5 July 2001

URGENT MODIFICATION CONSULTATION DOCUMENT 2

MODIFICATION PROPOSAL P18

Removing/Mitigating the Effect of System Balancing Actions in the Imbalance Price Calculations

Prepared by ELEXON on behalf of the Pricing Issues Modification Group

Document Reference	P18_UMC2_final
Version no.	1.0
Issue	Draft
Date of Issue	5th July2001
Reason for Issue	For Consultation
Author	ELEXON

I   DOCUMENT CONTROL

a   Authorities

Version	Date	Author	Signature	Change Reference
1.0	04/07/01	ELEXON Trading Strategy		Issue for Consultation

Version	Date	Reviewer	Signature	Responsibility
1.0	04/07/01	Peter Davies		Modification Group Chairman

b   Distribution

Name	Organisation
BSC Parties	
BSC Panel Members	
The Authority	
BSC Agents	
Core Industry Document Holders	
Energywatch	

c   Intellectual Property Rights and Copyright

II   CONTENTS TABLE

1 INTRODUCTION

1.1 General

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

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

Electronic responses should be sent to: Modifications@elexon.co.uk by 17:00 on 10th July 2001 and responses sent by post should be addressed to Modifications Department, ELEXON, 10th Floor, 338 Euston Road, London NW1 3BP, again to arrive by 17:00 on 10th July 2001. If you have any queries about the issues raised in this consultation paper then please contact Gwilym Rowlands on 0207 380 4373. Responses should be marked "Response to the P18 Modification Consultation 2".

1.2 Disclaimer

The contents of this Consultation Document are intended to reflect the discussions held in the Modification Group. Additional supporting data analysis has also been undertaken by ELEXON and NGC based on data available from Go-Live in order to assist in the analysis of the Modifications, sometimes using data provided by third parties. In some cases, ELEXON has drawn conclusions based upon its view of the data analysis.

It should be recognised that this Consultation Document has been produced in relatively short timescales, consistent with the requirements of the BSC Panel and the Authority for progressing the Modification. The data analysis by ELEXON has also been undertaken in the same short timescales.

Given the above, it is possible that the views of the Modification Group have not been fully captured in this paper, or that errors may appear in this document (or that the data and analysis appearing in this document is not comprehensive and is not therefore authoritative). Where this has occurred, ELEXON hopes that recipients of this document will understand the trade-off to be made between accuracy and timescales of progression of the Modification Proposals. Clearly, in producing this document, ELEXON intends that no such errors are present. However recipients should recognise the possibility of such errors in relying in any way on the information contained in any part of this document. **This is particularly true in the case of the data analysis undertaken for Modification for P18A included in this consultation document, as significant amounts of data analysis has been undertaken on the basis of rapidly designed analysis tools and using data from a variety of data sources.**

2 PURPOSE AND SCOPE OF THE REPORT

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

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

The modification procedures culminate in a modification report to the Authority, which normally contains the Panel's recommendation on whether or not a proposed modification should be approved and a proposed date for its implementation, together with a detailed assessment of the proposal in question. The report forms the basis upon which the Authority will decide whether to approve, direct or reject a modification proposal.

The Transmission Company or ELEXON may recommend that a Modification Proposal be treated as urgent, subject to approval by the Authority. The procedure for progressing an Urgent Modification Proposal is set out in Sections F2.9 and B4.6 of the Code. These urgent procedures allow the normal modification procedures to be circumvented as necessary to fit with the urgency of the matter. In such cases, the Authority will confirm the timetable and procedure that should apply. The timetable and procedure directed by the Authority must be adhered to, along with any other special instructions. A statement containing the reasons why the Panel (or Panel Chairman) considers the Proposal should be treated as urgent must be included in the Urgent Modification Report, together with a description of the extent to which the procedure followed deviated from the normal modification procedure.

Depending on the urgency of the matter, it may not be possible to establish a Modification Group or undertake detailed assessment of the modification proposal. The level of detail and analysis presented in this Consultation Document therefore represents the full extent of relevant information regarding the modification proposal that could be collated within the time available.

3 SUMMARY AND VIEWS INVITED

3.1 Purpose of the Report

This report is the second Urgent Modification Consultation Document that has been issued in relation to Urgent Modification Proposal P18. It has been produced by ELEXON on behalf of the Pricing Issues Modification Group.

3.2 Nature of the Modification

On 23 May 2001, NGC submitted Modification Proposal P18 – "Removing/Mitigating the Effect of System Balancing Actions in the Imbalance Price Calculations". This Modification included two options for making amendments to the imbalance price calculations.

Option 18A proposed an enhanced definition of system balancing actions whereby Bid/Offer acceptances of 'Continuous Instruction Duration' less than a threshold duration of [15] minutes would be tagged as system rather than energy balancing actions. Tagging them as such would result in the acceptances being disregarded for the purposes of the calculation of energy imbalance prices.

Option 18B proposed that the BRL parameter is set as a minimum volume of balancing actions from which the imbalance prices can be set. When there is a smaller volume of actions, the imbalance price is set as a weighted average of the price derived from the current rules, and the default price that would apply if no balancing actions had been taken. The weighting would be in proportion to the volume of balancing actions, and BRL minus this volume, respectively.

3.3 The Process to Date

3.3.1 Urgent Treatment and initial Modification Meeting

In accordance with the Modifications Process, P18 was treated as urgent and, because P18 was of a similar nature to P15, both were considered together by the Pricing Issues Modification Group.

The Modification Group met on 1st June 2001 to discuss the two Modifications, and a consultation document was produced by ELEXON further to the discussions at the Modification Group meeting.

3.3.2 Initial Consultation and Report to Panel

The results of this consultation were presented to the Panel on 14th June 2001 for their consideration. In particular on the basis of the analysis, consultation and assessment undertaken, the Modification Group recommended that the Panel Agree the following procedure in respect of the Modifications Proposals:

- Assess an enduring solution for P18A;

- Assess a workaround to give effect to P18A for implementation until such time as an enduring solution is implemented;

- Draft BSC amendments to reflect P18A;

- Undertake a consultation on the above;

- Report to be presented to the Panel on the results of the consultation, proposing final recommendations for Panel consideration;

- Timescales for these as per Annex 1 (of that report);

The Panel was also invited to:

- Note that further assessment of P15 and P18B is deferred;

- Note that if the Panel consider that P15 should also be pursued further, then the above process could be adopted, but would entail significantly longer timescales.

- Agree that authority should be delegated to the Panel Chairman to agree expenditure additional to that allowed for, if required by the Modification Group.

Both the initial consultation document and the report to the Panel are available on the ELEXON website (www.elexon.co.uk).[1] More detail of the Modification proposal, the consultation questions and responses, and the background to the recommendations made to the Panel are included within these documents.

3.3.3 Panel Consideration and Revised Timetable

The Panel considered the report from the Modification Group as well as the representations made by the sponsors of each proposal. The Panel considered that the most judicious way to address the issues raised by each proposal would be to progress only one proposal, P18A, whilst deferring the others, P15 and P18B.

The Panel further discussed the implementation options for any resulting changes to the BSC. It was felt that in the event of any proposal being accepted by the Authority it would be necessary to implement any resulting change from the date of any decision of the Authority. Recognising the significance of any change and the practicality of implementing such a change to BSC Central Systems, the Panel instructed that work be progressed on an interim solution that could be used until the enduring changes to the BSC Central Systems were available.

Furthermore recognising the Urgent Modification Status granted to the Modification Proposals the Panel agreed that it should seek the Authority's provisional thinking on the Panel's recommendation and also its agreement to the revised timetable.

---

[1] The documents are:
1) Urgent Modification Consultation Document, Modification Proposals P15 and P18, 05th June 2001; and
2) Modification Group Report to the BSC Panel, Modification Proposals P15 and P18, 13th June 2001

The revised timetable approved by the Panel was as follows:

Mod Proposal				Thur 14th June	Fri 15th June	Sat 16th	Sun 17th
P15 & P18				Panel Meeting	Report to Authority	-	-
	Mon 18th June	Tue 19th June	Wed 20th June	Thu 21st June	Fri 22nd June	Sat 23rd June	Sun 24th June
P15 & P18	ELEXON Analysis	ELEXON Analysis	ELEXON Analysis	ELEXON Analysis	ELEXON Analysis	-	-
	Mon 25th June	Tue 26th June	Wed 27th June	Thu 28th June	Fri 29th June	Sat 30th June	Sun 1st July
P15 & P18	ELEXON Analysis	ELEXON Analysis	ELEXON Analysis	Modification Group Meeting	ELEXON Analysis & Legal Drafting	-	-
Mod Proposal	Mon 2nd July	Tue 3rd July	Wed 4th July	Thu 5th July	Fri 6th July	Sat 7th July	Sun 8th July
P15 & P18	ELEXON Analysis & Legal Drafting	ELEXON Analysis & Legal Drafting	Consultation Document	Consultation Document	Consult	-	-
Mod Proposal	Mon 9th July	Tue 10th July	Wed 11th July	Thu 12th July	Fri 13th July		
P15 & P18	Consult	Consult	Consultation Responses & Panel Report	Panel Meeting called to discuss P15/P18	Urgent Modification Report to Authority		

3.3.4 Response from Authority

Having considered the Panel's recommendation, the Modification Group's Report and the representations made by respondents, the Authority agreed with the Panel's recommendation to progress Urgent Modification Proposal P18A in accordance with the timetable and procedure attached to its timetable of 15 June 2001 (i.e. as shown above).

3.3.5 Further work by Modification Group and ELEXON

Further to the decisions of the Panel, work on Modification Proposal P18A was progressed by ELEXON and the Modification Group. A significant amount of background analysis was undertaken by ELEXON in the following areas:

- A detailed analysis of the Modification Proposal P18A, and development of definitional alternatives;

- An analysis of the effectiveness of P18A in removing price spikes, in particular developing an understanding of the effectiveness of P18A as the value of the tuning parameter "CID" is varied;

- An investigation into the issues associated with the implementation of a workaround, initial implementation of P18A, the feasibility of this implementation, the implementation options that exist, and the interaction with the definitional alternatives;

- A consideration of some of the issues associated with the implementation of the enduring solution;

- Development of the drafting changes that would need to be made to the BSC in order to support P18A, including different drafting, depending upon the definitional alternative chosen;

- An analysis of the decision-making process that may be appropriate in order to select a suitable way forward, given the numerous, complex and interacting issues associated with the Modification.

The Modification Group met on 28th June 2001 to consider the analysis produced by ELEXON and to discuss the content of this second consultation on Modification Proposal P18. The recommendations contained within this document reflect the deliberations of the Modification Group. Section 7 of this document sets down in more detail of the information presented to the Modification Group and the views expressed by the group which led to the recommendations and questions which are the subject of this consultation.

3.4   Views Invited

Respondents to this Consultation Document are invited to comment on any of the issues raised in this consultation document, however responses are requested in particular to the following questions:

		Yes	No
1)	**Do you believe that Modification Proposal P18A is capable of achieving its stated aims?**		
2)	**Do you agree with the following views/recommendations of the Modification Group set down in Section 7.11 of this document:**	Yes	No
	a) An interim workaround solution for Modification P18A is feasible;		
	b) Taking a pragmatic approach, and given the urgency of the Modification Proposal, an interim solution based on P18A "CID-definition" 1A should be implemented;		
	c) Either "workaround-architecture" option 1a or option 2 should be used to support an initial implementation of "CID-definition" 1a. The choice of "workaround-architecture" to use should be based upon the results of the impact assessments from ELEXON and Logica;		
	d) "CID-definition" 1a would be an acceptable enduring solution, and the adoption of more sophisticated options in the longer term should be considered primarily from the practical perspective of systems implementation;		
	e) Enduring-architecture option 3 should only be considered if it is identified that it would take not more than 6 months longer than, nor cost £500k more than option 2.		
	f) If, based on the above, "enduring-architecture" option 2 is progressed, then "CID-definition" 1A should be adopted as the enduring solution[2];		
	g) If, based on the above, "enduring-architecture" option 3 is progressed, then "CID-definition" 3 should be adopted as the enduring solution.		
	h) If "CID-definition" 3 is adopted as the enduring solution, with "CID-definition" 1A as the interim solution, no reconciliation based on the "CID-definition" 3 rules should be undertaken for those Settlement Days on which "CID-definition" 1A applied.		
3)	**Do you agree that the above approach should be taken, except that CID-definition 0 should replace CID-definition 1a for the workaround and enduring solutions?**		
4)	**If you do not agree with the Modification Group's recommendation on any or all of the above options, what alternative implementation package (if any) which better meets the relevant BSC Objectives would you like to see adopted?**		
5)	**At what level should the initial value of CID be set?**		

---

[2] This decision may be reviewed if it appears that CID-options 2 can be implemented without significant additional cost or timescales implications (compared to 1a) under enduring architecture 2.

Electronic responses should be sent to: Modifications@elexon.co.uk by 17:00 on 10th July 2001 and responses sent by post should be addressed to Modifications Department, ELEXON, 10th Floor, 338 Euston Road, London NW1 3BP, again to arrive by 17:00 on 10th July 2001. If you have any queries about the issues raised in this consultation paper then please contact Gwilym Rowlands on 0207 380 4373 (e-mail gwilym.rowlands@elexon.co.uk**). Responses should be marked "Response to the P18 Modification Consultation 2".**

4   DESCRIPTION OF PROPOSED MODIFICATION

On 23 May 2001, NGC submitted Modification Proposal P18 – "Removing/Mitigating the Effect of System Balancing Actions in the Imbalance Price Calculations". This Modification included two options for making amendments to the imbalance price calculations.

Option 18A proposed an enhanced definition of system balancing actions. Bid/Offer acceptances of 'Continuous Instruction Duration' less than a threshold duration of [15] minutes would be tagged as System rather than Energy balancing actions.

Option 18B proposed that the BRL parameter is set as a minimum volume of balancing actions from which the imbalance prices can be set. When there is a smaller volume of actions, the imbalance price is set as a weighted average of the price derived from the current rules, and the default price that would apply if no balancing actions had been taken. The weighting would be in proportion to the volume of balancing actions, and BRL minus this volume, respectively.

Further analysis of the Modification suggests that there a number of definitional alternatives all of which may be considered to be consistent with P18A. The interaction between the functionality of definitional alternatives and the workaround and enduring implementation options is complex, and is discussed in detail in Section 7 of this document.

A Copy of the Modification Proposal is available on the ELEXON Website (www.ELEXON.co.uk). It has been replicated in Annex 1 of this document.

5 STATEMENT OF URGENCY

Section F2.9 of the Balancing and Settlement Code makes provision for proposals to be treated as Urgent Modification Proposals upon the recommendation of the Transmission Company and BSCCo (ELEXON).

The Proposer of Modification Proposal P15 requested (in submitting the Modification Proposal to ELEXON) that that it be treated as an Urgent Modification. ELEXON supported this recommendation on the basis that the issues addressed by the Modification were "having a highly material effect on imbalance prices". In addition ELEXON proposed that P18 (due to the similar nature of the issue raised) be considered in conjunction with P15 and treated urgently.

The BSC Panel Chairman contacted a number of Panel Members to seek their views on the proposed urgent treatment of the Modification Proposals. Some of the Panel Members were supportive of the proposals being treated as urgent. Others said that the issue that the proposals seek to address should be expedited but was so fundamental that they wished to see adequate consultation and discussion of the matter. One Panel Member suggested that it would be sensible to broaden the scope of the discussion to include P12: 'Reduction Of Gate Closure From 3.5 Hours To 1 Hour'. The Panel recommended prompt resolution of P15 and P18.

Further to the recommendation from the BSC Panel Chairman, supported by the BSC Panel, the Authority granted the modification urgent status for the purposes of Section F2.9 of the BSC on 25th May 2001.

6 DETAIL OF PROCEDURE AND PROCESS FOLLOWED

A discussion of the process and procedure followed to date is included in Section 3.3 of this document.

7 MODIFICATION GROUP DISCUSSIONS AND REPORT

7.1 Introduction

As has been stated above, a Modification Group meeting was convened and met on Thursday 28th June 2001 to further consider the proposed modification. A significant amount of background analysis had been undertaken by ELEXON in support of the Modification. It was recognised that there were several complex interacting issues that needed to be considered in order to decide how best to proceed with P18A.

After a detailed consideration of the information presented by ELEXON in the meeting of 28th June 2001, and after debate at the Modification Group, a single way forward was identified by the Modification Group, which was supported unanimously. The proposed approach does, in some cases depend upon the results of impact assessments to be carried out by Logica and ELEXON. These results were not available for consideration by the Modification Group, however it is anticipated that they will be presented to the Panel on Thursday 12th July 2001. Furthermore, the Modification Group did not have a unanimous view on the value that they believed should be adopted for the tuning parameter "CID".

This Section 7 sets down the issues presented to the Modification Group meeting of 28th June 2001, the discussions that were held in the group and explains the recommendations made.

7.2 Nomenclature

The various definitional alternatives for Modification Proposal P18A are all dependent upon varying the rules which define how certain acceptances should be excluded from the energy imbalance price calculations and, once identified, exactly what is excluded from the price calculations. It is recognised that the language that has been adopted by those involved in progressing P18A could cause confusion upon first reading. Whilst it may have been desirable to change the language used in writing this consultation document, the original nomenclature is endemic in the work of the Modification Group, and it was judged that any change may create confusion rather than clarify matters.

As noted above, the approach in all the various definitional alternatives for the Modification Proposal is generic. The steps are:

a) Define a group of continuous acceptances (the way this is done varies depending upon the definitional alternative);

b) Compare the calculated duration of the group of continuous acceptances to the Continuous Instruction Duration ("CID") value;

c) Remove the effects of the acceptances if they have a continuous duration of less than CID (again, the way in which this is done varies with the definitional alternative).

Within this document, the term CID is the value of the tuning parameter. If the duration of the continuous acceptances is less than the CID limit, the effects of the acceptances are removed. Hence the CID limit is a fixed quantity expressed in minutes. The term "CID-definition" refers to one of the alternative ways in which acceptances are processed in order to determine their continuous duration prior to comparing with the CID limit.

7.3 Factors Affecting P18A

At the Modification Group meeting on 28th June 2001, it was recognised that any decision on the way forward would need to be based upon a detailed understanding of a number of interacting technical considerations. The main issues considered by the Modification Group were:

1) What definitional alternatives of P18A exist?

2) How effective is P18A at removing price spikes, and what is the effect of varying the tuning parameter "CID"?

3) What options exist for the implementation of a workaround solution?

4) What options exist for the implementation of an enduring solution?

5) What issues should be taken into account when choosing between the alternatives/options?

7.4 Definitional Alternatives for P18A

At the Modification Group meeting of 28th June 2001, ELEXON presented an analysis of the definitional alternatives available for progressing P18A. These were not considered to be different Alternative Modification Proposals, as each was judged to be capable of falling within the scope of the relatively high-level description of P18A included in the original Modification Proposal.

The factors that differentiated between the definitional alternatives were:

a) how the test which decides whether the CID limit has been met is applied; and

b) once it is determined that the CID limit has not been met, what changes should be made to the accepted offers and bids that contribute to the imbalance price calculations.

Whilst these factors appear to be primarily technical in nature, they have an impact upon the intellectual purity of the solution, and upon the practicalities associated with implementation both for the interim workaround and the enduring solution.

Three generic definitional alternatives were identified, as follows:

CID-definition 1 – Simple acceptance analysis

CID-definition 2 – Acceptance and FPN analysis

CID-definition 3 – Redefining acceptance volumes for non-zero profiles.

Finally, a fourth type of solution exists that was raised at the Modification Group, but was not pursued because no supporting analysis was available. This alternative is introduced in this document as "CID-definition 0". The CID-definition 0 approach has an even simpler acceptance analysis than CID-definition 1, and is designed to facilitate prompt price reporting on the BMRS. Some supporting analysis is included in this document.

Annex 5 to this document contains an initial view of the BSC changes that would be needed to support each of these alternatives. The alternatives are discussed in turn below.

7.4.1 CID-definition 1

This approach basically identifies whether or not a group of one or more overlapping acceptances have an overall duration greater than CID. If not, then they do not contribute to price setting. This is seen as a relatively simple approach because it uses only information in acceptances themselves, and does not require reference to FPNs. Furthermore, once it has been decided that a particular acceptance or group of acceptances have a continuous duration that is less than CID, the entire effect of that acceptance or group of acceptances is disregarded in the energy imbalance price calculations.

Definitional alternatives of CID-definition 1 may also be generated as follows:

CID-definition 1a   All accepted bid or offer quantities for all acceptances of that particular BM Unit are excluded from the price calculations in that same Settlement Period, (i.e. all values of QAO^n_{ij} and QAB^n_{ij} are disregarded for all values of n from that BM Unit).

CID-definition 1b   Only the accepted bid or offer quantities from that particular acceptance are disregarded in the price calculations (i.e. the particular values of QAO^{kn}_{ij} and QAB^{kn}_{ij} are disregarded). This approach is clearly more sophisticated than 1a, but it cannot be implemented as a workaround using information in the SAA – I014 Settlement Report. This is a major factor in implementing workaround solutions.

CID-definition 1c   Under this approach, if the net accepted quantity of Bids and Offers in a particular Settlement Period is zero, then this acceptance is excluded for the purposes of determining continuous acceptance duration.

The choice of definitional alternative possible is affected by the implementation option chosen, for example, only CID-definition 1a is possible if system architecture 1a is chosen for initial implementation (see below).

Furthermore, the additional functionality introduced in CID-definition 1c may be viewed as significant because acceptances issued to pumped storage plant have in a number of cases resulted in no net energy being accepted. This is because currently a "spin-gen" or "spin-pump" instruction results in a zero-level acceptance quantity being logged.

At the Modification Group meeting, the NGC representative undertook to investigate an alternative means of implementing the additional functionality of CID-definition 1c without the need for a more sophisticated definition of continuous acceptance duration. This, it was believed, may possibly be alternatively achieved if NGC changes the format of the communications it made to pumped storage plant in instructing spin-gen and spin-pump mode in conjunction with instructions to generate and/or pump in the same acceptance.

It should be noted that there was a general view in the Modification Group that CID-definition 1a would be acceptable as the *enduring solution*, and that whether or not to implement more sophisticated alternatives depended primarily upon the practicalities of system change.

7.4.2 CID-definition 2

Under this option, a more sophisticated approach is taken in deciding whether a particular acceptance or group of acceptances has an overlapping duration of greater than CID. The

added sophistication arises from the fact that instead of simply measuring the duration of the overall acceptance profile, the duration of the overall deviation from FPN is measured. This is significantly more complex to implement, because it requires functionality to compare the overall acceptance level and FPN as a continuous function of time. Once it has been decided to include or exclude the effects of a particular acceptance in this more sophisticated manner, CID-definition 2 retains the relatively simply approach to excluding acceptances as in CID-definition 1. This means that once again once it has been decided that a particular acceptance or group of acceptances have a continuous duration that is less than CID, the entire effect of that acceptance or group of acceptances is disregarded in the energy imbalance price calculations.

Again, a number of definitional alternatives were discussed as follows:

CID-definition 2a   once the profile of deviation from FPN of a set of continuous acceptances has been defined, the duration of any zero deviation at the start and end is disregarded.

CID-definition 2b   this option is the same as 2a, except that periods of zero deviation at the start and end of each acceptance is disregarded for the purposes of determining the continuous acceptance duration.

CID-definition 2c   this option is the same as 2b, except that all periods of zero delivery are disregarded. The continuous acceptance duration for a particular acceptance is determined as the sum of the times of all non-zero deviations overlapping with a particular acceptance.

CID-definition 2d   this option is the same as 2c, except that the continuous acceptance duration is the maximum single period of time with a non-zero deviation determined from overlapping acceptances.

The differences between the various definitional alternatives for CID-definition 2 may perhaps be considered to be less critical from an implementation perspective because once the systems architecture has been built to deliver any of the definitional alternatives of 2, it is anticipated that it would be relatively straightforward to deliver any of the others. The differences are therefore more to do with the technical subtleties of how the CID test should be applied.

7.4.3   CID-definition 3

This approach uses the more sophisticated decision functionality in approach 2 above, and then goes on to recalculate the accepted Bids and Offers based on those parts of acceptances that are not tagged. Thus it is possible to exclude, from the price calculations, parts of accepted offer and bid volumes arising from a single acceptance, i.e. only those parts with an overlapping duration of less than CID, and not the whole of the effect acceptance as is the case for CID-definitions 1 and 2.

Whilst CID-definition 3 may be viewed as the most intellectually pure solution, it was viewed as being significantly more difficult to implement in the longer term, and not possible as a workaround.

7.4.4   CID-definition 0

A further definitional alternative exists that was raised at the Modification Group but which was not pursued because no supporting analysis has been provided. This is simpler than

option 1a and is referred to as CID-definition 0. The basis of CID-definition 0 is that acceptances are defined as continuous only if the first acceptance in a group of acceptances has a duration of greater than CID. If this is the case, subsequent overlapping acceptances are also retained for price calculation purposes. However, if the leading acceptance of a group of acceptances has a duration of less than CID, then it is disregarded for the purposes of calculation of energy imbalance prices.

CID-definition 0 was defined in order to facilitate prompt calculation of energy imbalance prices. One general point which must be made in relation to any of the CID-definitions 1, 2 and 3, is that it is not known whether the Bids and/or Offers from a particular acceptance are to contribute towards imbalance price calculations until CID minutes after they end. Consequently it is not possible to calculate the energy imbalance prices until a minimum of CID minutes after the Settlement Period for which the prices apply. In practice, it is envisaged that the prices would be calculated after the end of each Settlement Period with a delay equal to the maximum value of CID that the systems are designed to accommodate (CID_{max}). **The Modification Group agreed that systems should not need to accommodate a maximum value of CID in excess of 30 minutes.**

The benefit of CID-definition 0 is that it does not result in an inevitable delay in the determination of imbalance prices. It is noted that again several alternatives exist (i.e. options 0a, 0b etc. which are differentiated in a manner similar to options 1a and 1b by which acceptances are processed once they are tagged. Were CID-definition 0 adopted, it is suggested that a 0a approach be used for the workaround, and either 0a or 0b for the enduring solution. The legal text in Annex 5 shows the changes that would be required for CID-option 0a).

7.4.5 Additional Supporting Information

The principal differences between the options (1-3) from a BSC changes perspective are highlighted in Annex 5 which sets down an initial set of BSC changes that it is envisaged would be required in order to deliver CID-definitions 1,2 & 3. These BSC changes are not complete and have not been the subject of a legal review, however, they do, it is believed, represent a reasonable indication of the detailed changes that would be required. The changes included reflect CID-definitions 0a, 1a, 1b, 2d and 3.

7.5 Effectiveness of P18A and the Value of CID

At the Modification Group meeting of 28th June 2001, ELEXON presented the results of data analysis carried out on settlement data for 10 days in June 2001 and 31 days in May 2001[3]. The purposes of the analysis was to demonstrate how effective of P18A would be in removing short duration acceptances from the price calculations. Analysis was mainly undertaken on the basis of CID-definition 1a.

The following table (Table 1) shows the effectiveness of identifying acceptances with a duration of less than CID based on CID-definition 1a/1b as the value of CID is varied. The data is based on the total number of acceptances issued over a period of the 31 days in May 2001.

---

[3] Attention is drawn to the disclaimer in section 1.2 of this document, particularly in relation to the data analysis herein.

Table 1 – Effectiveness of Option 1 –May 2001 (31 days)

	Acceptances	CID-Total	CID-Fast	CID-Norm
Total	14829	7120	1074	6046
		100%	15%	85%
CID=0	0%	0%	0%	0%
5	2%	4%	23%	0%
10	6%	11%	63%	2%
15	11%	20%	87%	9%
20	16%	28%	91%	17%
25	20%	35%	95%	25%
30	23%	40%	97%	30%

Table 1 shows that a total of 14829 acceptances were issued in May 2001.

These were grouped into overlapping groups (two acceptances for the same BM Unit overlap if the end time of one falls between the start and end times of the other. More than two acceptances can overlap).

There are 7120 groups of overlapping acceptances (including one or more acceptances) for BM Units in total. Of these 15% (1074) were acceptances issued in relation to "fast plant" ("CID-Fast") [4]. 85% of the groups of acceptances were from Normal (i.e. not fast) plant ("CID-Norm").

The values in the table show the percentage (by number) of the acceptances and groups of acceptances identified for exclusion from the price calculations varying as the value of CID is increased from zero to 30 minutes. For example, with a CID of 15 minutes, 20% of all groups of acceptances would be excluded from the price calculations. However this 20% comprises 87% of groups of acceptances from "fast plant" and only 9% of groups of acceptances from normal plant.

The view of the Modification Group was that this analysis demonstrated the effectiveness of P18A in identifying short-duration acceptances for exclusion from the price calculations.

The data in Annex 4 shows similar data for 10 days the month of June 2001 (15th – 25th). It is worthy of note that for the data for June, a CID value of 15 minutes results in 95% of groups of acceptances from "fast plant" being removed, and 12% of groups for normal plant. The NGC representative at the Modification Group meeting indicated that he believed that this reflected the fact that the average duration of acceptances issued to fast plant by NGC had reduced in June 2001 compared to May 2001.

A series of graphs were also presented to the Modification Group which demonstrated the impact on the imbalance prices of excluding the acceptances identified above. The recalculated prices were generated by ELEXON on the basis of CID-definition 1A.

---

[4]. "Fast plant" means plant with very fast dynamics, and is a subset of BM Units based on those used by NGC in their paper supporting Modification Proposal P18. A copy of this paper was appended to the first consultation document issued in relation to P18 – see footnote 1

Several plots of data are shown on the graphs as follows:

1) The average values of the prices;

2) The Median value of the prices; and

3) The 25% - 75% quartile range of the prices.

The intention of this analysis is to show how "spiky" the prices are. If a set of data is not spiky, then it would be expected that the mean would be within the 75% quartile range.

For example the mean of the numbers 1,2,3 & 4 is 2.5. The 75% quartile is 3.

However, the mean of the numbers 1,2,3 & 100 is 26.25, whereas the 75% quartile is 3.

Hence, if the mean value (dotted line on the graphs) is significantly above the 75% quartile band (i.e. the top of the shaded region) then the data may be considered to be "spiky".

The following series of graphs plot the following:

Graph 1: Period values of SBP and SSP in May 2001 based on existing trading rules

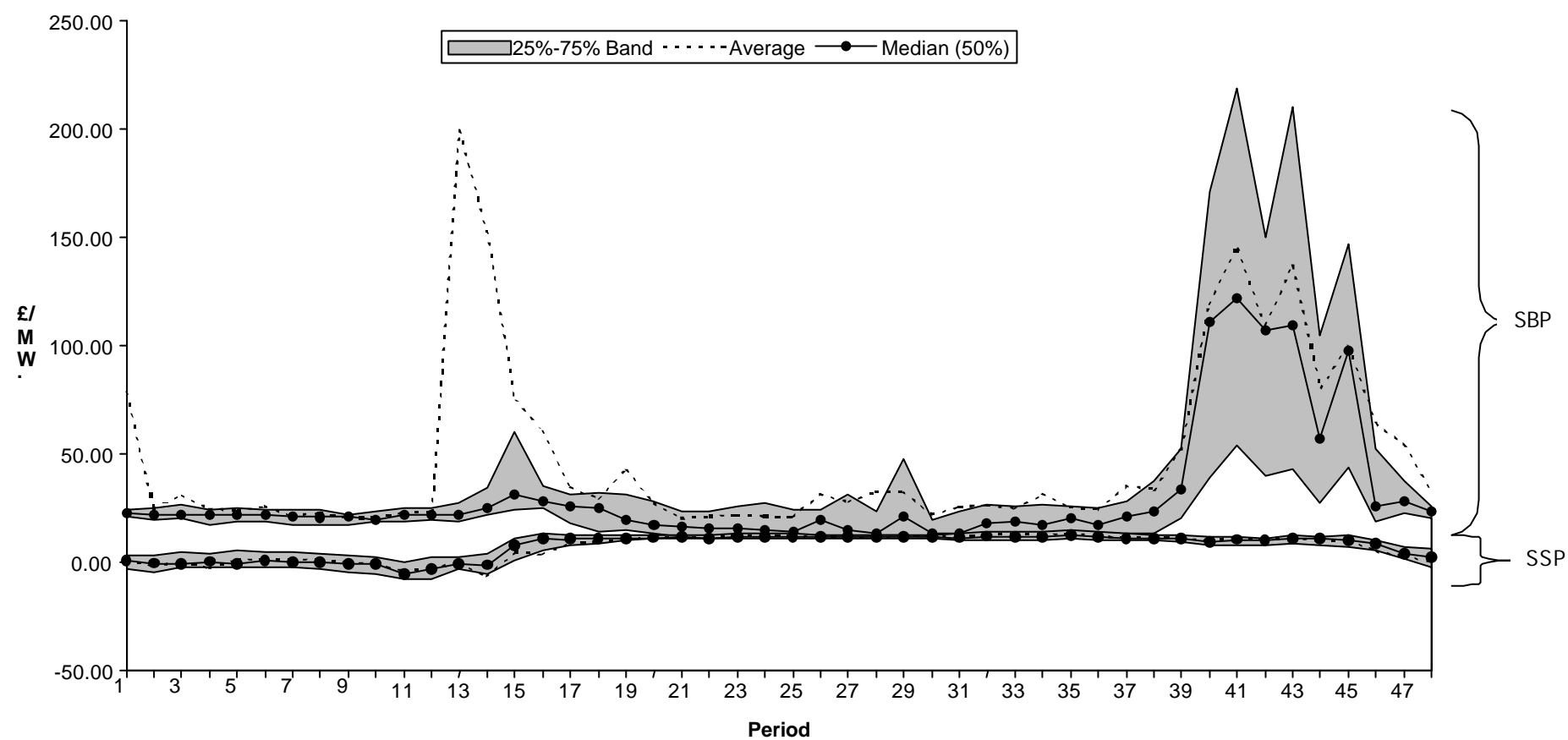Graph 2: The values that would have been calculated if acceptances from fast plant were disregarded

Graph 3 – 8 The values that would have been calculated had Option 1a been implemented with varying values of CID.

Discussions in the Modification Group noted that as CID was increased, the "spikiness" of the data, particularly around period 14 reduced, clearly indicating the extreme values of System Buy Prices and System Sell Prices were being removed.

However, with larger values of CID the range of prices in periods 39-45 were also significantly dampened.
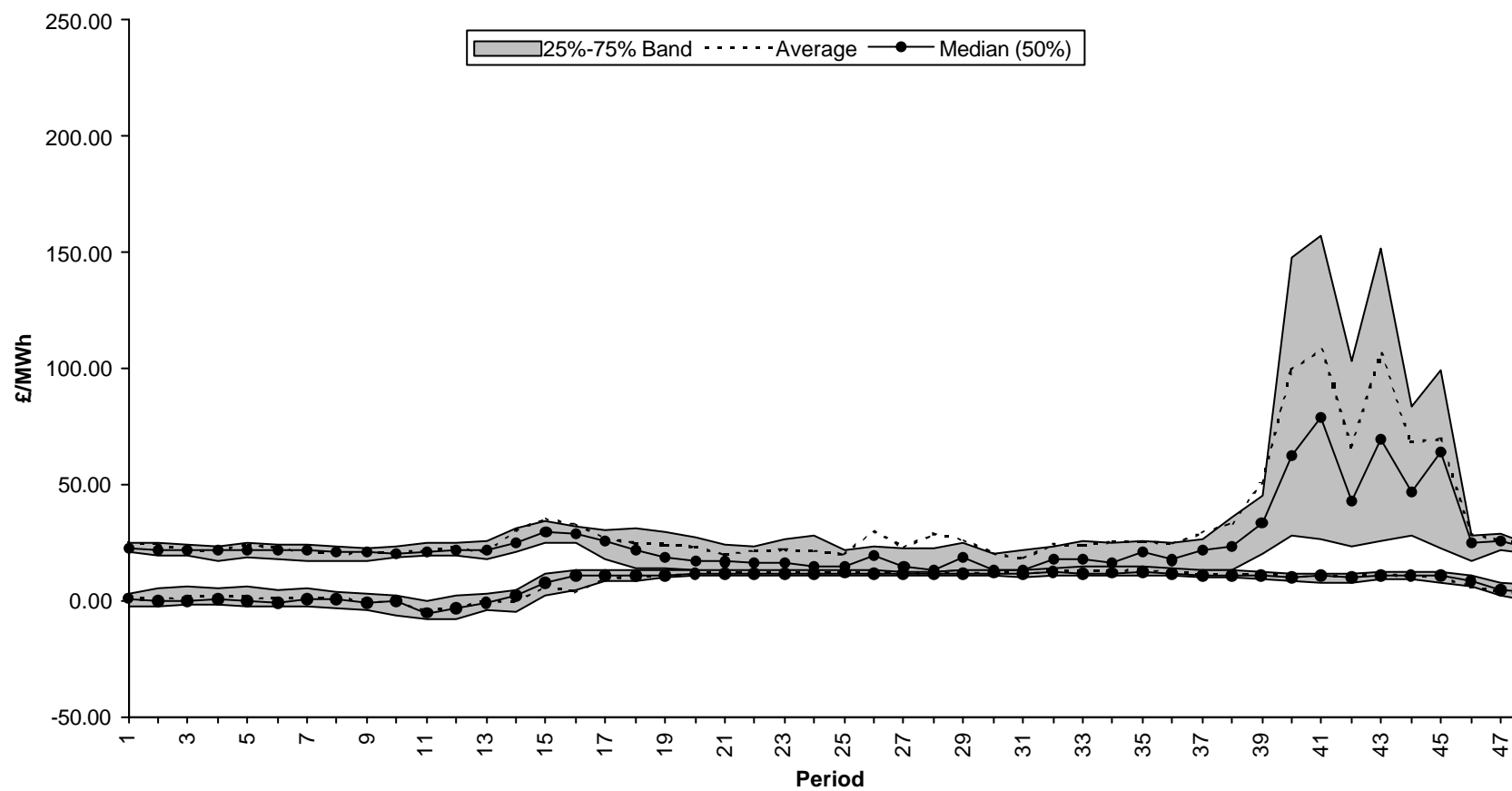
Graph 1 May 2001 based on Existing Price Calculation
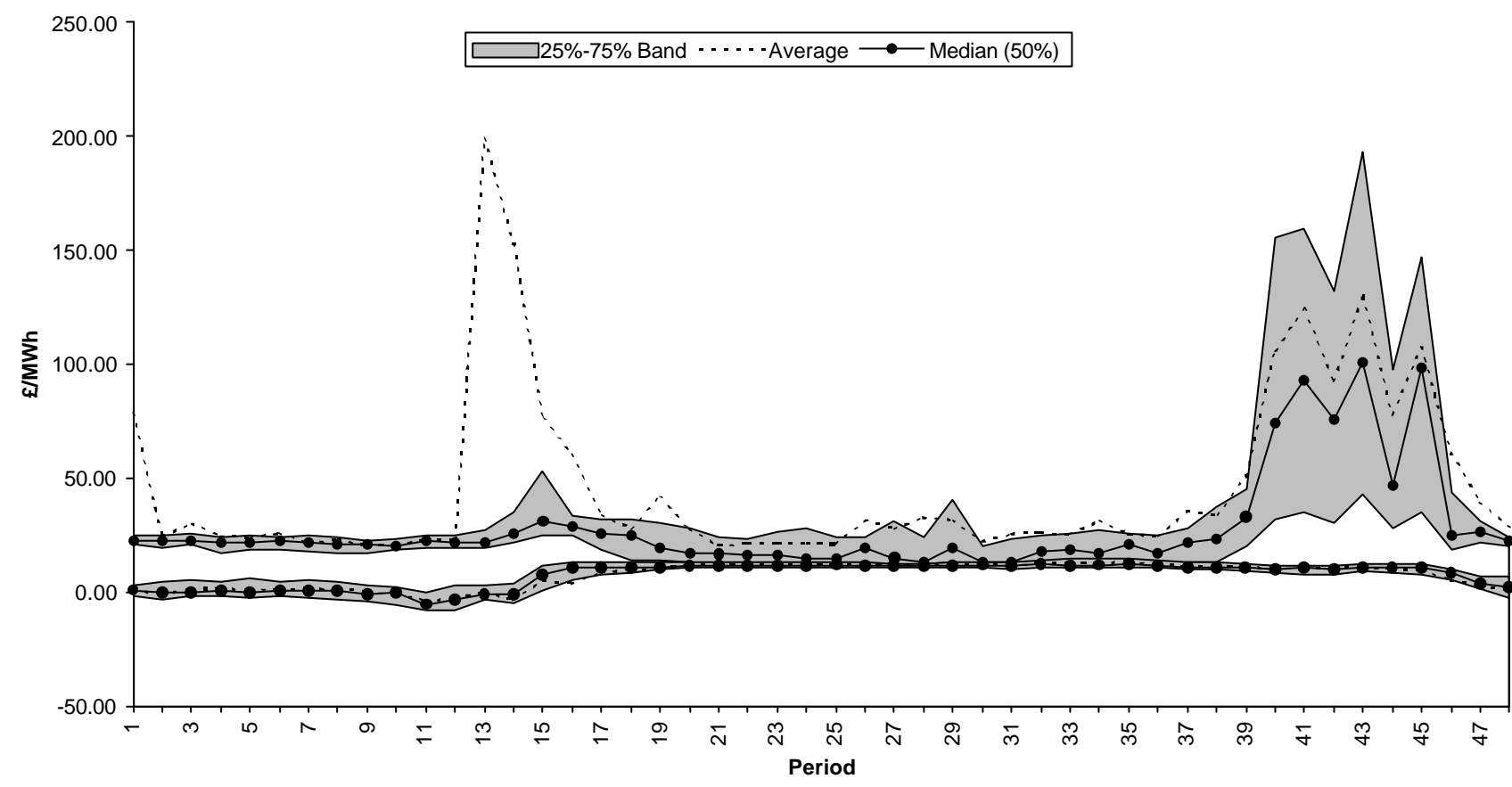
Period Average

Graph 2 – Prices that would have been calculated had acceptances from fast plant been disregarded

Period Average

Graph 3 – Prices based on CID-definition 1a with a CID of 5 minutes

Period Average

Graph 4 – Prices based on CID-definition 1a with a CID of 10 minutes

Period Average

Graph 5 – Prices based on CID-definition 1a with a CID of 15 minutes

Period Average

Graph 6 – Prices based on CID-definition 1a with a CID of 20 minutes

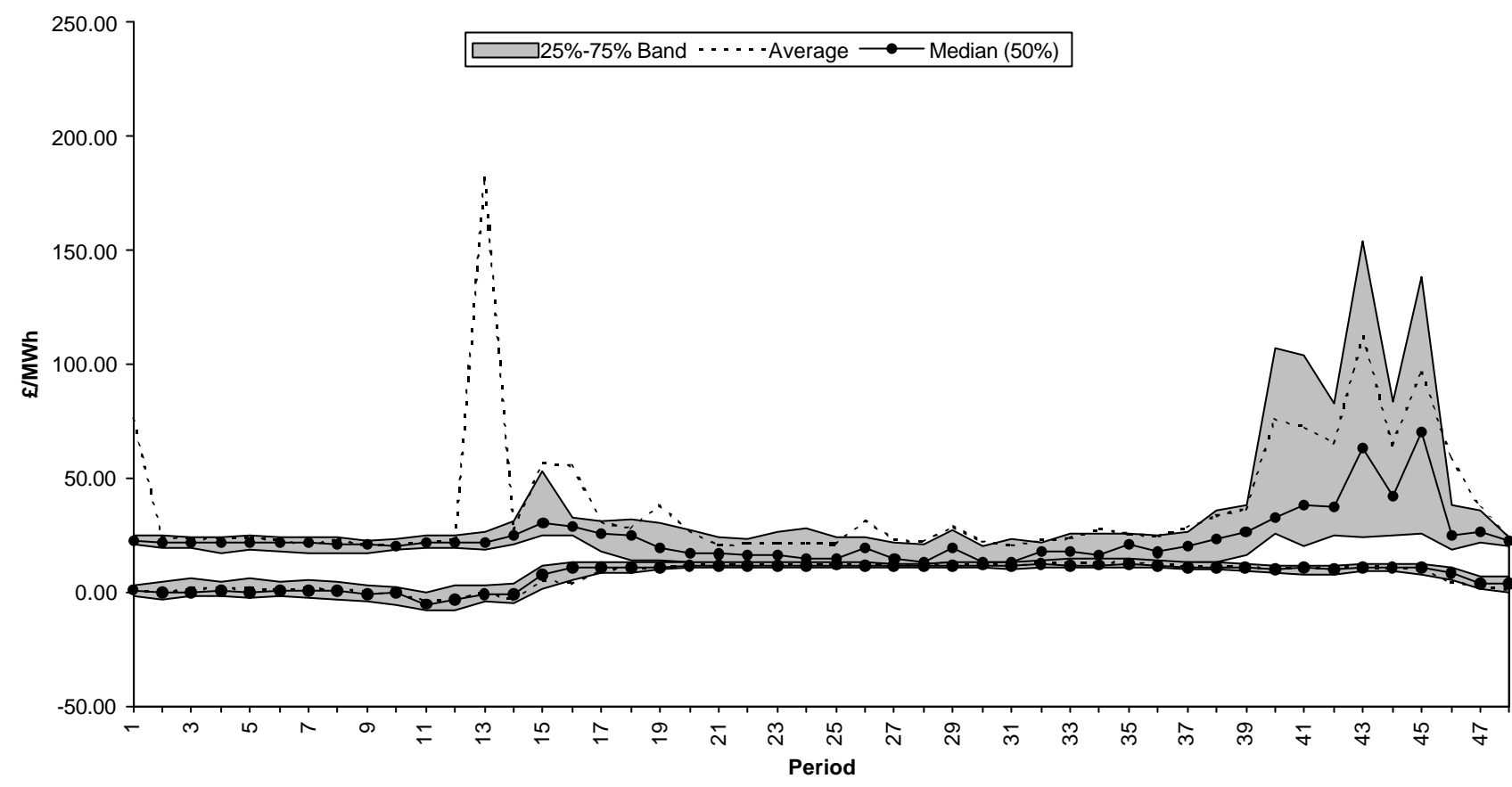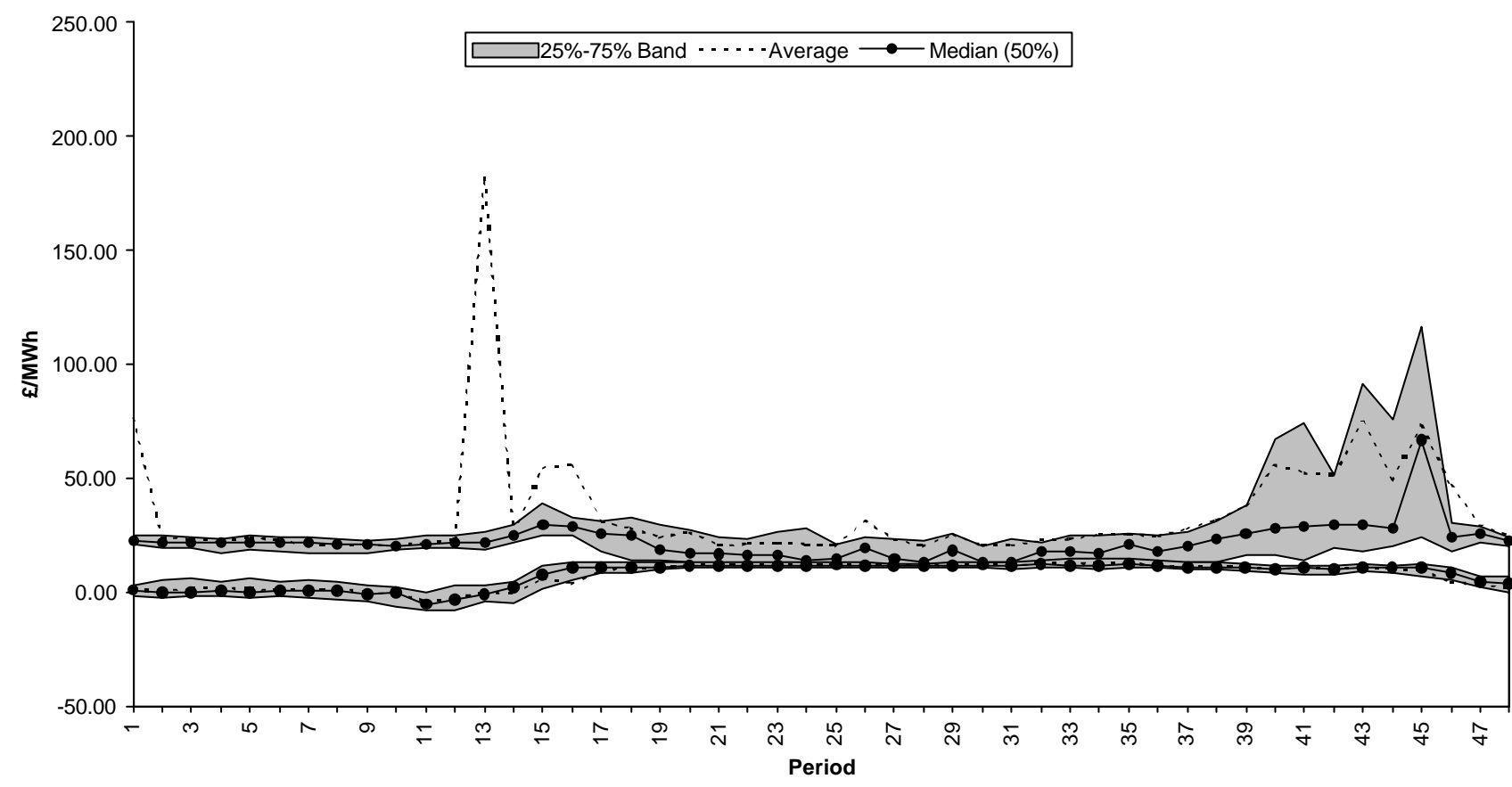**Period Average**
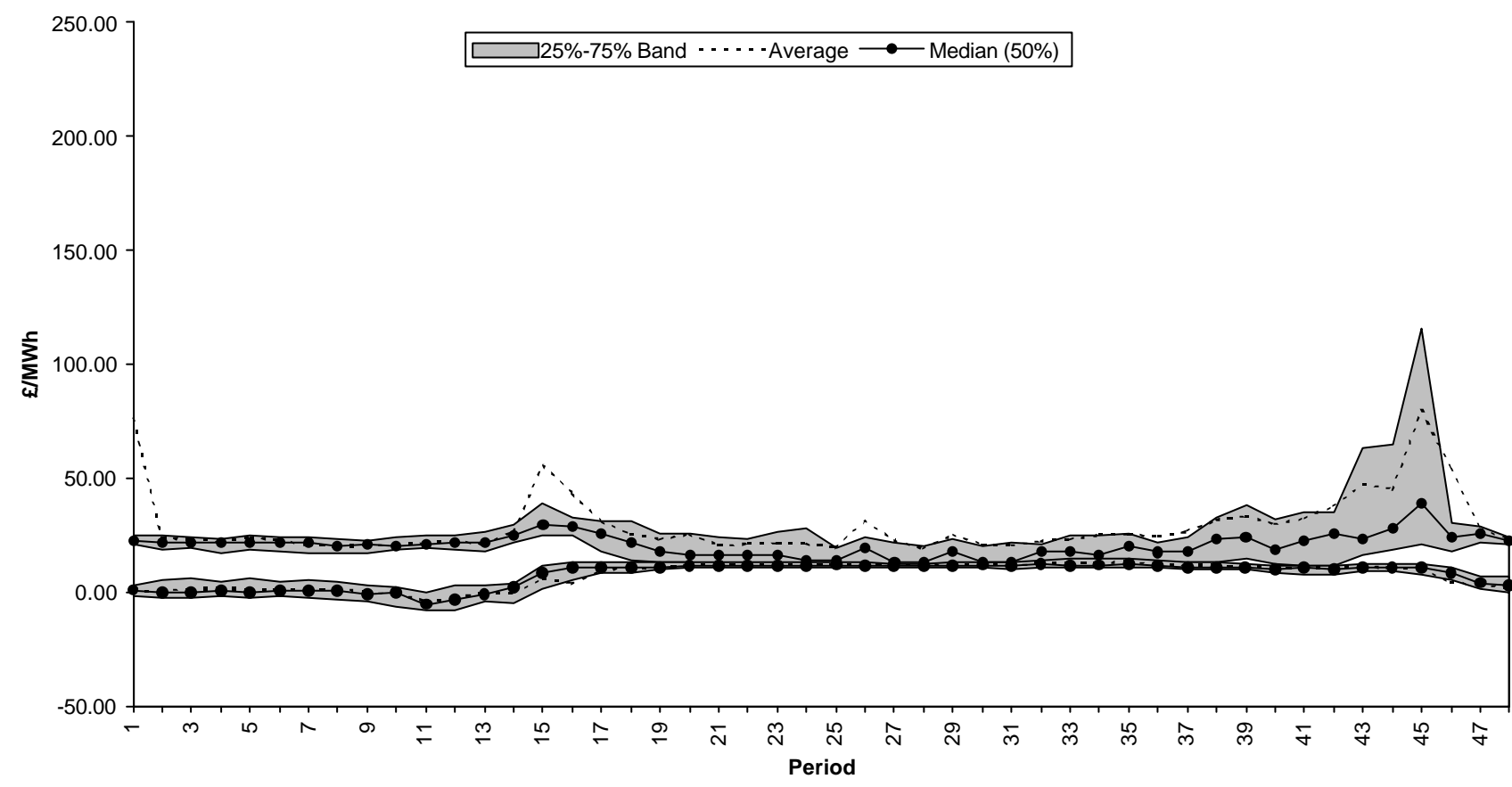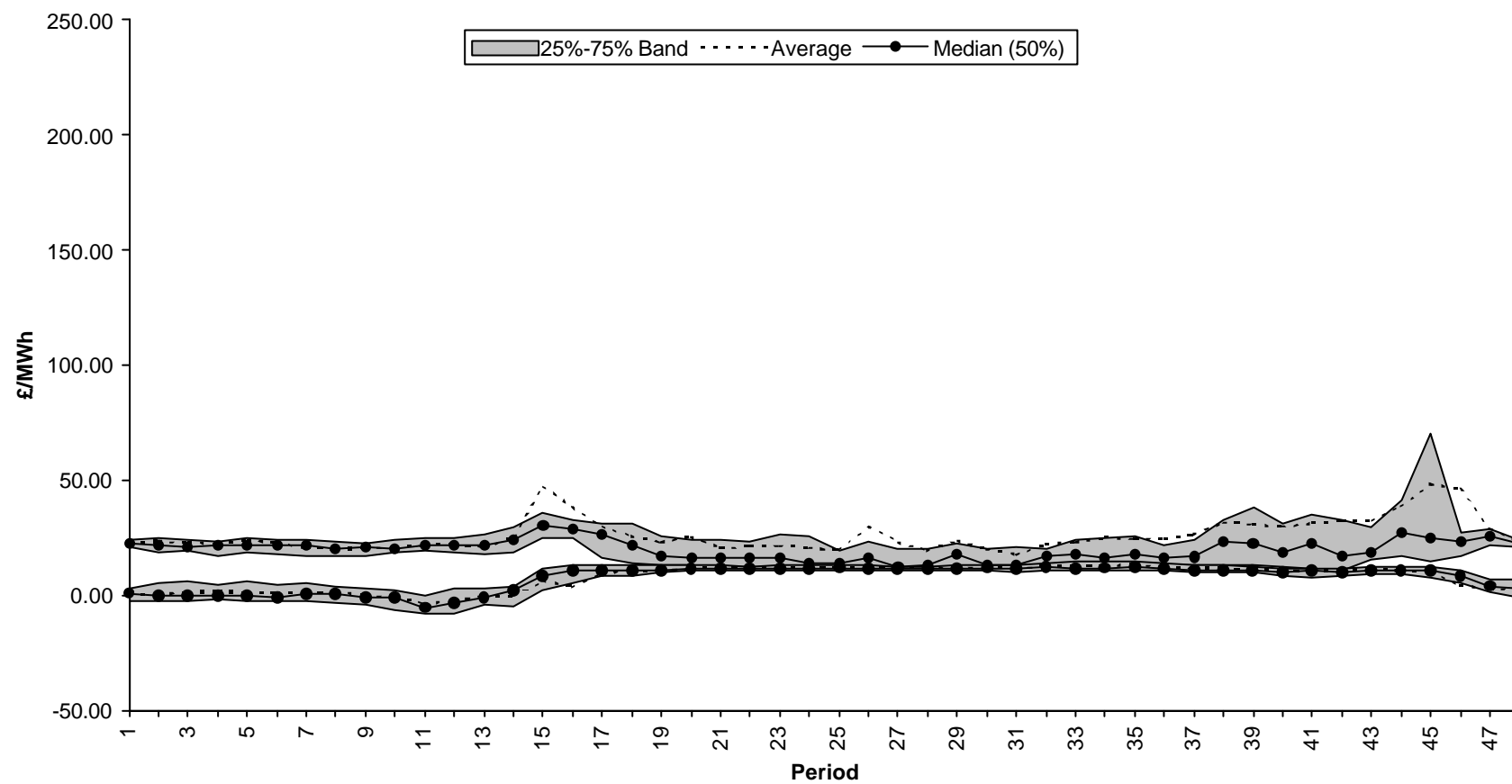
Graph 7 – Prices based on CID-definition 1a with a CID of 25 minutes

Period Average

Graph 8 – Prices based on CID-definition 1a with a CID of 30 minutes
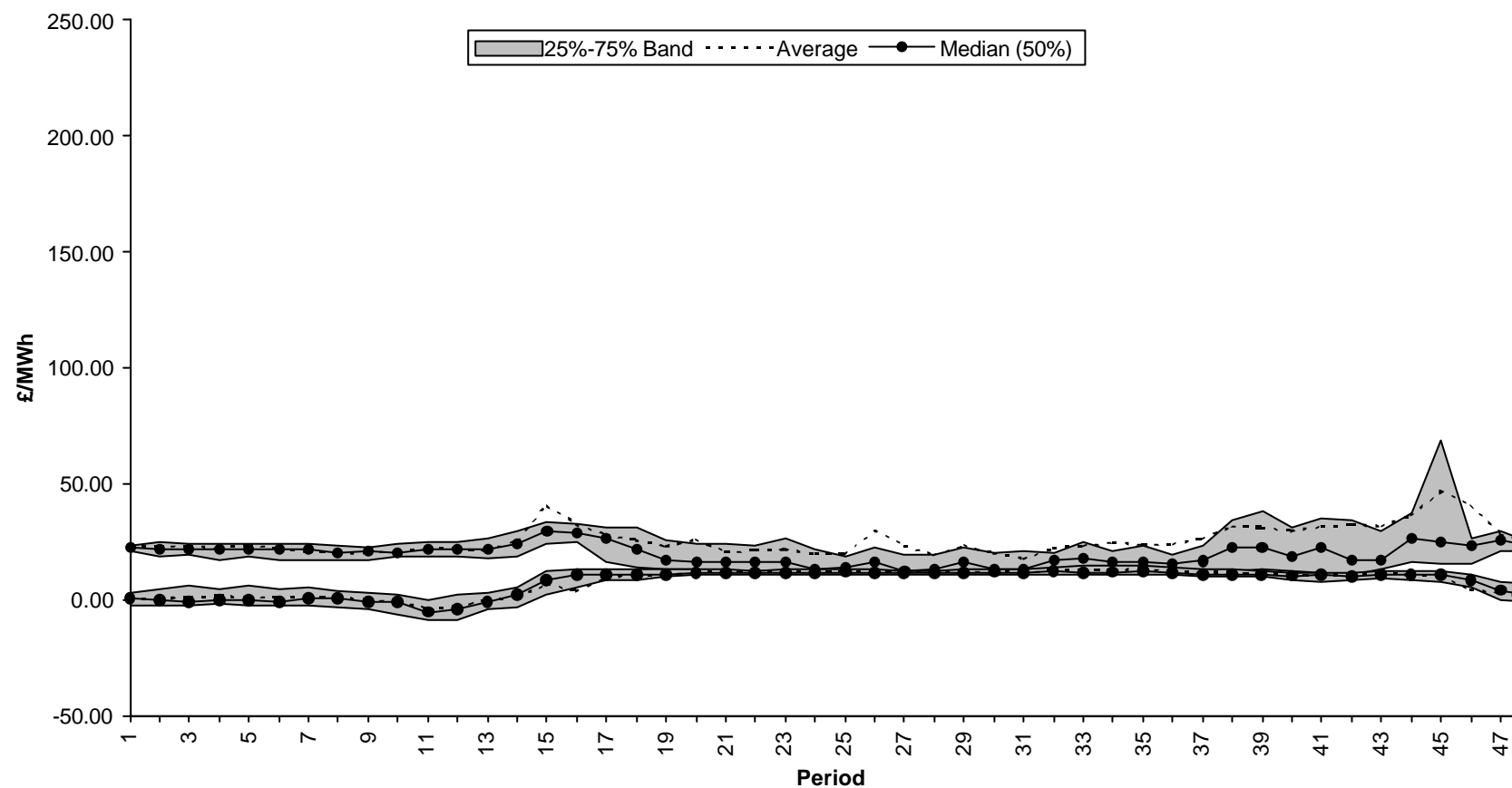
Period Average

Table 3 shows some analysis of the effect of the changes on the Top 10 "Interesting Periods". These are a selection of periods in May 2001 where SBP was particularly high.

Table 3 – Top 10 "Interesting Periods"

Settlement		Current SBP	CID							No Fast
Date	Period		5	10	15	20	25	30	Plant
5 May	13	5000	5000	5000	5000	11	11	11	11
18 May	14	3090	3090	15	15	15	15	15	15
18 May	1	1597	1597	1597	1597	1597	30	21	30
5 May	15	680	778	224	224	270	33	11	31
8 May	45	269	587	587	114	571	99	35	95
16 May	46	167	167	167	167	455	455	455	25
29 May	41	475	475	273	273	7	7	6	273
22 May	47	470	17	17	17	17	17	17	17
10 May	43	417	461	461	70	70	70	70	270
15 May	14	460	460	34	36	36	36	36	34

Some data analysis was also presented that highlighted the effect on the number of prices set on a default basis as a consequence of setting higher values of CID. Clearly in the extreme, setting a value of CID to 3½ hours would result in the exclusion of all acceptances from the price calculations and cause all prices to be set on a default basis.

The original P15/P18 report highlighted concerns over how few bid and offers were present on the smaller stack and that defaulting might be an issue.
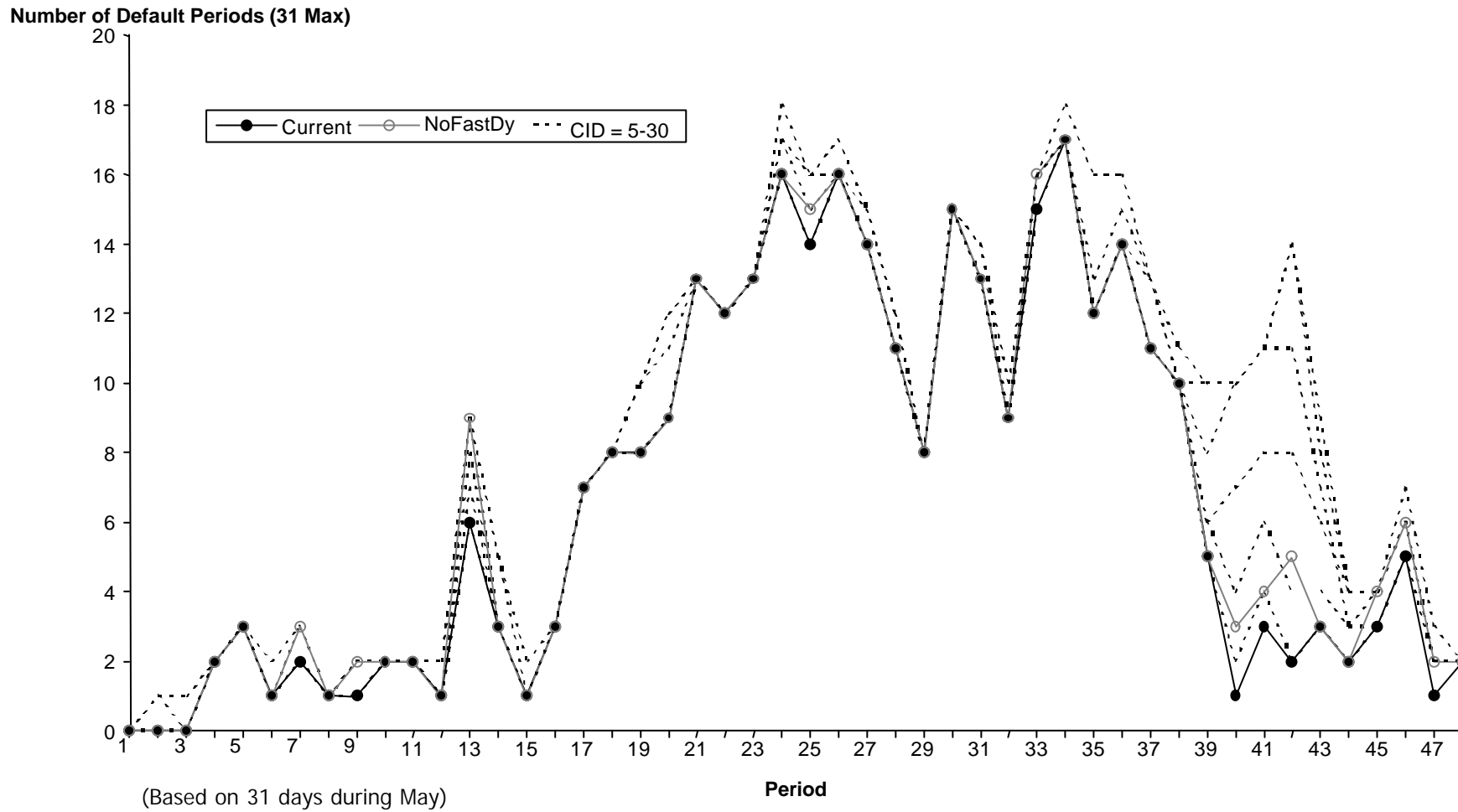
Graph 9 shows an analysis of the number of periods in which prices would be set on a default basis as the value of CID is increased. The dotted lines show the increase in the number of periods in which prices are set on a default basis as CID is increased. The effect is most marked around periods 39-45 when as CID is increased (say to 30 minutes) the middle range of the data is significantly damped. As an example, with a CID of 30 minutes, prices would be set on a default basis in this period approximately 50% of the time in period 42.

This is obviously a major factor in why the range of prices in the evening periods were significantly dampened with larger values of CID.

The Modification Group recognised that it was necessary to strike a balance between setting a high value of CID so as to exclude short duration acceptances, but not to set it too high such that those acceptances that should properly contribute towards the price calculations are also excluded.

Graph 9 – Analysis of Default Periods

Analysis of Default Periods

Number of Default Periods (31 Max)

(Based on 31 days during May)

The conclusions presented by ELEXON which were generally accepted by the Modification Group were as follows:

- **A CID of 15 minutes would not remove all spikes;**

- **A CID of 30 minutes will flatten the evening peak;**

- **CID should not, in any event, be set to be greater than 30 minutes (i.e. CID_{max} = 30 minutes)**

- **Some prices can increase (although this is unusual, and occurs because relatively cheap offers or bids are removed);**

- **50% of periods during the day already have a price determined on a default basis;**

- **CID can increase the incidence of defaulting prices to 50% during the evening as well.**

A copy of all the slides presented at the Modification Group meeting is available in Annex 4 to this document.

The general conclusions of the Modification Group from this analysis were as follows:

- **Modification P18A was effective at removing short duration acceptances from the price calculations;**

- **The value of CID could be selected so as to strike a balance between removing sufficient of those acceptances deemed to "system balancing" actions, but not tagging too many acceptances deemed to be "energy balancing actions".**

- **The view of the members of the Modification Group present on 28th June 2001 was that based on the data analysis presented, CID should be set somewhere in the range between 10 and 20 minutes.**

After considering the data analysis provided by ELEXON, the views of the seven members of the Modification Group present at the meeting of 28th June 2001 was as follows:

CID value (minutes)	Number of supporting members
10	1
15	2
20	4

7.5.1 Effectiveness of CID-Definition 0

Information on the effectiveness of CID-definition 0 was not presented to the Modification Group. However, as a result of the acceptance of CID-definition 1a, and the fact that some members of the Modification Group expressed concerns over the fact that there would be a delay in the price calculations under alternatives 1, 2, and 3, ELEXON undertook some analysis to identify whether there would be a significant difference between CID-definition 0 and CID-Definition 1a.

The results of this high-level analysis are shown in table 4 below.

Table 4 – Effectiveness of CID-Definition 0 – May 2001

	Acceptances	CID-Total	CID-Fast	CID-Norm
Total	14829	7120	1074	6046
		100%	15%	85%
CID=0	0%	0%	0%	0%
5	2%	4%	24%	0%
10	9%	13%	72%	2%
15	14%	22%	94%	9%
20	18%	29%	96%	17%
25	23%	37%	98%	26%
30	26%	41%	98%	31%

Table 4 shows that based on the data studied, CID-definition 0 could be at least as effective as CID-definition 1a at identifying the effect of short duration acceptances, without also removing those from "normal" (i.e. not fast) plant. No analysis to identify the consequent effect on prices has yet been carried out.

Whilst this CID-definition 0 approach was not discussed in any detail in the Modification Group, ELEXON believes that there was merit in presenting this information in this consultation document. This is because, ELEXON recognises that broadly speaking the Modification Group favoured CID-definition 1a principally because CID-definition 1a was effective, and capable of being relatively easily implemented in both the short and longer term. Whilst the Modification Group noted that the intellectual purity of CID-definition 1a was not as good as a number of the other approaches, this did not affect their recommendation.

7.6 Workaround Implementation Options

There is no precise definition of what constitutes a workaround and what does not. Clearly there are minimum standards that must be met in terms of auditability, reliability, etc. for any workaround solution. Furthermore, a workaround solution must be capable of being delivered more cheaply and/or more quickly than a longer term solution. For the purposes of discussions in relation to P18A, a workaround is a practical implementation that is likely to meet reasonable[5] audit and reliability standards, and is likely to be capable of being delivered in a timescale of 3 months or less.

A number of workaround options for implementing P18A were presented by ELEXON at the Modification Group meeting of 28th June 2001. In total four "workaround" options were proposed, as follows:

---

[5] What constitutes "reasonable" for the purposes of the development of P18 to date has relied on ELEXON and/or the Modification Group taking a view.

- Workaround architecture 1a – ELEXON processing from Settlement output with BSAD adjustment (in time for the Initial Settlement run).

- Workaround architecture 1b – As above, but based on TIBCO output (in time for the Interim Initial Settlement Run).

- Workaround architecture 2 – Central Service Provider Processing, use of deemed flags to make adjustment (in time for the Interim Initial Settlement Run).

- Workaround architecture 3 – Full Central Service Provider implementation – not considered further, as it is not envisaged that this could be implemented in a timescale of 3 months or less.

These are discussed further below.

It is noted that ELEXON does not believe that is viable to deliver a workaround that would deliver CID-definitions 2 or 3. This view was supported by the Modification Group.

The Modification Group did, however, believe that the implementation of a workaround solution was feasible.

7.6.1 Workaround architecture 1a – Figure A

Under this option, it is proposed that ELEXON would extract Acceptance data from the Settlement reports and use this to identify which acceptances should be excluded from the price calculation process. ELEXON would then recalculate the values of SBP and SSP that would have been calculated had these acceptances been excluded. The Central Service Provider would then adjust the values of BSAD data such that SBP and SSP calculated by the Settlement System are equal to the values determined by ELEXON.

There are a number of issues to note in relation to this approach:

- It is reliant on an organisation (ELEXON) not structured to provide an operational service.

- This option would be utilising a system designed for post-event monitoring (the TOMAS system), as an operational system used to establish prices.

- This workaround relies on the manipulation of BSAD data to achieve the desired imbalance prices within the Central Systems.

- A review of the ELEXON monitoring system would be required in order to ensure arrangements were in place to mitigate against the effect of system failures and to reinforce resilience.

- This approach would only permit the implementation of CID-definition 1a, because the Settlement Data that is readily available to ELEXON (i.e. the SAA I014 flow) includes only Period BM Unit Total Accepted Offer Volume and Period BM Unit Total Accepted Bid Volume, and not individual values of Period Accepted Offer Volume and Period Accepted Bid Volume. Hence ELEXON cannot for example determine parts of Period BM Unit Total Accepted Offer Volume to exclude as a consequence of a particular acceptance being determined to have a continuous acceptance duration of less than CID.

- Because this option relies upon settlement data in order to determine the revisions to be made to the BSAD data stream, the revised prices are not available until after the Interim Information Settlement Run, and are not reflected in settlement until the Initial Settlement Run (D+29 approx.)[6].

Figure A below shows the dataflows and systems associated with Workaround architecture 1a. The additional required functionality is shown as shaded.

7.6.2 Workaround architecture 1b – Figure B

Workaround architecture 1b is essentially the same as 1a, but instead, TIBCO data is used as an input into the price recalculations. This has a number of potential benefits. First it is possible to implement CID-definition 1b, because TIBCO data contains information relating to individual acceptances, and second, it is possible to perform the necessary calculations prior to the Interim Information Settlement Run.

It should be noted however that TIBCO is a reporting interface and has a significant disadvantage when being used as part of a production system. **The significant disadvantage with this option is that it is not considered possible to guarantee to be able to collect all TIBCO data with sufficient certainty to be able to perform the required calculations on a reliable basis [7].**

As with option 1a, this option would also be utilising a system designed for post-event monitoring as a operational system (Thomas).

Figure B below shows the dataflows and systems associated with Workaround architecture 1b. Again, the additional required functionality is shown as shaded.

The Modification Group did not favour this option.

7.6.3 Workaround architecture 2 – Figure C

Workaround architecture 2 differs primarily from the above options in the manner in which data is input into the central systems. Existing settlement software includes certain functionality that is not currently used. This is the inclusion of a "deemed acceptance flag". It is envisaged that it may be possible to set the deemed acceptance flag for those acceptances that are to be disregarded in the price calculation process, and to change the central Settlement Software so as to allow flagged acceptances to be disregarded in this way. It is also envisaged that the entirety of workaround architecture 2 could be delivered by the Central Service Provider. This differs slightly from the view presented at the Modification Group.

It is possible that it may be necessary to set the flag on a manual basis for any short-term implementation. This clearly creates the scope for error.

Figure C below shows the data-flows and systems associated with Workaround architecture 2. Again, the additional required functionality is shown as shaded.

The Modification Group believed that either workaround architecture 1a or 2 should be used to support the implementation of CID-definition 1a. The choice

---

[6] It is also noted that workaround W018 currently manipulates data between the Interim Information Settlement Run and the Initial Settlement Run. As this is the case, whilst this workaround is in place, the prices under implementation option 1a would not be correct until the first Reconciliation Run (although they could be published by ELEXON before this time).

[7] It is also noted that the data would not be correct insofar as existing workaround W018 is concerned.

of workaround to use would be dependent upon the results of the impact assessment.

Subsequent to the Modification Group, preliminary investigations by ELEXON suggest that workaround architecture 2 may not be capable of being delivered in a timescale of less than 3 months.
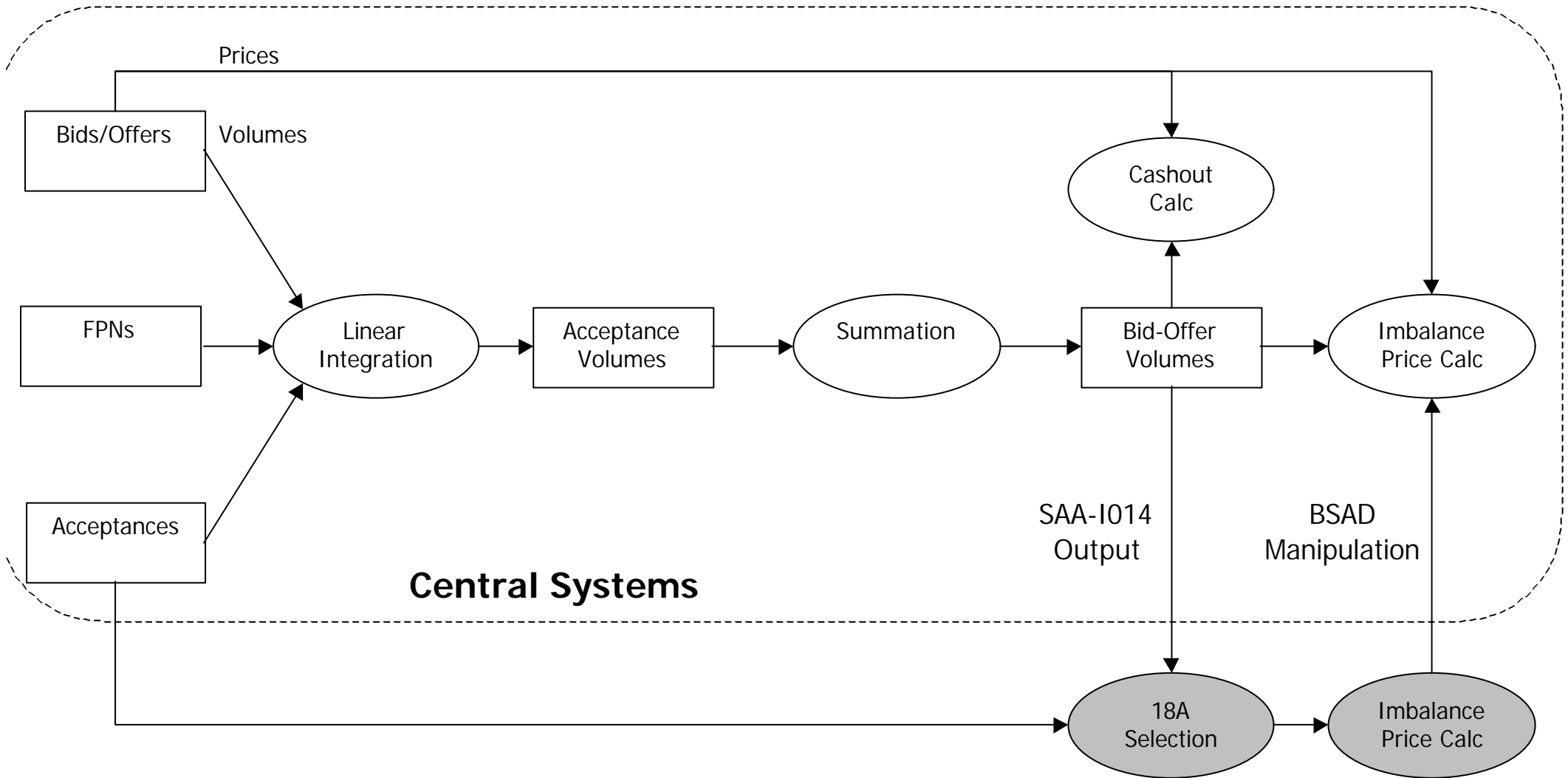
Figure A – Workaround architecture 1a

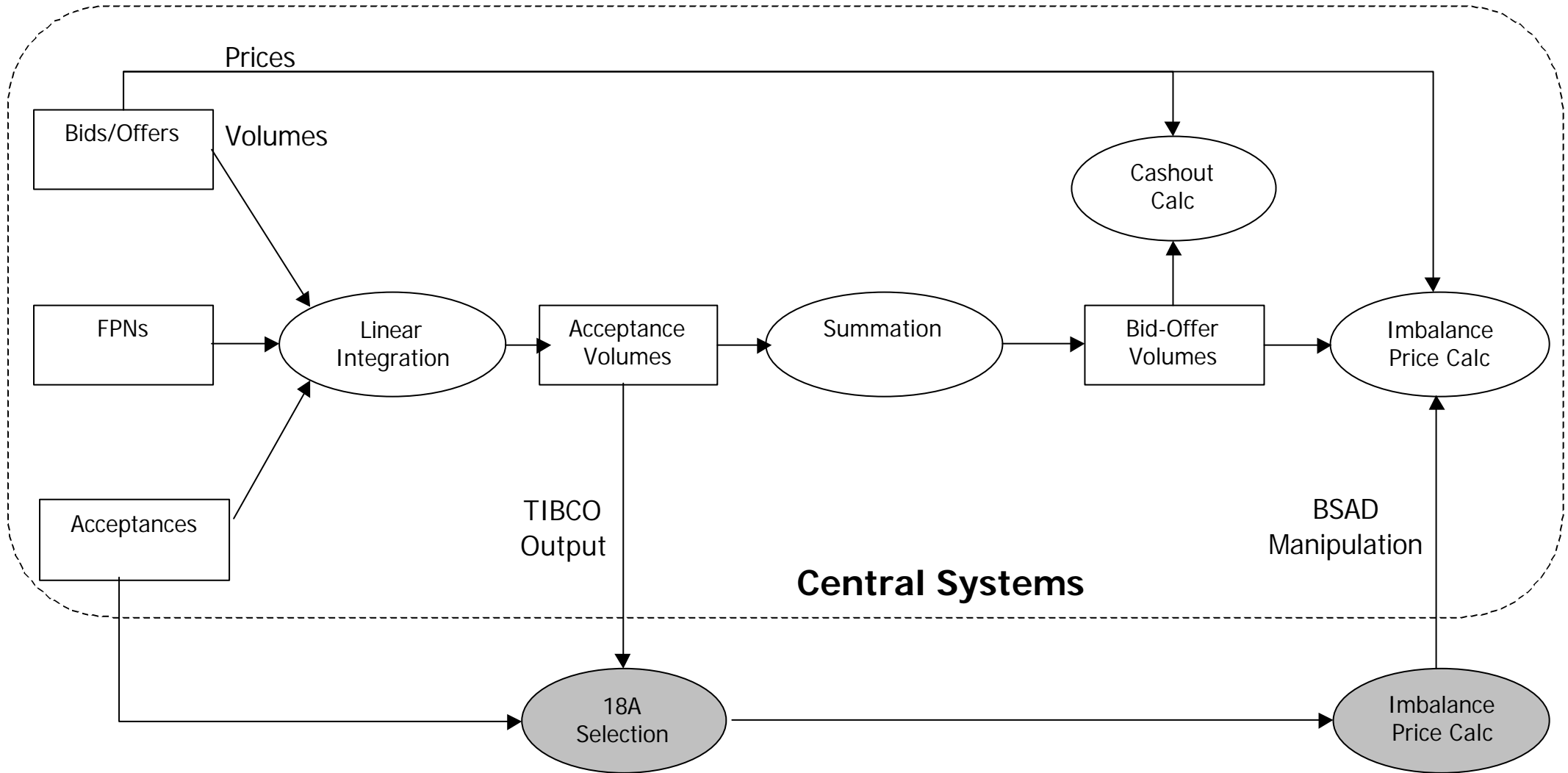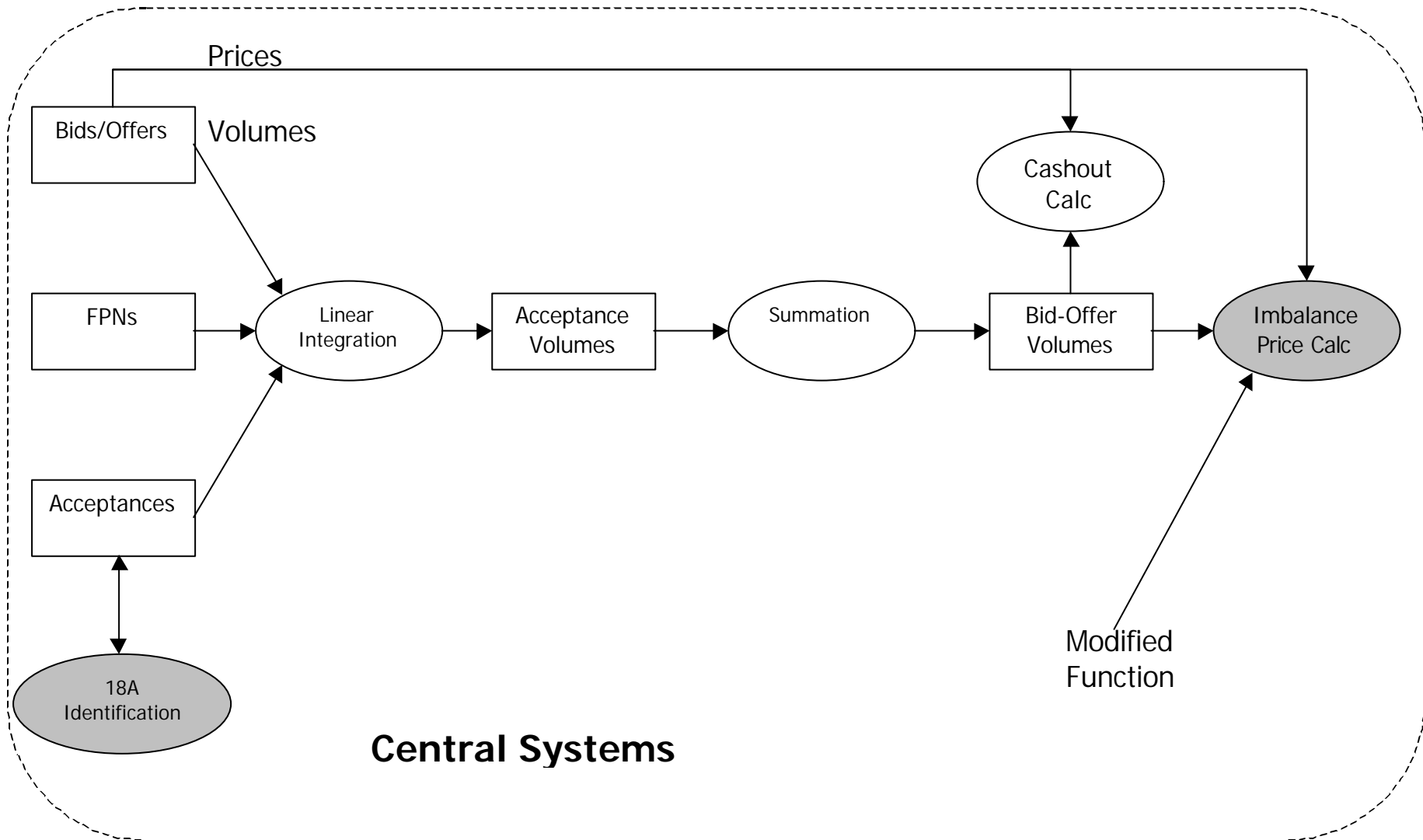**Figure B – Workaround architecture 1b**

Figure C – Workaround architecture 2

7.7 Enduring Implementation Options

On an enduring basis, it is intended that all systems will be operated by BSC Agents, rather than by ELEXON. Two enduring systems architectures have been considered. These are:

- Enduring architecture 2; and

- Enduring architecture 3.

Both of these are capable of delivering all of the CID-definitions 1 and 2, however, enduring architecture 3 is designed specifically to deliver CID-definition 3, and would be unlikely to be the approach adopted if CID-definition 3 were not selected as the enduring approach.

These are discussed further below.

7.7.1 Enduring architecture 2

This option is based substantially on Workaround architecture 2 (hence the numbering convention), and differs only in that the additional modules required would form part of the Central Systems, rather than being operated by ELEXON. No separate figure is shown for this option, as the required information is essentially contained in Figure C.

Option 2 is likely to be the least cost and least timescale approach. Thus, unless CID-definition 3 is to be adopted, enduring architecture 2 should probably be used. If this is the case, then there remain further decisions to be made to select between CID-definition 1 and 2. This is because it is likely to be more complex to deliver a solution based on one of the CID-definitions 2 than on CID-definitions 1. Thus even if enduring architecture 2 is selected, it may be appropriate to continue to operate with CID-definition 1a (say) on an enduring basis.

7.7.2 Enduring architecture 3

This option would permit the delivery of CID-definition 3. Under this approach, the flagging functionality forms an integral part of the central systems. Once parts of acceptances have been identified for exclusion, accepted offer volumes and accepted bid volumes are recalculated. Thus each acceptance may result in the determination of a two sets of values of Period Accepted Offer Volumes and Period Accepted Bid Volumes. One set that are used to determine balancing mechanism payments, and a second, slightly different set (with a smaller or equal quantity within it) used for the purposes of determining imbalance prices.

As noted, it is not recommended that this approach be taken unless CID-definition 3 is adopted as the enduring approach.

Figure D below shows the dataflows and systems associated with enduring architecture 3.

The Modification Group believed that CID-definition 1a would be an acceptable enduring solution.

They agreed that enduring-architecture option 3 should only be considered if it is identified that it would take not more than 6 months longer than, nor cost £500k more than option 2.

7.7.3 Additional Issues

ELEXON is seeking a high-level impact assessment from the Central Service Provider to assess the consequences of Enduring architectures 2 and 3.

Figure D –Enduring architecture 3

7.8   Issues for Consideration

It is clear that there are a variety of issues that need to be taken into account and a number of decisions to be made in considering how to progress. Assuming that it is decided that Modification Proposal P18A is to be implemented, the decisions to be taken include:

- Selecting an interim CID-definition

- Selecting an interim workaround architecture

- Selecting an enduring CID-definition

- Selecting an enduring architecture

- Selecting a value for CID

In reaching its recommendation, the Modification Group was cognisant of the interactions between these decisions. For example some interim CID-definitions cannot be delivered unless certain interim workaround architectures are chosen etc.

The Modification Group agreed a number of principles that it felt should be borne in mind when choosing an approach. These were:

1. **Price stability between Settlement Runs.** If a workaround CID-definition were to be selected and subsequently replaced with a different enduring CID-definition, then it would, if possible, be desirable to avoid significant cash-flow changes. This may be achieved by selecting a workaround that is similar to the enduring option, or by electing to apply the enduring CID trading rules only from the Settlement Day on which the enduring architecture becomes available.

2. **Central Service Provider to Operate.** It was viewed by the Modification Group as desirable, if possible, to implement both workaround and enduring options as quickly as possible via integration with the systems of the Central Service Provider, rather than relying on ELEXON systems and resources.

3. **Consistency with enduring solution**. In order to minimise costs, it was considered desirable, to implement a workaround architecture that was consistent with the enduring architecture.

4. **Minimise errors due to communications**. Clearly the creation of additional complex and/or manual communications interfaces introduces the scope for error. If possible these should be minimised. Furthermore the provision of data from links that were not considered to have sufficient reliability is clearly undesirable. Because of the perceived risks associated with relying on the TIBCO link for settlement purposes, workaround architecture 1b was discounted by the Modification Group.

5. **Intellectual purity of the (enduring) solution**. The intellectual purity of the enduring solution is seen as an important issue.

6. **Price transparency.** If possible prices should be capable of being published as accurately and quickly as possible after real time. Furthermore, the price calculation algorithm should be capable of being duplicated relatively easily by parties.

7.9   Summary of Main Factors

This section provides a summary of the main issues which respondents may wish to bear in mind when considering the approach to be taken:

- The intellectual purity of the rules changes delivered by the CID-definitions improves gradually from CID-definition 0 to CID-definition 3;

- Only CID-definitions 0 or 1 can be delivered by any of the workaround architectures;

- Workaround architecture 2 may not be capable of delivery within a 3 month timescale;

- Workaround architecture option 1b is reliant on TIBCO for a data flow. This is was not considered to be sufficiently resilient for purposes of price calculations by the Modification Group;

- Workaround architecture 1a will not deliver prices until the Initial Settlement Run (although it is possible that prices could be published on the ELEXON website relatively shortly after the Interim Information Settlement Run);

- CID-definitions 1-3 mean that prices cannot be calculated until a minimum CID minutes after the Settlement Period ends;

- It is likely that enduring architecture 3 will be significantly more costly that enduring architecture 2;

- CID-definitions 1-3 mean that imbalance prices cannot be calculated until 30 minutes after the end of each Settlement Period. CID-definition 0 permit their calculation immediately after the end of the Settlement Period.

7.10   Impact Assessments

It was also recognised that whilst a significant amount of analysis had been undertaken, because of the complexity and timescales associated with Modification Proposal P18A, time had not been available to develop all the background analysis and information that might be desirable in supporting a decision on the recommended way forward. For example, the impact on prices of all the alternative CID-definitions had not been performed, and the results of the impact assessments were not at the time of the Modification Group meeting. However it was noted that some high level impact assessments were expected to be available for the Panel meeting of 12th July 2001. In particular, these would include high level impact assessments on workaround architectures 1a and 2, and high level impact assessments on enduring architectures 2 and 3.

The recommendations from the Modification Group are deliberately structured so as to advise the Panel on what decisions to take on the way forward depending upon the results of these impact assessments.

7.11   Recommendations

After considering the issues raised in some detail, the Modification Group unanimously agreed the following recommended approach:

(a)   An interim workaround solution for Modification P18A is feasible;

(b)   Taking a pragmatic approach, and given the urgency of the Modification Proposal, an interim solution based on P18A "CID-definition" 1A should be implemented;

(c)   Either "workaround-architecture" option 1a or option 2 should be used to support an initial implementation of "CID-definition" 1a. The choice of "workaround-architecture" to use should be based upon the results of the impact assessments from ELEXON and Logica;

(d)   "CID-definition" 1a would be acceptable enduring solution, and the adoption of more sophisticated options in the longer term should be considered primarily from the practical perspective of systems implementation;

(e)   Enduring-architecture option 3 should only be considered if it is identified that it would take not more than 6 months longer than, nor cost £500k more than option 2.

(f)   If, based on the above, "enduring-architecture" option 2 is progressed, then "CID-definition" 1A should be adopted as the enduring solution[8];

(g)   If, based on the above, "enduring-architecture" option 3 is progressed, then "CID-definition" 3 should be adopted as the enduring solution.

(h)   If "CID-definition" 3 is adopted as the enduring solution, with "CID-definition" 1A as the interim solution, no reconciliation based on the "CID-definition" 3 rules should be undertaken for those Settlement Days on which "CID-definition" 1A applied

These views/recommendations form the basis of question 1 of this consultation set down in Section 3.4 of this document, in which respondents to the consultation are invited to agree with the Modification Group (or to state their alternative views if they do not).

As has been discussed in section 7.5, the Modification Group did not reach a unanimous agreement on the recommended value of CID, although the range of views expressed all fell between 10 and 20 minutes. A separate consultation question is included on this issue.

---

[8] This decision may be reviewed if it appears that CID-definition 2 can be implemented without significant additional cost or timescales implications (compared to 1a) under enduring architecture 2.

8   NEXT STEPS

Following the receipt of consultation responses, next steps to be taken are, in accordance with the approved timetable, as follows:

- Wednesday 11th July 2001, ELEXON to produce a report to the Panel on the results of the consultation, and high-level impact assessments.

- Thursday 12th July 2001, Panel to consider the report on P18A.

- Friday 13th July 2001, Panel to send Urgent Modification Report on P18A to the Authority.

ANNEX 1 - MODIFICATION P18

Modification Proposal	**MP No: 18** *(mandatory by BSCCo)*

Title of Modification Proposal *(mandatory by proposer)***:**

Removing / Mitigating The Effect Of System Balancing Actions In The Imbalance Price Calculations

Submission Date *(mandatory by proposer)***:** 23 May 2001

Description of Proposed Modification *(mandatory by proposer)***:**

The current imbalance price calculations utilise Trade Tagging to identify system balancing actions and exclude them from setting SBP and SSP. The trade tagging methodology was based on the assumption that there would be a significant volume of balancing actions in both directions in each half-hour. However, experience to date is that many periods have only a small volume of balancing actions in one direction, and so the methodology is less effective at removing system balancing actions.

It is recognised that it is not possible to separate balancing actions into 'energy' and 'system' in an unambiguous and clearcut manner. However, the current methodology is resulted in some extreme imbalance prices, as balancing actions that appear to be more related to system effects (such as minute by minute frequency control) are being included in price setting, and can have a disproportionate effect on the prices (when there are only small balancing volumes taken in one direction in a period).

Two options for addressing this issue are proposed:

Option A: This proposes an enhanced definition of system balancing actions. Bid / Offer acceptances of 'Continuous Instruction Duration' less than a threshhold duration of [15] minutes are tagged as System rather than Energy balancing actions, and so are excluded from the imbalance price calculation. In consequence, fewer acceptances are eligble to set imbalance prices. The rationale is that short duration balancing actions are most likely to related to minute-by-minute frequency control, rather than energy balancing at a half-hour level. Therefore, it is not appropriate that these actions are used to set imbalance prices which are faced by market participants who have half-hourly imbalances.

Option B: This proposes that the BRL parameter is set as a minimum volume of balancing actions from which the imbalance prices can be set. When there is a smaller volume of actions, the imbalance price is set as a weighted average of the price derived from the current rules, and the default price that would apply if no balancing actions had been taken. The weighting would be in proportion to the volume of balancing actions, and BRL minus this volume, respectively.

The rationale for this option is that it limits the impact that any small volume balancing action can have on the imbalance price in the cases where the assumptions behind the trade tagging methodology (i.e. that there will be at least BRL volume of balancing actions in each direction) are invalid. It does not attempt to improve the allocation of balancing actions between energy and system, but ensures that the price effects of system balancing actions which are incorrectly tagged as energy is mitigated.

Description of Issue or Defect that Modification Proposal Seeks to Address *(mandatory by proposer)***:**

See the attached paper, dated 23 May 2001

Modification Proposal	MP No: 18 *(mandatory by BSCCo)*

Impact on Code *(optional by proposer)*:

Option A:

Modification required to the 'Trade Tagging' Annex T-1 of the Code, to include a definition of Short Duration Bids and Short Duration Offers. Exclusion of Short Duration Bids and Offers in 'Determination of Energy Imbalance Prices' (section T4.4) of the Balancing and Settlement Code.

Option B:

Modification required to calculation of System Buy Price and System Sell Price in Section T Paragraphs 4.4 of the Code

Impact on Core Industry Documents *(optional by proposer)*:

None.

Impact on BSC Systems and Other Relevant Systems and Processes Used by Parties *(optional by proposer)*:

Under either option, the software calculating System Sell Price and System Buy Price will need to be altered.

Impact on other Configurable Items *(optional by proposer)*:

None

Justification for Proposed Modification with Reference to Applicable BSC Objectives *(mandatory by proposer)*:

Option A refines the definition of system and energy balancing actions, and thus results in a more appropriate stack of accepted Bids and Offers being used in the determination of System Buy Price and System Sell Price. Option B ensures that small volume system balancing actions cannot have a disproportionate effect on the System Buy Price and System Sell Price. Therefore both options meet the objective of "promoting efficiency in the implementation and administration of the balancing and settlements agreement."

Details of Proposer:

Name:	Mike Calviou
Organisation:	National Grid
Telephone Number:	02476 423958
Email Address:	mike.calviou@uk.ngrid.com

Details of Proposer's Representative:

Name:	Mike Calviou
Organisation:	National Grid
Telephone Number:	02476 423958
Email Address:	mike.calviou@uk.ngrid.com

Modification Proposal	**MP No: 18** *(mandatory by BSCCo)*

Details of Representative's Alternate:

Name:	Paul Plumptre
Organisation:	National Grid
Telephone Number:	02476 423106
Email Address:	paul.plumptre@uk.ngrid.com

Attachments: YES

If Yes, Title and No. of Pages of Each Attachment:

Enhanced Trade Tagging - BSC Modification Proposal, 5 pages.

ANNEX 2 – ATTENDEES OF THE MODIFICATION GROUP OF 28TH JUNE 2001

Name	Organisation
Richard Clarke	ELEXON
Peter Davies (Chair)	ELEXON
Paul Dawson	Enron
Tony Diciccio	PowerGen
Richard Haigh	ELEXON
Paul Mott	London Electricity
Tony Doherty	Ofgem
Paul Plumptre (Proposer)	NGC
Gwilym Rowlands	ELEXON
Robert Barnett	Campbell Carr
Jon Bradley	Centrica
Richard Ford	St Clements' Services
Ben Willis	Yorkshire Electricity Group

ANNEX 3 - APPLICABLE BSC OBJECTIVES

The Applicable BSC Objectives are set out in paragraph 3 of Condition 7A of the Licence, as follows:

(a) The efficient discharge by the Transmission Company of the obligations imposed under the Transmission Licence;

(b) The efficient, economic and co-ordinated operation by the Transmission Company of the 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.

ANNEX 4 – COPY OF SLIDES

This Annex contains a copy of the slides presented to the Modification Group on 28th June 2001.

The annex is a separate file to be circulated in conjunction with this consultation document.

ANNEX 5 – LEGAL TEXT

This Annex contains a copy of an initial view of the BSC drafting changes that would be required to support the various CID-definitions. The changes in relation to CID-definitions 1a, b, 2d, 3 and 0 have been drafted.

The annex is a separate file to be circulated in conjunction with this consultation document.