transmission Company is required.

SSMG Initial Conclusions:

- **P167 would place a commercial driver on, and therefore potentially impact, the submission of MEL and MIL data to the Transmission Company; and**
- **Transmission Company impact assessment in this area is required.**

2.6 Potential impact on other dynamic data items

In recognition of the issues identified under P167 relating to the impact on Acceptance Volumes of post Gate Closure MEL and MIL submissions, the SSMG have considered whether there would be similar issues for other Dynamic Data items (as defined in Section Q2.1.2 of the Code). No impact on Settlement resulting from Parties re-declaring any of the Dynamic Data items apart from MEL or MIL has been identified by the SSMG.

SSMG Initial Conclusions:

- **Similar issues identified under P167 in relation to MEL or MIL re-declarations have not been identified for other Dynamic Data items.**

2.7 Exception rules

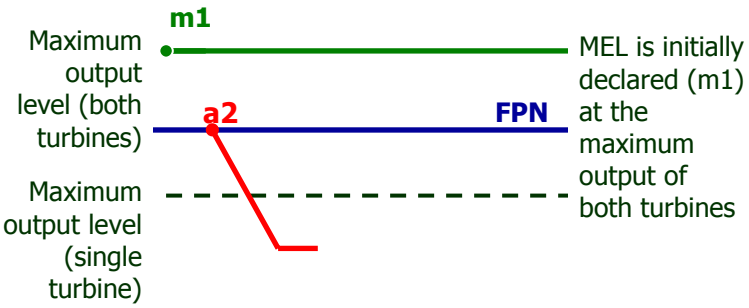
The SSMG have considered potential circumstances where it would be inappropriate for the Acceptance Volume to be calculated from MIL/ MEL, despite the Party re-declaring MIL/ MEL prior to the Transmission Company issuing the Acceptance, and whether exceptions rules would be required in such scenarios.

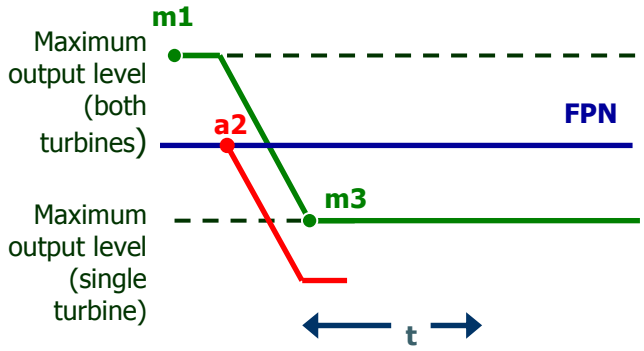
2.7.1 Multi shafted BM Units

The SSMG have identified a potential exception scenario which relates to the operation of 'Multi Shafted' BM Units (a single BM Unit with multiple turbines).

The scenario arises where the Party issues a Bid which, if accepted by the Transmission Company would require one of the turbines to be desynchronise for a number of Settlement Periods (typically between 4 and 12 hours). In order to manage the situation such that the plant can return to its FPN, the Transmission Company may issue multiple Acceptances on a rolling hour by hour basis (since Acceptances cannot extend into Settlement Periods for which Gate Closure has not passed). Following the first Acceptance being issued, the BM Unit may be required to reduce MEL to maintain Grid Code compliance, as on de-synchronisation the machine can no longer provide a 2 minute response and should therefore reduce MEL to reflect the capability of the remaining synchronised turbines. Any reduction in MEL will typically occur shortly after de-synchronisation (i.e. following the first Acceptance being issued), therefore, under P167, the Acceptance Volumes for any consequential Acceptances would be calculated from MEL. As a result, the Party may be subject to imbalance exposure as a result of delivering the Bids. This scenario is illustrated diagrammatically below:

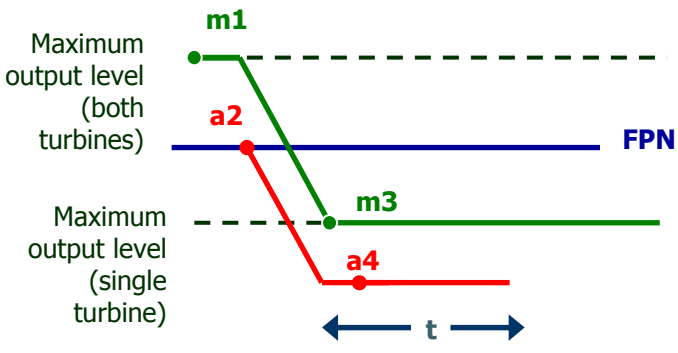
1. BM Unit initially operating at FPN, the Transmission Company issues an Acceptance (a2), taking the BM Unit to an output level which requires one of the turbines to be switched off

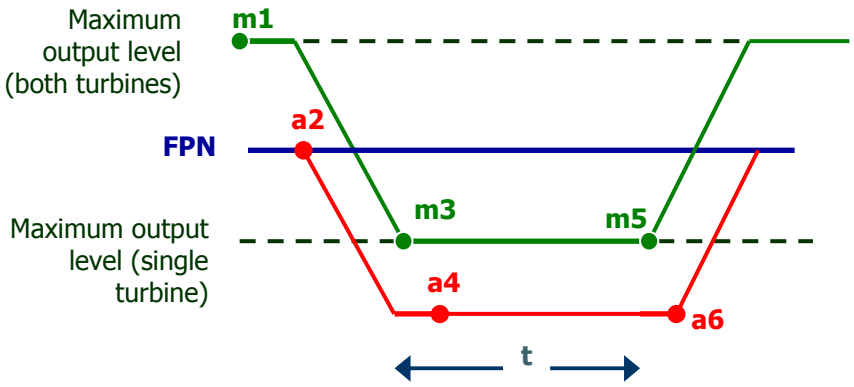




2. After switching off one turbine, there will be a minimum time period (t) before the BM Unit can increase it's output above the single turbine level and return to FPN. Hence, after the first Acceptance is issued (a1), MEL is re-declared to the maximum output level of the single turbine (m3).

3. In recognition of the minimum time period (t) required to increase output above the single turbine level and return to FPN, the Transmission Company will issue further Acceptances (a4), keeping the BM Unit at the lower level of output until such time as the plant can be returned to FPN.

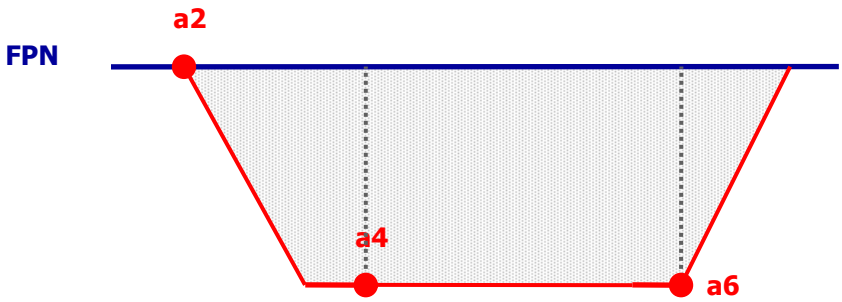




4. Once the turbine can be restarted, MEL will be re-declared to the maximum output level of both turbines (m5) and the Transmission Company can return the BM Unit to FPN (a6).

Acceptance Volumes: Current Baseline

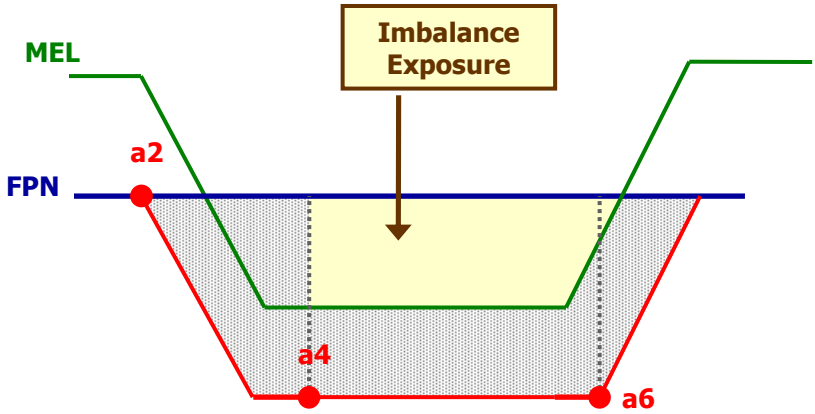
Under the current baseline the volume of all three acceptances (a2, a4, and a6) would be calculated with reference to the FPN**.**



Hence, under the current baseline the Lead Party would not be subject to imbalance exposure when delivering the series of Bids.

Acceptance Volumes: P167

Under the proposed P167 baseline, the volume of acceptances a2 and a6 would be calculated with reference to the FPN (since the MEL in effect at the point of acceptance was greater than FPN). However, the volume of acceptance a2 would be calculated from MEL, since the MEL effective at this point would be less than FPN.



Hence, under P167 the Lead Party may be subject to imbalance exposure as a consequence of delivering the series of Bids.

In order to support assessment of this issue the Transmission Company provided analysis of the extent to which the scenario identified may be occurring operationally. The Transmission Company indicated that there are currently 25 registered multi-shafted BM Units either commissioning or fully commissioned onto the Transmission System at this time (currently there are over 1000 registered BM units of which approximately 200 are generation BM Units that the Transmission Company can instruct by means of Bids and Offers). Analysis was also conducted by the Transmission Company in order to identify actual operational occurrences of the scenario; this analysis did not identify any occurrences of the scenario. It was also noted by the SSMG that a change to the definition of Dynamic Data items submitted to the Transmission Company under the Grid Code, such that the characteristics of Multi Shafted BM Units could be accurately reflected, would also address the scenario identified.

Recognising that, to date, analysis has not identified any operational occurrences of the scenario, the SSMG have initially concluded that it would not be appropriate to include exception rules for Multi Shafted BM Units under P167. However, it was agreed by the SSMG that views from market participants on whether exception rules are required and details of any operational examples of the scenario should be obtained by consultation.

2.7.2 Other considerations

The SSMG have also considered whether there may be other exception scenarios which require consideration. Specifically the SSMG noted that there could be an impact on BM Units associated with cascade hydro plants or wind turbines, since MEL is likely to be a highly variable parameter at these sites. It was agreed by the SSMG that market participants should be invited to raise any other exception scenarios which should be considered via consultation.

Initial SSMG Conclusion:

- **Exception rules not required for scenarios identified to date; and**
- **Views on any exception scenarios which require further consideration to be obtained via consultation.**

2.8 Historical rationale for current approach

The SSMG have considered the historical rationale for the current approach to calculation of Acceptance Volumes under the Code. It is the view of the SSMG that, although there was an awareness that the current approach to calculation of Acceptance Volumes, that does not account for changes in Dynamic Data items, was an approximation which introduced a certain level of inaccuracy into Settlement, the level of inaccuracy introduced was not considered to be material when the Code was originally drafted. It was noted by the SSMG that the number of Acceptances issued by the Transmission Company may be higher than was originally expected and that situations where MEL is declared below FPN occur more frequently than may have been foreseen.

Initial SSMG conclusion:

- **Perceived defect was not considered material when Code was originally drafted.**

2.9 Incentives to meet FPN

The SSMG have considered whether P167 would affect the incentives for Parties to meet their FPNs. Currently the Code does not place an incentive on Parties to meet FPN, since the Information Imbalance Charge (paid by Parties whose actual positions do not match their FPN) is set to zero. As such, the current incentives to meet FPN sit in the Grid Code rather than the BSC and would not be modified under P167. Therefore, it was the view of the SSMG that there would not be an impact, either beneficial or detrimental, on the incentives for Parties to meet FPN under P167.

Initial SSMG Conclusion:

- **No impact on incentives for Parties to meet their FPNs.**

2.10 BETTA implications

The British Electricity Trading and Transmission Arrangements (BETTA) Code was designated on the 1 September 2004. The Assessment Report for P167 will be considered by the GB Panel on the 14 October 2004, therefore assessment of P167 will be against the BETTA baseline. It was agreed by the SSMG that industry participants should be invited to raise any BETTA specific issues that need be considered under P167 via consultation.

Initial SSMG Conclusion:

- **Industry consultation on BETTA specific issues required.**

2.11 Applicable BSC Objectives

The SSMG have initially considered the arguments for and against achievement of the Applicable BSC objectives under P167 as follows:

- The SSMG agreed that there is a discrepancy in the way in which Acceptance Volumes are calculated where there has been a MIL / MEL re-declaration away from FPN before an Acceptance is instructed by the Transmission Company. It was noted by the SSMG that correcting this discrepancy would:
  - improve the accuracy to which imbalance positions are reported and level of imbalance Parties are exposed to;
  - help to ensure that all Parties are receiving appropriate RCRC payments;
  - result in a more appropriate calculation of imbalance prices; and
  - remove any possibility of exploitation of the perceived defect (although it should be noted that the SSMG have initially concluded there is no evidence of exploitation at present).

  It was the view of the SSMG that these benefits would better facilitate achievement of Applicable BSC Objective (c);
- The SSMG noted that there would be implementation costs associated with P167 both centrally and in terms of Parties' own systems. It was also recognised that P167 would introduce a further level of complexity into the Settlement arrangements. The SSMG agreed that the costs and increased complexity associated with P167 would be detrimental to the achievement of Applicable BSC objective d); and
- The SSMG also noted that placing a commercial driver on MEL and MIL submissions could potentially have a detrimental impact on the submission of these values. It was considered by the SSMG that this could have a potentially detrimental impact on the achievement of applicable BSC objective b).

SSMG members are currently split as to whether P167 would, on balance, better facilitate achievement of the Applicable BSC Objectives. Those members in support of P167 are of the opinion that the materiality of the perceived defect is such that the cost of implementation could be justified and hence the beneficial effect to the achievement of Applicable BSC Objective c) would outweigh any detrimental effect to the achievement of Applicable BSC Objectives d) and b). Those members not in support of P167 are of the opinion that the materiality of the perceived defect is not sufficient to justify the cost of implementation and hence any beneficial effect on achievement of Applicable BSC Objective c) would be outweighed by the detrimental effect on achievement of Applicable BSC Objectives d) and b).

The SSMG are seeking views of industry participants as to whether, on balance P167 would better facilitate achievement of the Applicable BSC Objectives.

3 CONSULTATION

Respondents are invited to respond to the questions contained in the attached pro-forma. For reference, the Applicable BSC Objectives are as follows:

3(a) the efficient discharge by the licensee of the obligations imposed upon it by this licence and, during the transition period, shall include the efficient discharge by the licensee of those obligations which it is known (or reasonably anticipated) during the transition period are to be imposed on the licensee by this licence after the expiry of the transition period;

(b) the efficient, economic and co-ordinated operation of the licensee's transmission system and the efficient, economic and co-ordinated operation of the GB transmission system;

(c) 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;

(d) promoting efficiency in the implementation and administration of the balancing and settlement arrangements; and

(e) without prejudice to the foregoing objectives and subject to paragraph 3A, the undertaking of work by BSCCo (as defined in the BSC) which is;

(i) necessary for the timely and effective implementation of BETTA; and

(ii) relevant to the proposed GB wide balancing and settlement code;

and does not prevent BSCCo performing its other functions under the BSC in accordance with its objectives.

3A For the purpose of, and without prejudice to, paragraph 5(a), in order to better achieve the objective referred to in 3(e), any modification to the BSC providing for the undertaking of work by the BSCCo pursuant to paragraph 3(e) must include express provision that:

(i) such work is proposed by BSCCo and approved by the Authority prior to its commencement; and

(ii) the costs of such work as may be carried out by BSCCo shall be identified and recorded separately by BSCCo.

You are invited to respond to the questions in the attached pro-forma.

Please send your responses entitled 'P167 GB Assessment Consultation' by 17:00 Monday 20 September 2004 to the following email address: modifcation.consultations@elexon.co.uk.

Any queries on the content of the consultation pro-forma should be addressed to Tom Bowcutt (020 7380 4309), e-mail address thomas.bowcutt@elexon.co.uk

ANNEX 1: References

Ref No.	Document Title	Owner	Issue Date	Version
1	Paper: Potential Anomaly in respect of Bid Offer Acceptance (BOA) Volume	BGT		1.0
2	SSMG Issue 7 -Meeting notes 23/04/04	ELEXON	23/04/04	1.0
3	SSMG Issue 7- Analysis of impact on Energy Imbalance Prices	ELEXON	26/04/04	1.0
4	Panel Paper 78/001 (e) SSMG Issue 7: Potential anomaly in respect of Bid Offer Acceptance (BOA) volume	ELEXON	10/06/04	1.0
5	Requirements Specification for P167 Erroneous Calculation of Bid Offer Acceptance (BOA) Volume	ELEXON	09/08/04	2.0
6	Modification Proposal P167 Erroneous Calculation of Bid Offer Acceptance (BOA) Volume	ELEXON	28/06/04	1.0
7	Initial Written Assessment: P167 Erroneous Calculation of Bid Offer Acceptance (BOA) Volume	ELEXON	08/07/04	1.0

Issue 7 documentation is available for published on the BSC Website at:

www.elexon.co.uk/changeimplementation/ModificationProcess/groups/issues/issues.aspx?issueID=7

P167 documentation is available on the BSC Website at:

www.elexon.co.uk/changeimplementation/ModificationProcess/ModificationDocumentation/modProposalView.aspx?propID=176