

February 2002

Modification Proposal P59 - First Consultation

Document Reference	002MMB
Version no.	1.0
Issue	Final
Date of Issue	6 February 2002
Reason for Issue	For Consultation
Author	Trading Development

DOCUMENT CONTROL

a Authorities

Version	Date	Author	Signature	Change Reference
1.0	06/02/02	Trading Development		

Version	Date	Reviewer	Signature	Responsibility
0.1	31/01/02	Trading Strategy		
0.2	31/01/02	Mods Group		
1.0	06/02/02	Trading Strategy		

b Distribution

Name	Organisation
BSC Parties	

c Change History

Version 0.1 issued for review within ELEXON

Version 0.2 issued for Modification Group review

Version 1.0 issued for consultation

d Changes Forecast

None

e Related Documents

The following documents are referenced from within this document using the following convention [RD/x]:

1 Background Paper for 2nd Modification Group (www.elexon.co.uk)

f Intellectual Property Rights and Copyright

This document contains materials the copyright and other intellectual property rights in which are vested in ELEXON Limited or which appear with the consent of the copyright owner. These materials are made available for you to review and to copy for the purposes of the establishment, operation or participation in electricity trading arrangements in Great Britain under the BSC and the consultation process now taking place in relation thereto. All other commercial use is prohibited. Unless you are a person having an interest in electricity trading in Great Britain under the BSC you are not permitted to view, download, modify, copy, distribute, transmit, store, reproduce or otherwise use, publish, licence, transfer, sell or create derivative works (in whatever format) from this document or any information obtained from this document otherwise than for personal academic or other non-commercial purposes. All copyright and other proprietary notices contained in the original material must be retained on any copy that you make. All other rights of the copyright owner not expressly dealt with above are reserved.

CONTENTS TABLE

Document Control	2
a Authorities.....	2
b Distribution.....	2
c Change History.....	2
d Changes Forecast	2
e Related Documents	2
f Intellectual Property Rights and Copyright.....	2
Contents Table	3
1 Introduction	4
1.1 General	4
1.2 Structure of Document.....	4
2 Background	5
2.1 P59 History.....	5
2.2 Modification Proposal P59.....	5
2.3 Scope of the Assessment of Modification Proposal P59	6
3 Overview of P59 and NGC Proposals	7
3.1 P59 Mechanism (As originally proposed).....	7
3.2 Relationship between P59 and P12	9
3.3 Relationship between NGC Proposals and P59	9
3.3.1 Agreed Intended BOA	10
3.3.2 BS Energy Trade.....	11
3.4 Materiality of Beyond The Wall	11
4 Modification Group Discussion	12
4.1 Consideration of whether BTW Actions are needed.....	12
4.2 Consideration of P59 (As Proposed)	12
4.2.1 Predicting Future Values.....	12
4.2.2 Further Consideration of the P59 Automatic Mechanism	13
4.2.3 Summary	13
4.3 Consideration of a Potential Alternative Modification	13
Annex A – P59 Consultation Questions	16
Annex B - Predicting Initial Data BTW	18
Annex C - Further Consideration of P59 Automatic Mechanism	22

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.

The document supports the first consultation process in the assessment of Modification Proposal P59. It is based on the second Modification Group meeting held on 22 January 2002.

1.2 Structure of Document

The document is structure as follows:

- Section 2 provides background to the history of Beyond the Wall and the Modification Proposal P59;
- Section 3 provides an overview of how it is expected that P59 would work and its relationship to NGC's own proposals for addressing beyond the wall and 1 Hour Gate Closure. The section also provides some details on the expected materiality of P59;
- Section 4 details the second Modification Group meeting and the decision not to pursue P59 as proposed, but to develop an Alternative Modification;
- Annex A provides a copy of the consultation questions;
- Annex B examines some of the issues to be faced when attempting to predict how data can change prior to Gate Closure;
- Annex C considers in more detail some of the issues to be addressed if P59 was to require automatic BOA to be implemented.

2 BACKGROUND

2.1 P59 History

On 28 September 2001 National Grid Company (NGC) issued a consultation to Balancing Mechanism participants regarding what has become known as the "Beyond the Wall" (BTW) issue. The BTW issue has existed from Go-Live. However, if there were a reduction in the Gate Closure period, then an increased number of Bid-Offer Acceptances (BOA), and hence Parties, could be impacted (see proposed modification P12 (www.elexon.co.uk)).

In accordance with the Grid Code, NGC (as System Operator) is only able to provide BOA for periods up to the "wall" (the end of the Balancing Mechanism window). This can result in BM Unit (BMU) facing an instantaneous change in their output at the "wall", which the physical dynamics of the BMU prevent it from meeting. The requirement for instantaneous change can result in a BMU incurring imbalance charges. NGC believe that this may either make Parties reluctant to participate in the Balancing Mechanism, or that they may submit more extreme offer and bid prices, to address the risk of exposure to energy imbalance prices.

The NGC consultation identified four possible ways forward, each of which would have a different impact on the quantity and volume of Bids and Offers within the Balancing Market. However, a common feature of these approaches was that they would not need to change the Balancing and Settlement Code (BSC), and in particular make no change to the processing of data within the BSC Systems.

On 25 October 2001 NGC published a consolidated set of responses to their consultation. The document provided a summary of the 14 responses they received:

- half of the respondents supported one or more of their options with the other half either expressing no view, or proposing an alternative mechanism.
- a response from Innogy detailed their preferred solution, which would require a change to both the BSC and Grid Code. It is this solution that is the basis of Modification Proposal P59.

Following on from their consultation NGC are pursuing a change to the Balancing Principles Statement to formalise the treatment of instructions which need to be taken BTW. NGC have written to Ofgem with draft changes to the Balancing Principles statement and are seeking guidance on the consultation process. In addition NGC are working on a potential solution for handling 1 Hour Gate Closure (1HGC) and the details of this solution need to be viewed separately to the issue of BTW.

2.2 Modification Proposal P59

Modification Proposal P59 was raised by Innogy on 3 December 2001. The proposal aims to formalise the procedure for accepting Bids and Offers from BMU with dynamic parameters that would extend the impact of any acceptance beyond the Balancing Mechanism window.

The key features of the proposal are to require the System Operator to accept the minimum volume of Bids and/or Offers to return the Unit to its Final Physical Notification (FPN) level:

- in accordance with the Dynamic data set applicable at the “wall”; and
- at prices submitted for the Settlement Period preceding the “wall”.

P59 would require BSC Systems to have the ability to calculate the BMU Cashflows, and subsequent Imbalance Prices, using Bid-Offer Prices submitted for a prior Settlement Period. Therefore P59 would require changes to the BSC, in particular to the Section T (Settlement and Trading Charges).

The proposer believes that P59 is required as, without a formal obligation on the System Operator to return a BMU to its FPN, there is a material risk of a Party's BMU being left out of balance BTW. Removal of this risk would improve transparency and encourage participation in the Balancing Mechanism.

P59 states the obligation to return plant to its FPN should be within the BSC, a belief that is repeated in Innogy's response to the NGC consultation. P59 covers the governance of both the consultation process and any resulting solution.

2.3 Scope of the Assessment of Modification Proposal P59

P59 must be assessed against the current BSC baseline, independent of any other Modification Proposal, or initiatives outside the governance of the BSC.

However, the issue of BTW has become linked with 1HGC and NGC's preparations for reduced Gate Closure, should Modification Proposal P12 be approved. It is therefore important to make clear the interaction with these other initiatives to ensure it is clearly understood what P59 represents, and which part of the overall problem it is trying to address.

Many of the examples in this document appear to have been constructed for a 1HGC. This is purely to simplify the illustrations and highlight the potential issues. The examples have been constructed with real world scenarios in mind, however, they have been constructed to illustrate various principles and are not intended to be precise representations.

3 OVERVIEW OF P59 AND NGC PROPOSALS

3.1 P59 Mechanism (As originally proposed)

The mechanism proposed by P59 suggests that if an instruction¹ needs to extend BTW, in order to honour the plant dynamics, then the bid-offer ladder, for the last Settlement Period in the current Balancing Mechanism window, is effectively rolled forward into any of the affected periods BTW.

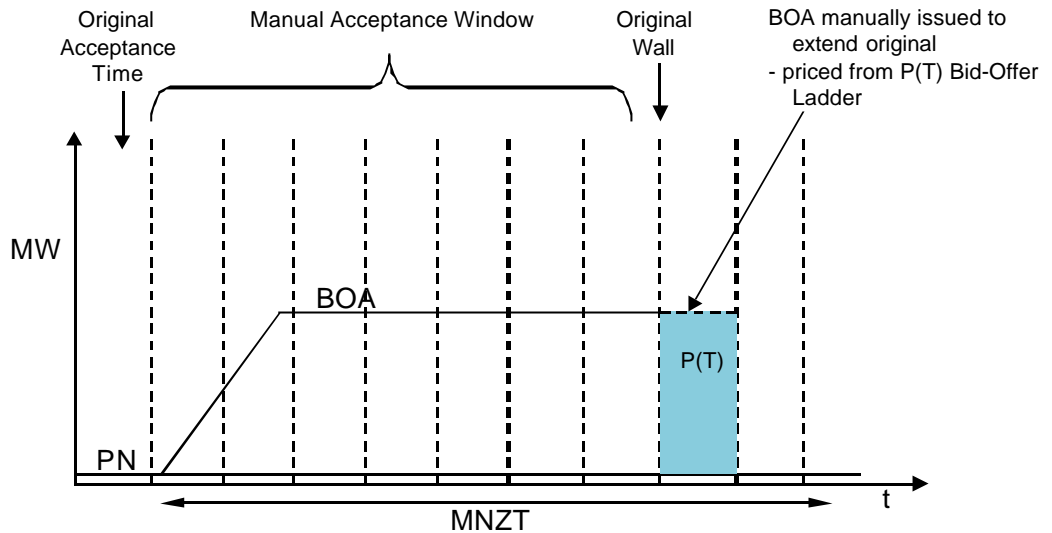
The precise mechanism was not specified in the original modification proposal. The Initial Written Assessment (IWA) suggested this could be achieved using a single BOA that could be longer than the period to the end of the Balancing Mechanism window. Subsequent clarification from the proposer suggested the following mechanism:

- 1) An initial BOA should be issued to the end of the Balancing Mechanism window (i.e. as would currently occur);
- 2) at any point up to [2] minutes before the end of that BOA the System Operator can offer a new BOA to extend the original BOA, at the prices and levels offered for the target Settlement Period (i.e. as would currently be possible). This must itself respect the dynamics in force at that time;
- 3) if no extension is issued by the [2] minute limit, then an automatic instruction should be issued to take the BMU back to its predicted PN, using the dynamics applicable when the initial BOA was first taken. This may initially mean remaining at the current level, to respect the minimum non-zero time (MNZT) or minimum zero time (MZT).

An example of steps 1 and 2 of this are shown in figure 3.1. In this case the System Operator manually issues a BOA for the next period and its volume is costed at the price for that period (i.e. P(T)). In this example the System Operator would also need to issue another BOA at a later point to start to return the plant to its predicted FPN.

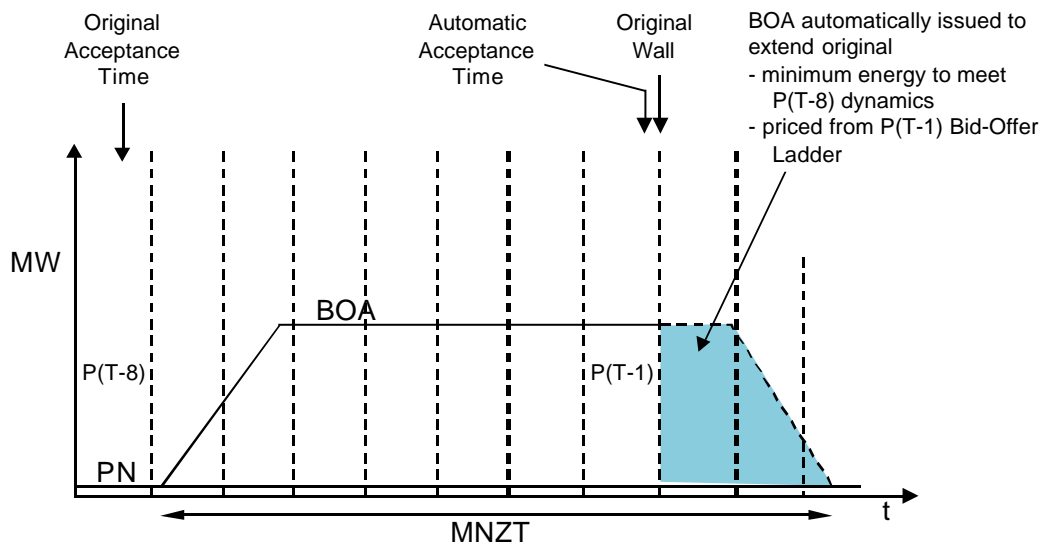
¹ The term instruction is used in this document to represent a number of individual BOA that make up an overall instruction, some of which may need to be issued BTW

Figure 3.1 – Proposed P59 Mechanism - Manual BOA



However, should the System Operator not issue the manual BOA then, [2] minutes before the end of the original instruction, an automatic BOA would be issued, as shown in figure 3.2. In this case the BOA would be costed at the last submitted price for period P(T-1). The profile of the BOA would be in line with the dynamics when the instruction was first issued (i.e. P(T-8)).

Figure 3.2 – Proposed P59 Mechanism - Automatic BOA



Such an automatic BOA would need to be prepared and issued by the System Operator to ensure the Party was aware of the instructed profile.

The proposer recognised that in practice the mechanism would be more complex, but that the Modification Group should be allowed to refine the solution further.

3.2 Relationship between P59 and P12

The principle that a BMU should not be left hanging at the wall, and expected to face imbalance costs as a result, is widely accepted within the industry.

Significant time was spent during the design of NETA on this issue, and one of the reasons behind the original 3½ hour Gate Closure was that it allowed the System Operator to issue BOA for the majority of plant types, without the wall being considered an issue.

It is recognised that the wall would become more of an issue with a reduced Gate Closure and it may be considered by some that addressing this issue is a pre-requisite to such a change.

The formal position for assessment of P59 is that the Modification Group can note the impact of a reduced Gate Closure (i.e. P12), however, it cannot make a recommendation based on any future determination that may be made in respect of P12.

However, should P59 be approved (as proposed, or as an Alternative Modification) then it would become part of the BSC baseline and hence any mechanism would need to be compatible with a reduced Gate Closure, should P12 be approved.

3.3 Relationship between NGC Proposals and P59

As stated in section 2.1, NGC are undertaking their own review of BTW and the impact of an introduction of 1HGC. As part of the assessment of P59 it is necessary to understand the relationship with the NGC proposals. It needs to be noted that NGC recognise there is further work to develop these proposals, especially with respect to 1HGC.

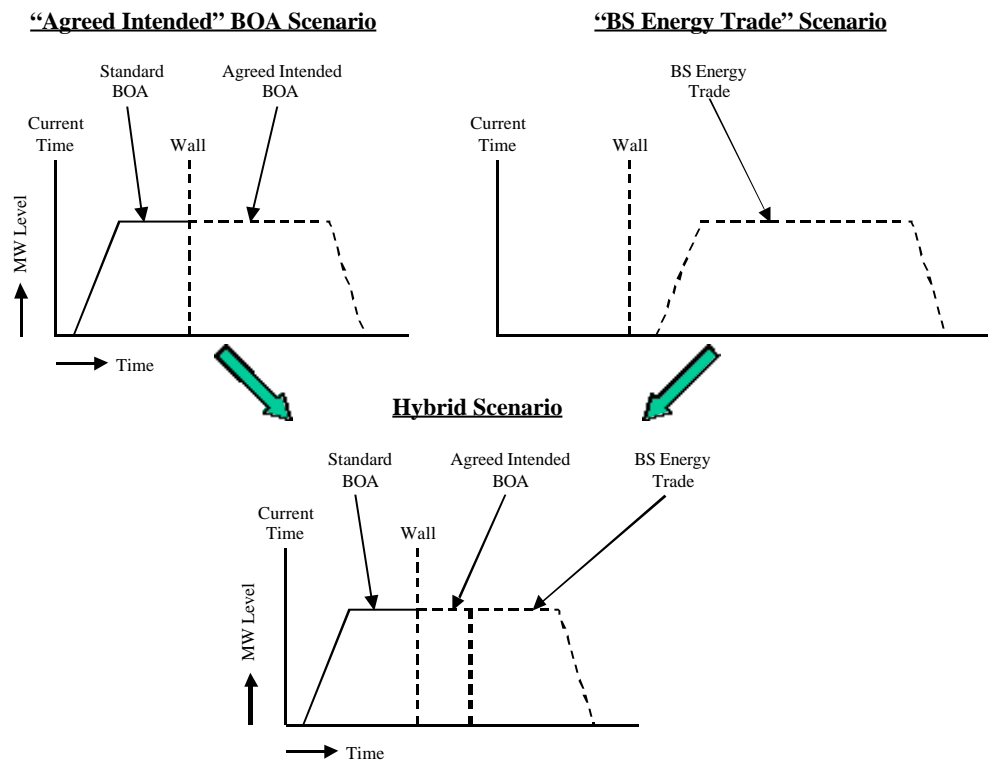
Whilst P59 represents a single mechanism to address BTW, the NGC solution proposes two different basic mechanisms, which can be combined to create a third. The three solutions are:

- 1) this is related to BTW and has been referred to as **"Agreed Intended"**. This is where the System Operator would agree to issue additional BOA for those parts of the overall instruction that are initially outside the Balancing Mechanism window as long as the Party did not change their indicated position, i.e. as notified in their initial submissions. This mechanism would formalise the "Gentleman's Agreement";
- 2) this is related to 1HGC and addresses those situations where the instruction can be agreed sufficiently far in advance, such that the whole of the instruction would occur outside the current Balancing Mechanism Window. This has been referred to as a **"BS Energy Trade"** and from a BSC perspective would be seen as another System Operator trade in the forward market, and notified to the Balancing Market using BSAD;
- 3) this is a hybrid of the first two mechanisms, where there is not sufficient notice to issue the whole instruction as a "BS Energy Trade". For those periods where Gate Closure had already occurred, then a standard BOA is required. In addition it is likely that there would be insufficient notice to construct and notify the required forward trade for the period of time immediately following the last Gate Closure (and possibly the one following that). This additional energy, required for the period where it is not possible to arrange a forward trade, would need to be instructed using an "Agreed Intended" BOA, once the Balancing Mechanism Window had moved on. The combination of these

3 types of instruction has been referred to as a **“Hybrid Trade”** and again is only relevant within a 1HGC.

These three mechanisms are summarised in Figure 3.3 which shows three different approaches to instructing a plant to synchronise for a short period of time (i.e. for its minimum non-zero time). The figure uses the convention of solid lines to indicate issued BOA (post Gate Closure) and dotted lines to indicate intended BOA (pre Gate Closure), or trades.

Figure 3.3 – Proposed NGC mechanisms



The mechanism proposed by P59 is closest to the first of these i.e. “Agreed Intended”, and it is with this mechanism that a direct comparison is possible.

It should be recognised however that should P59 be approved, then it would become part of the BSC baseline and hence may need to work with other mechanisms NGC may use to address 1HGC.

3.3.1 Agreed Intended BOA

Both the “Agreed Intended” mechanism and P59 attempt to achieve the same underlying principle:

A minimal BOA (consistent with the BMU dynamics at that time) that is required to return the BMU to the predicted PN (as notified to the System Operator as IPN) using Bids/Offer prices known prior to the original acceptance being issued.

They differ in that NGC intended to use obligations in the Balancing Principles Statement to indicate that additional BOA will be issued, as long as the Party does not alter its PN, prices or dynamics to enable it to return to its physical position without incurring imbalance charges.

In contrast, the P59 solution (as proposed) suggests a series of changes to the algebra within section T that define how to calculate the cashflow figures and imbalance prices when an instruction extends BTW. This is achieved by rolling forward the latest firm data (i.e. from before the wall) to ensure no changes in the underlying data are possible.

In the case where the relevant data (i.e. FPN/IPN, Bid Offer Ladder and Dynamic Data) does not change between the periods covered by the instruction, then both mechanisms will deliver the same bid and offer cashflow figures and imbalance prices. They differ in how they cope with changes that occur BTW.

3.3.2 BS Energy Trade

The new "BS Energy Trade" is being designed to address the 1HGC and not BTW issue. There are a number of changes occurring within NGC in order to recognise such a trade, However, from the perspective of the BSC it would simply be another System Operator trade in the forward market and would require a bilateral contract to be notified through ECVAA, a re-submission of the PN profile, and inclusion of the costs and volumes within BSAD.

Knowledge of the "BS Energy Trade" should not be required to assess P59.

3.4 Materiality of Beyond The Wall

The majority of instructions are unaffected by BTW as they can be split into multiple BOA without being impacted by plant dynamics, it is when a plant needs to be synchronised or desynchronised that BTW and long plant dynamics begin to become significant.

At their Operational Forum on 12 December 2001, NGC presented data on the number of times that they have had to synchronise and desynchronise plant since Go-Live. This is summarised in Table 3.1.

Table 3.1 – Synchronise / De-Synchronise Instructions

Type	Number	Average Number Per Day	Percentage Per Day	Average Notice
Synchronise	74	0.3	0.06%	70 mins
De-synchronise	742	3.2	0.6%	12 mins

This information was presented to indicate the materiality in relation to 1HGC. It should be noted that in terms of a longer 3½ Hour Gate Closure the materiality is less. There are no figures available as to how many of these would have required an extension BOA within a 3½ Hour Gate Closure, or were subject to changes in the underlying data prior to Gate Closure. However, the materiality is believed to be low.

Any solution to BTW needs to be considered in terms of this underlying materiality.

4 MODIFICATION GROUP DISCUSSION

The Modification Group met on 22 January 2002 and discussed the background paper produced by ELEXON [RD/1] (This has been summarised in the previous section and Annex B).

Although an important aspect of the modification is the governance of handling BTW, the Group recognised this could not be progressed without a practical mechanism for handling instructions BTW. Hence all the initial work was concentrated on the detail of the proposed mechanism.

4.1 Consideration of whether BTW Actions are needed

Both the P59 and NGC mechanisms attempt to honour a plant's dynamics should an instruction need to extend BTW. The group discussed whether there was a need to make any change to the current arrangements for BTW, or whether it was appropriate to continue to leave it to market forces.

The majority view of the group was that the current arrangements would make certain parties reluctant to participate in the Balancing Mechanism, or for them to submit more extreme offer and bid prices to manage the risk of exposure to energy imbalance prices. It was therefore the majority view that some form of change would add more certainty and hence would promote competition in the Balancing Market.

4.2 Consideration of P59 (As Proposed)

4.2.1 Predicting Future Values

The initial consideration by the Group focused on the first scenarios in Annex B and in particular table B.1. An initial draft of this table originally labelled the P59 mechanism's handling of Scenario B as "Incorrectly interpreted as Scenario A".

This stimulated a lot of debate over how to value the interpretation P59 makes of data BTW. As stated in Annex B the problem is that, as the BSC does not recognise data BTW, there is no "correct" interpretation of such data under the BSC. This is highlighted by the processing of Scenario AB, where the same data would enter the BSC Systems as for Scenario B, and yet the natural interpretation of the business events are totally different.

The BSC Systems can only determine that the data has changed when compared to the data submitted for the previous Settlement Period. They cannot determine when that change occurred, i.e. whether it was known before the initial acceptance was issued.

Annex B shows it is even possible that for some scenarios (Figure B.4) there will be no indication that a change has occurred within the BSC Systems (or the BSC), although to both the System Operator and Party the change would have been obvious.

The Group then went on to consider the more complex scenarios in Annex B, these highlighted even more the problem of predicting future events when changes in PN and plant dynamics are considered.

The Group concluded that once data has changed (as viewed by the System Operator), it was not possible to reliably determine how the data should now be interpreted by the BSC.

There was a concern that with a formal set of algebraic rules they would need to be robust against all eventualities. However other factors, such as maintaining a good trading relationship and associated conditions within warming contracts etc would provide incentives for Parties not to make unnecessary changes.

4.2.2 Further Consideration of the P59 Automatic Mechanism

The Group also further considered the mechanics of issuing automatic BOA that are to be priced using data from the bid-offer ladder in previous Settlement Periods, or the dynamics in force at the time a previous instruction was issued.

This showed that when more complex scenarios are considered, i.e. when multiple automatic BOA are required (as could become more common in 1HGC), the mechanism has to ensure any subsequent automatic extensions are considered relative to the original BOA, and not simply the last BOA that times out. In addition the mechanism would need to define when (as soon or late as possible) an automatic extension should be issued and for how long (the shortest or longest time possible). This is further explained in Annex C.

4.2.3 Summary

After consideration of the issues involved in providing an automatic solution, the Modification Group reached the conclusions that:

- for the majority of valid scenarios there are likely to be no changes in data between Settlement Periods;
- the only reliable place to monitor such a change is within the System Operator's systems;
- trying to define what to do if there is a change, requires knowledge of the initial data held by the System Operator, and in many cases some additional business intelligence outside the physical data (case-by-case knowledge of every day situations);
- if the outcome of any decision on a particular set of data and events is going to reflect an approximation of the underlying business drivers, then the logic in Section T, the BSC Systems and the System Operator systems² will be complex.

The Group concluded that the additional complexity to determine how to formally interpret any changes in the underlying data, which at the time of the original BOA were BTW, was considerable. As a result the Group unanimously decided that an automatic solution to cope with changes in the data, as proposed by the original Modification Proposal, was not an appropriate vehicle and would not better meet the Applicable BSC Objectives, as it could not be considered to be efficient. This decision led the Group to decide that an alternative, less complex, solution should be considered

4.3 Consideration of a Potential Alternative Modification

The Group then went on to consider whether it was possible to "codify" the principles behind the modification in the early parts of Section Q (Balancing Mechanism Activities) of the BSC. This would ensure that the System Operator honoured plant dynamics when there

² If automatic instructions are to be generated and sent to the appropriate BMU, these will have to be prepared by the System Operator. This also means a great deal of the important logic will be outside the BSC and BSC Systems.

was no material change to the data, and avoided the issue of having to produce formal algebra in Section T that was able to cope with all the potential variations in final data.

Although the effect of this approach could be seen as the same as the proposed NGC change to the Balancing Principles Statement, the Modification Group felt there was merit in placing the obligation in the BSC, in that:

- there is a material risk to Settlement for a Party, by being left out of balance due to balancing actions taken by the System Operator;
- it was more transparent to have the obligation within the BSC;
- the BSC Modification process ensures that any further changes would better facilitate the achievement of the Applicable BSC Objectives;
- the process for disputing a BOA is clearer within the BSC, and would allow Settlement data to be amended if necessary.

The Modification Group did not determine the precise change that would be required and recognised this would need to be done in a consistent manner with the existing Section Q. However the approach is as follows:

- if at time (t) the Transmission Company issues an acceptance that leaves a BM Unit at a level other than the FPN value for the last spot time within the Balancing Mechanism window in force at time (t), then the Transmission Company is obliged to issue additional acceptance(s), consistent with the plant dynamics in force at time (t), to return the plant back to the IPN profile³ known to the Transmission Company at time (t);
- Unless, after time (t), the Party notifies any change⁴ to the BM Unit data⁵ that (in the reasonable opinion of the Transmission Company) increases the cost⁶, with respect to that BM Unit, of issuing such acceptance(s);
- If there is a case where a change does increase the cost, then the obligation ends with the Settlement Period where the effect of such an increase is first experienced⁷.

It would be possible to state that any change in any data is sufficient to signify there had been an unacceptable change, and that the System Operator should not be obliged to issue extensions to the original BOA. However the Modification Group did not feel that it was appropriate to place such a blanket limitation and that only changes that had an adverse affect should be seen as a reason for the System Operator not to extend a BOA.

The Modification Group were unclear as to whether such an obligation could be placed within Section Q and recognised this was a legal issue which would need to be pursued by

³ This effectively requires the System Operator to maintain a record of the IPN profile and dynamics in force at time (t).

⁴ It must be noted that within the BSC (or BSC Systems) it is not always possible to see that a change has occurred, and the only logical place to monitor for a change is by the System Operator and in relation to the initial data held by the System Operator.

⁵ the relevant data consists of that which is fixed at each Gate Closure (Final physical notifications, Quiescent Physical Notifications and Bid Offer data) and that data which can change at any time (Dynamic Data, Maximum Export Limits and Maximum Import Limits)

⁶ This test would need to be quite tightly defined to ensure the cashflow payment to the BMU was equal to, or less than, that which would have occurred should the change not have been made. This check can only be made by the System Operator and should consider each individual Settlement Period, to avoid questions about trading an increase in one period for a decrease in another.

⁷ A consequence of this condition is that it reduces any incentive to wait until the end of the original BOA, in case there is a change to data (See the end of Annex C and the discussion of when to issue a BOA and for how long).

ELEXON. However, given the perceived advantages described for the governance, the Group thought it appropriate to consider this as a potential Alternative Modification.

ANNEX A – P59 CONSULTATION QUESTIONS

Respondent:		
Representing (please list all parties):		
Question		Response
Q1	Do you believe that a Party should be left at the end of the Balancing Mechanism window facing the risk of imbalance, due to dynamic parameters which stop them immediately returning to their notified FPN?	Yes/No
Rationale:		
Q2	Do you agree with the Modification Group that an automatic solution to accommodate changes in the data, as proposed by the original modification proposal, is not an appropriate solution and would not better meet the Applicable BSC Objectives, as it could not be considered to be efficient (See Section 4.2.3)?	Yes/No
Rationale:		
Q3	<p>Do you believe that the Transmission Company should be obliged honour dynamics BTW when:</p> <p>a) There are no changes to any of the submitted data items for that BMU</p> <p>b) There are no changes to any of the submitted data items for that BMU that have a material impact on the cashflow payments</p> <p>c) The change results in a decrease in the cashflow payment to the BMU</p> <p>d) The change results in an increase in the cashflow payment to the BMU</p> <p>(in all cases a change is taken to mean a change in the data available to Transmission Company after the initial BOA was issued)</p>	<p>Yes/No</p> <p>Yes/No</p> <p>Yes/No</p> <p>Yes/No</p>
Rationale:		
Q4	Do you believe it is appropriate to place such an obligation on the Transmission Company?	Yes/No
Rationale:		

Q5	Do you believe it is appropriate to place such an obligation on the Transmission Company within the BSC?	Yes/No
Rationale:		
Q6	What benefits would such an obligation within the BSC achieve?	
Please outline your views:		
Q7	Do you believe the potential Alternative Modification, as described in section 4.3, is capable of meeting the Applicable BSC Objectives?	Yes/No
Rationale:		
Do you have any further comments on Modification Proposal P59?		

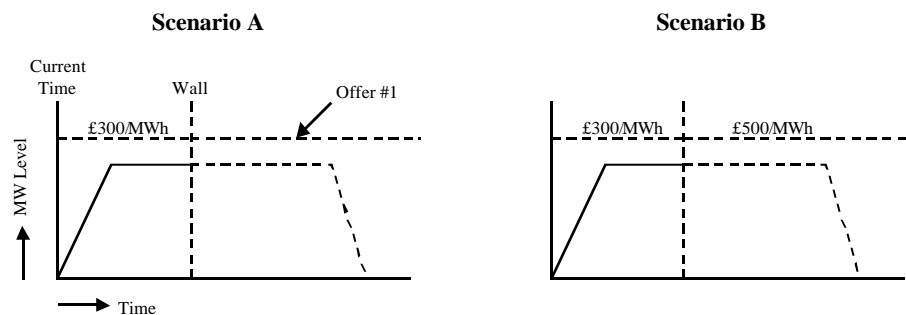
ANNEX B - PREDICTING INITIAL DATA BTW

In addition to the data submitted to the BSC Systems (i.e. after Gate Closure), the System Operator also has initial data submitted from each BMU, that indicates their intentions for their Gate Closure data. This is used for planning purposes by the System Operator, however, it is neither recognised by the BSC, nor available to the BSC Systems. Although the System Operator can use these initial values for planning, the Party is entitled to change any until the point of Gate Closure⁸.

The System Operator will instruct plant based on information within this initial data and the main problem faced by P59 is predicting what will happen to that initial data before it becomes final at Gate Closure, and why. This is illustrated in figure B.1, which shows two scenarios:

- Scenario A shows an instruction being planned where the PN and Bid/Offer ladder is constant throughout the sample period (i.e. before and after the wall)
- Scenario B shows an instruction being planned where the prices in the Bid/Offer ladder are already known to change shortly after the time of the current Gate Closure. It is assumed that this change is visible in the initial data, and hence was factored into the System Operator's decision to bring the plant on-line, and also the Parties expectation as to the cashflow they would receive.

Figure B.1 - Simple Scenarios – Initial Data Does Not Change



For each of scenarios Table B.1 shows how it is anticipated that the two different mechanisms would interpret the data when finally attempting to price the instruction.

Table B.1 – Interpretation of the Simple Scenarios

Scenario	NGC Mechanism	P59 Auto Mechanism
A	Priced as Scenario A	Priced as Scenario A
B	Priced as Scenario B	Priced as Scenario A

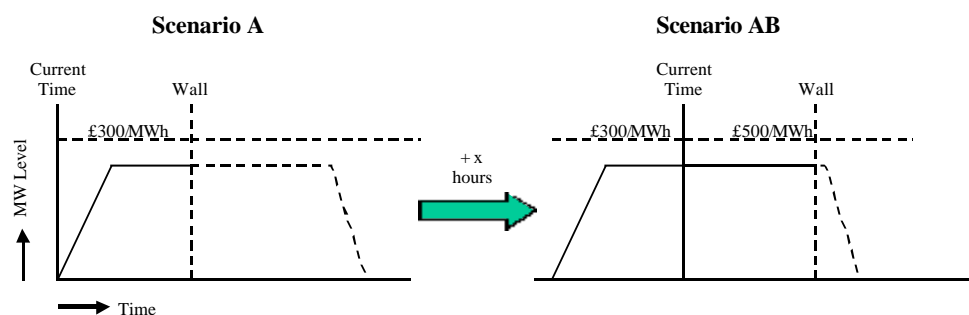
As the table shows, the automatic P59 mechanism would interpret Scenario B by processing the data as if it were for Scenario A, i.e. it would not take account of the price change. This occurs because the P59 automatic mechanism would roll forward the Bid-Offer ladder from the period preceding the wall, into the periods BTW.

⁸ Some figures, such as MEL, can also be changed post Gate Closure.

From the perspective of the System Operator and the Party for this precise scenario, this would be considered an incorrect interpretation. However, as the BSC has no concept (or record) of the initial data, in terms of the BSC such results cannot be identified.

The converse is illustrated in figure B.2, where a different series of events can lead to the same outcome, but with a different interpretation. In this scenario it is assumed that the data held by the System Operator originally indicates that Scenario A is to be expected, however after the first BOA is issued the Party changes the data to represent that included for Scenario B. This is referred to as Scenario AB and the representation of the second scenario has been changed to show that the Balancing Mechanism window has also moved forward.

Figure B.2 – Changes in Initial Data Prior to Gate Closure



In this case the data that would eventually enter the BSC Systems would still be the same as for Scenario B. However, these events would suggest that Scenario A would be the more appropriate interpretation, as the change occurred after the original BOA was issued.

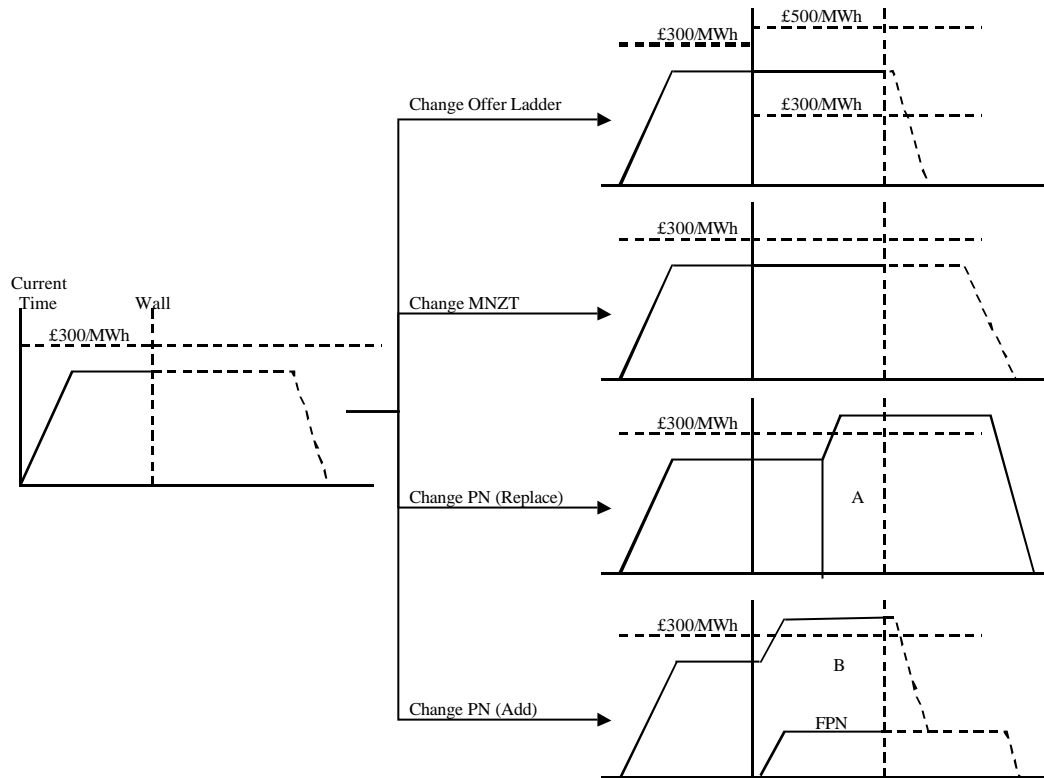
In the case of the NGC mechanism / Scenario AB, the obligations within the Balancing Principles Statement would include conditions to cover changes to the Bid/Offer ladder, and that would allow the System Operator not to issue an extension BOA.

It should also be recognised that other factors may mean this change in data was simply a case of bad timing (i.e. instructions crossing), or that to maintain system security the System Operator is forced to take the continuation BOA at the higher cost. Whatever the reasons, if the System Operator does issue the acceptance, then the data that initially enters the BSC Systems would indicate the offer should be processed at £500/MWh.

These scenarios indicate the underlying issue in trying to predict the future of instructions BTW and how the mechanism should interpret changes⁹. Figure B.3 shows the problem is not limited to price changes in the Bid-Offer ladder and illustrates some of the different changes that can occur to data contained within a Party's initial data.

⁹ It is important to note that from the BSC perspective a change only occurs relative to a previous Settlement Period. It cannot recognise any change that may have occurred between the Party and the System Operator within the initial data.

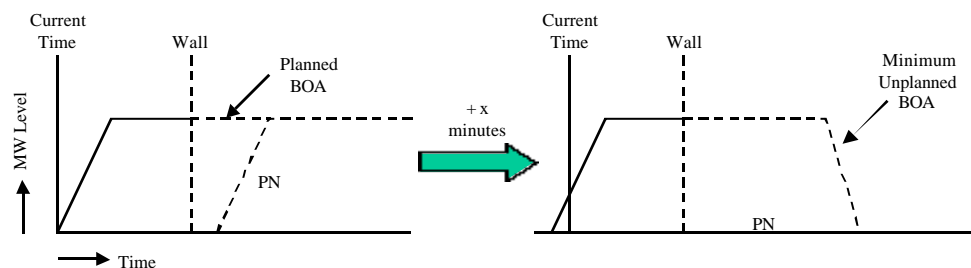
Figure B.3 – Future Changes Prior To Gate Closure



These give some examples of the wide range of scenarios that can be created once you start to accommodate changes that can occur beyond the wall.

The last point to note is that for some scenarios it is even possible that there would be no indication that a change has occurred within the BSC Systems (or the BSC), although such a change would be obvious to both the System Operator and Party. This is illustrated in figure B.4.

Figure B.4 – No Visible Change Within BSC Data



In figure B.4 it is assumed that the initial data originally indicates the BMU intends to come online shortly after the current wall. On this basis the System Operator issues a BOA to bring the plant online slightly earlier, with the intention of issuing a small extension to join onto the predicted PN. However shortly after the instruction is issued, and before the next Gate Closure, the BMU changes its PN data to indicate it does not intend to come online at all. In this case the data which eventually enters the BSC Systems will show a constant

zero FPN, suggesting no change has ever occurred, although from the perspective of the Party, and the System Operator, this is obviously not the case.

This Annex does not try to judge which of these should be considered legitimate. However, it should be recognised that it is possible for an “incorrect” interpretation of the data to enter the BSC Systems and hence rules should be in place to deal with this (for instance Manifest Error).

How each mechanism will deal with these scenarios will depend on the sophistication of the eventual solution, or in the case of the NGC mechanism, the new obligations in the Balancing Principles Statement. The important part is ensuring the chosen solution represents a good balance between not allowing the Party to dictate post-event conditions to the System Operator, and also not restricting the ability to make short-term trades once the Party have agreed such an instruction with the System Operator.

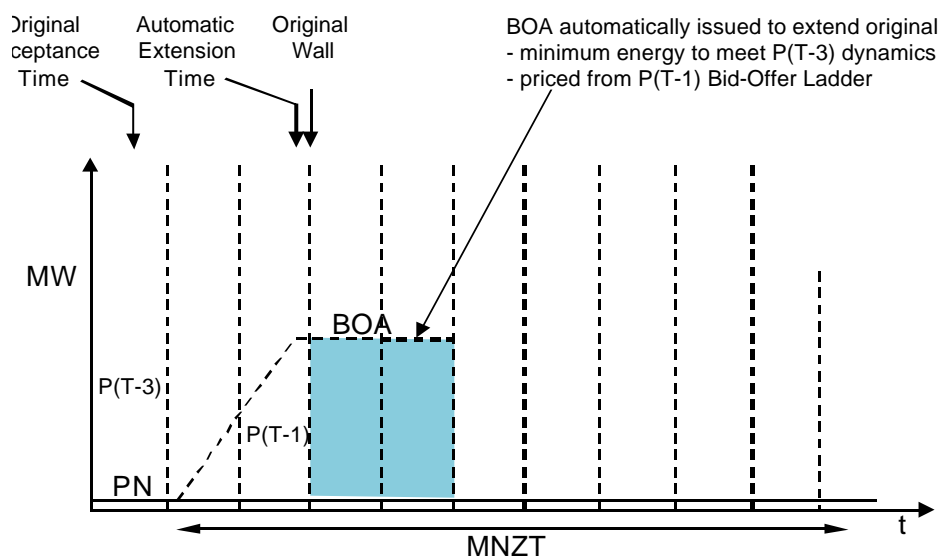
This balance should also recognise the materiality of the underlying problem and take into account the frequency of such instructions and late changes in the initial data.

ANNEX C - FURTHER CONSIDERATION OF P59 AUTOMATIC MECHANISM

Section 3.1 provided an introduction to the P59 mechanism and how an automatic BOA could be issued to return the BMU to its predicted PN. This Annex examines the mechanism in more detail.

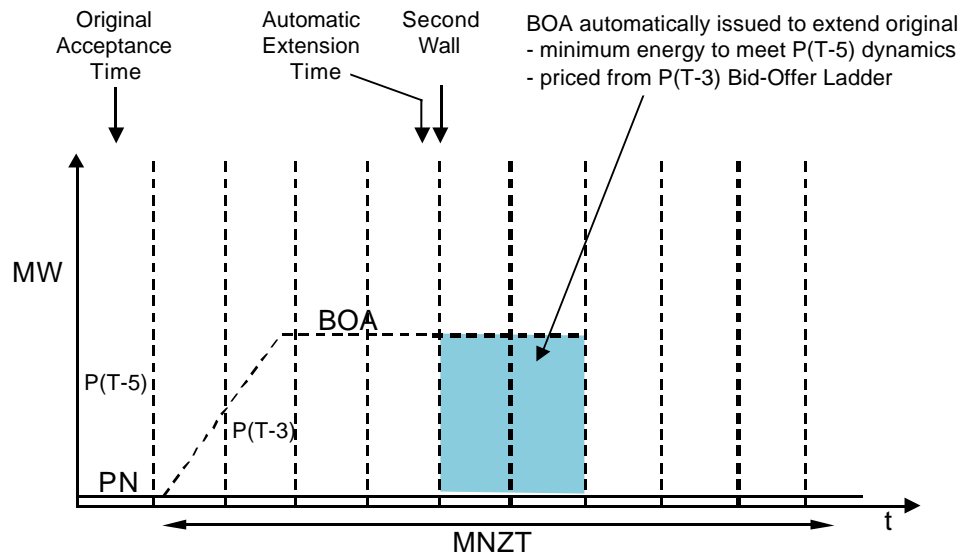
The figures in this section are the equivalent of Figure 3.2, except they are operating in a 1HGC. This has been done for both simplicity and also to highlight how the mechanism needs to be robust where the total instruction is effectively longer than twice the Balancing Mechanism Window.

Figure C.1 – First Automatic BOA in 1HGC



According to the rules this first automatic extension (Figure C.1) would need to be costed at the prices applicable for the last Settlement Period prior to the end of the Balancing Mechanism window, i.e. P(T-1). As this first automatic extension does not take the BMU back to its expected PN a second automatic BOA is required, when the Balancing Mechanism window moves on far enough for a second timeout to occur, as shown in figure C.2

Figure C.2 – Second Automatic BOA in 1HGC



This second automatic extension must be valued at the same prices as the original extension, which has to now become P(T-3). As the figure shows the second automatic extension still does not return the BMU to their PN and further extensions will be required.

The problem this highlights is that any subsequent automatic extensions must be relative to the data for the original BOA, and not simply the last BOA which has timed out.

Consideration of the above issue also led the Group to consider when (as soon or late as possible) an automatic extension should be issued and for how long (the shortest or longest time possible), there are three possible options:

- 1) the automatic timeout should occur [2] minutes before the end of BOA and the subsequent BOA should be for the full length of the remaining Balancing Mechanism window;
- 2) the automatic timeout should occur [2] minutes before the end of the BOA and the subsequent BOA should be for the duration of the next Settlement Period (i.e. 30 minutes);
- 3) the automatic timeout should occur every time the Balancing Mechanism window moves, and the subsequent BOA should be for the next Settlement Period (i.e. 30 minutes).

The original description by the proposer was for option (1) and this is the approach described within this document. One feature is that with the current 3½ Hour Gate Closure it would allow two related BOA to span a period of over 7 hours. The second approach would split this second BOA into many 30 minute extensions, meaning the same 7 hour+ period would require 8 BOA. The third approach would still use 8 BOA, however the extensions would be issued with the full 3½ Hour lead time giving Parties more certainty and increased visibility. There is also an argument that option (3) is the natural continuation of option (2), because in option (2) the extension BOA are not to the end of a Balancing Mechanism Window.

The Group did not determine which was the most appropriate approach, however, it was clear that these issues add further complexity to the data model and storage requirements for the System Operator and BSC Systems.