July 2002

DEFINITION REPORT

MODIFICATION PROPOSAL P80 – Deemed Bid-Offer Acceptance for Transmission System Faults

Prepared by the P80 Modification Group on behalf of the Balancing and Settlement Code Panel

Document Reference	P080DR
Version no.	1.0
Issue	Final
Date of Issue	12 July 2002
Reason for Issue	Panel Decision
Author	ELEXON

I DOCUMENT CONTROL

a Authorities

Version	Date	Author	Signature	Change Reference
0.1	03/07/02	Change Delivery		
0.2	08/07/02	Change Delivery		
1.0	12/07/02	Change Delivery		

Version	Date	Reviewer	Signature	Responsibility
0.1	03/07/02	Modification Group		
0.2	08/07/02	Modification Group		
1.0	12/07/02	Change Delivery		

b Distribution

Name	Organisation
BSC Panel	

c Related Documents

Reference	Document
Reference 1	Initial Written Assessment of Modification Proposal P80 (P080IB)
Reference 2	Modification Proposal P80 - First Consultation (P080DC)

d Intellectual Property Rights and Copyright

II CONTENTS TABLE

1 SUMMARY AND RECOMMENDATIONS

Modification Proposal P80 was raised by British Energy on 01 May 2002. This proposal aims to oblige the Transmission Company to issue a deemed Bid-Offer Acceptance when a BM Unit is forced to deviate from its Final Physical Notification (FPN) due to faults on the Transmission System outside its control.

At their meeting of 16 May 2002, the Panel determined that further definition of the issues encompassed by the Modification Proposal P80 was required. Furthermore, the Panel determined that the Definition Procedure[1] should be undertaken by the P80 Modification Group (P80MG) and that a Definition Report should be prepared and submitted to the Panel meeting of 18 July 2002 outlining the issues raised by the Modification Proposal.

The P80MG met to discuss Modification Proposal P80 on 27 May 2002 and a consultation document was produced by the P80MG [Reference 2]. The aim of the consultation was to find out the views of the industry on the issues raised by the P80MG with respect to the definition and scope of Transmission System faults.

The Definition Procedure consultation was issued on 13 June 2002 with responses due back by close of business 27 June 2002. The responses from the consultation are presented in Annex A of this report and a summary is included in Section 7.

On 04 July 2002, the P80MG met to review and discuss the P80 Consultation responses and to finalise the Definition Report for Modification Proposal P80.

The P80MG considered the issues identified in the Initial Written Assessment (IWA), along with the responses from the consultation. P80MG agreed that the following issues need to be addressed in the Assessment Procedure:

- the majority of respondents believed a Party that is forced to deviate from FPN due to a "system fault" is likely to be commercially disadvantaged as a result of any actions it takes to rectify its commercial position. The Party should be compensated for the full period of the forced deviation;
- the following basic definition of a system fault will form the basis for subsequent Assessment:

  "Non-availability of the Transmission System which brings about a forced deviation from FPN as amended by previous Bid-Offer Acceptances, not due to any action that is already covered by the issuing of Bid-Offer Acceptances."
- trips resulting from severe frequency excursions were determined to be out of scope as such widespread events would be covered by other provisions in the BSC and elsewhere;
- there is an issue with respect to how to compensate "beyond the wall". The issue cannot be avoided because an incomplete overall solution may lead to overcompensating within the Balancing Mechanism Window Period (BMWP). Accordingly P80MG noted that complementary changes outside the BSC may be required;

[1] Pursuant to Section F2.5 of the Balancing and Settlement Code

- there is an existing issue relating to the interaction with the Grid Code requirement for Physical Notifications to "represent the User's best estimate of expected input or output of Active Power" (Grid Code BC1.4.2). The issue of how this is interpreted already exists for the handling of constraints using Bids and Offers and this issue will be covered further in the Assessment Procedure;
- the Supplier Volume Allocation (SVA) mechanism makes it hard to determine the impact of a transmission fault on individual metering systems and hence Suppliers within SVA. This makes it difficult to apportion "fault volumes" between them and will require further assessment during the Assessment Procedure;
- there is concern that using Bid Prices as the basis for compensation could lead to over compensation with the BMWP and volatility in the Energy Imbalance Prices and imbalance charges;
- compensation paid by the Transmission Company for "system faults" should be recovered through Balancing Services Use of System (BSUoS) charges, and P80 should attempt to minimise the impact on all participants;
- only BM Units paying Transmission Network Use of System (TNUoS) charges should be eligible to receive compensation, but issues exist concerning division of responsibility for the forced deviation between the Transmission Company and the relevant distribution company in relation to embedded generators. There is a concern about how embedded BM Units are included in P80 and further assessment on embedded generation is required;
- The Transmission Company have stated that they would be able to form a view whether a "system fault" had occurred within 1 Working Day following their suggested definition for "system fault" which applies solely to the Transmission Company's equipment; and
- the P80MG noted that there is a low level of occurrence of "system faults".

On the basis of the analysis, consultation and assessment undertaken in respect of this Modification Proposal during the Definition Procedure, and the resultant findings of this report, the P80MG recommends that the BSC Panel should:

a) ENDORSE the recommendation of the P80 Modification Group and proceed to the Assessment Procedure in accordance with Section F2.6 of the Code;

b) AGREE the Assessment Procedure timetable such that an Assessment Report should be completed and submitted to the Panel meeting on 17 October 2002; and

c) AGREE any refinement to the Modification Group Terms of Reference.

2 INTRODUCTION

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

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

3 MODIFICATION GROUP DETAILS

This Definition Report has been prepared by the P80 Modification Group (P80MG). The Membership of the P80MG was as follows:

Name	Organisation	Relation	Mtg 27/05	Mtg 04/07
Chris Rowell	ELEXON	Member	✓	✓
Helen Bray	ELEXON	Member	✓	✓
Gwilym Rowlands	ELEXON	Member	✓	✓
Neil Cohen	ELEXON	Member	✓	✓
Gareth Mills	Magnox	Member	✓	✖
Richard Lavender	National Grid	Member	✓	✓
Rupert Judson	LE Group	Member	✓	✖
Tom Cassells	Scottish Power	Member	✓	✓
Danielle Lane	British Gas Trading	Member	✓	✓
Martin Mate	British Energy	Member	✓	✓
Cathy McClay	Edison Mission	Member	✓	✓
Paul Jones	Powergen	Member	✓	✓
Rob Hetherington	LE Group	Attendee	✖	✓
Kristian Myhre	Ofgem	Attendee	✓	✓
Tony Polack	Ofgem	Attendee	✓	✓

4 DESCRIPTION OF MODIFICATION PROPOSAL P80

4.1 Modification Proposal P80

Modification Proposal P80 was raised by British Energy Power & Energy Trading Ltd on 01 May 2002. This proposal aims to obligate the Transmission Company to issue a deemed Bid-Offer Acceptance when a BM Unit is forced to deviate from its Final Physical Notification due to faults on the Transmission System outside its control. "System faults" could lead to a participant being left out of balance and exposed to energy imbalance prices by preventing a BM Unit from exporting or importing notified contracted energy.

BSC Section Q5.1.5 details the current process for dealing with intertrips[2], and the Modification proposes that BSC Section Q5 could be redrafted to include all other "system faults". All other relevant paragraphs from the BSC, Grid Code and Balancing Principles Statement are included in Annex B.

The justification for Modification Proposal P80 is that without an obligation on the Transmission Company to issue a Bid-Offer Acceptance when a "system fault" affects the imports or exports of a BM Unit, there is a material risk of being left out of balance. Removal of this risk would remove an unmanageable risk from participants and also expose the Transmission Company to the economic consequences of Transmission System failures.

ELEXON prepared an Initial Written Assessment (IWA) for P80 (Reference 1), which was presented to the Panel on 16 May 2002. This requested that the Modification Proposal be submitted to a two-month Definition Procedure.

The Panel stated that the Definition Procedure should be limited to the definition and scope of a Transmission System fault and that there should be no discussion of any governance issues.

[2] Intertripping - is defined in the Grid Code as '(a) the tripping of circuit-breaker(s) by commands initiated from Protection at a remote location independent of the state of the local Protection; or (b) Operational Intertripping.

5 ISSUES RAISED BY THE PROPOSED MODIFICATION

P80 was submitted to a two-month Definition Procedure to enable the consideration of a number of issues in relation to the scope and definition of Transmission System fault. P80 must be assessed against the Applicable BSC Objectives within the Terms of Reference, independent of any other Modification Proposal, or initiatives outside the governance of the BSC.

The Panel agreed to the Terms of Reference, and the Definition Procedure should consider and attempt to define an agreed approach for the criteria determining;

- Modification Proposal P80 only includes consideration of Transmission System faults and does not extend to faults within Distribution Systems;
- What constitutes a "system fault";
- The duration of compensation for a "system fault";
- What is the level (MW) of production/consumption loss due to "system faults" based on, for example, initial Physical Notification, Final Physical Notification or contract level?;
- The interaction with the Grid Code requirement for Physical Notifications to “represent the User’s best estimate of expected input or output of Active Power” (Grid Code BC1.4.2);
- The extent that the metering system can identify the impact on SVA BM Units (Current GSP Groups each act as local “risk-sharing” arrangement);
- The price (£/MWh) of compensation for a "system fault" during the Balancing Mechanism Window Period and beyond the "wall";
- The potential impact of widespread disruption to the Transmission System on BSUoS charges and imbalance prices;
- Who are the potential beneficiaries: Generators, Suppliers, embedded Generators?; and
- The acceptable timescale for notifying a "system fault" and then subsequently determining/taking any necessary actions.

6 P80 MODIFICATION GROUP (P80MG) DISCUSSION 27 MAY 2002

This Modification contains a number of complex issues. Whilst the underlying principle may be simple (i.e. a "system fault" may lead to compensation), it is necessary to ensure that the mechanics of such a process are feasible and do deliver on this principle. In this case there are a number of factors to be balanced, and interactions between these factors. At this stage the P80MG have identified the factors and some of the interactions.

6.1 What constitutes a "system fault"?

The Transmission Company's representative proposed a physical definition that related to de-energised busbars at the point of connection to the Transmission System. However, a more generic definition relating to the non-availability of the Transmission System was considered to be more appropriate. Non-availability would not necessarily mean wholesale disruption in generation or supply.

The definition of a fault should not include intertrips, system constraints and Black Start, as there are already processes to compensate in these different circumstances. It was also discussed whether the wording 'instantaneous' or 'post-fault action' should be included in the definition, but P80MG regarded the definition below to be a good starting point.

> "Non-availability of the Transmission System which brings about a forced deviation from FPN, as amended by previous Bid-Offer Acceptances, not due to system constraints, intertrips or Black Start".

P80MG accepted this definition may need to be refined and expanded to make it more precise.

The initial view of the Modification Group is that deviations from Physical Notification (PN) caused by BM Unit protection being more sensitive to system conditions than the system protection itself should be excluded.

6.2 The duration of compensation for a "system fault"

The P80 proposal suggests that a deemed Bid-Offer acceptance constituting compensation should “reflect the forced deviation, for as long as the situation continues”. A transmission fault may physically last from fractions of a second to many hours or days, and may be intermittent or continuous. Upon restoration of the transmission system, the dynamics of a BM Unit may restrict its ability to return immediately to its PN level. These issues will need to be considered as part of the assessment process.

Compensation could be achieved by obliging the Transmission Company to issue a single deemed Acceptance up to the "wall" which covers areas (a) and (b) in the example shown in Figure 1. The areas (c) and (d) could then be covered by the normal constraint management process contained within the BPS.

The Proposer suggested that the BPS would imply compensation “beyond the wall" because Acceptances would be issued such that they would honour a BM Unit's Dynamics. For example, if the BM Unit had been disconnected and had a Notice to Deviate from Zero, that notice and the subsequent time to ramp up to the previously submitted PN should be taken into account under the BPS and result in appropriate Bid Acceptances being issued.

However, caution was expressed over whether the BPS principles for Accepted Bids and Offers could be extended to encompass deemed Acceptances. The Transmission Company has reported that in principle the BPS could be used to compensate for "system faults" beyond the wall (see section 7.2), however, it was not drafted with this in mind and may need to be reviewed. However, if P80 were to be limited to the Balancing Mechanism then the "wall" is immaterial.

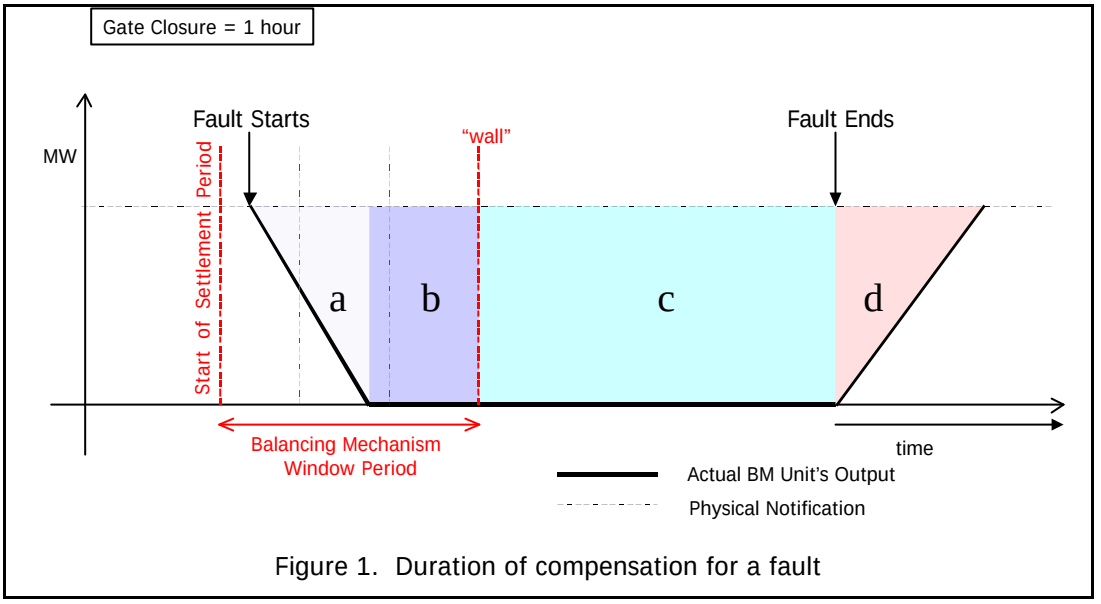

Figure 1. Duration of compensation for a fault

Another issue to be considered in assessment of appropriate compensation for transmission faults is the difference between the true dynamic parameters of a BM Unit and those allowed by the electronic systems used by the System Operator. For example, software systems limit 'minimum zero time' to 999 minutes, whereas true values may be considerably longer.

6.3 What is the level (MW) of production/consumption loss due to "system faults"

P80 states that deviation from Final Physical Notification (FPN) as amended by previous Bid-Offer Acceptances should be the level to compensate against. However, FPN is only the PN applying to the end of the latest Gate Closure period, and initial Physical Notifications (iPN) are only submitted for the day ahead. The process for P80 would need to ensure that for long running faults the FPN represented the level at which the BM Unit had "expected" to be exporting or importing at. This was very similar to the arguments made during the assessment of P59 'The Acceptance of Bids and Offers to Honour a BM Unit's Dynamic Parameters beyond the Balancing Mechanism Window', as it was not possible within existing BSC Systems to reliably determine what a BM Unit's intentions were for Settlement Periods following the current Gate Closure.

The definition of Physical Notification under the Grid Code BC1.4.2 "represent the User's best estimate of expected input or output of Active Power" (Grid Code BC1.4.2). In order for a BM Unit to receive compensation such that the Transmission Company can issue an Acceptance against it, the BM Unit's FPN would be taken to be the original physical position

prior to a fault and not the real position after the fault. This process is currently unclear as to whether a BM Unit is obligated to resubmit their FPN to reflect their forced deviation beyond the wall, and a similar issue already affects the handling of constraints.

6.4 The extent that the metering system can identify the impact on SVA BM Units

It would be difficult to determine which Suppliers in a GSP Group were affected by a fault, as the loss of demand would eventually be spread across all the Suppliers in the affected GSP Group. P80MG suggested that the Transmission Company could issue deemed Acceptances to all Suppliers affected in a specific GSP Group, if a fault had occurred on the Transmission System.

Any acceptances generated by this process would need to be agreed and in all likelihood would not occur until after the Settlement Period had finished and indicative imbalance prices published. It is reasonable to believe that such agreement may itself take some days. Supplier Volume Allocation data upon which any apportionment of deemed acceptance volumes could be made does not become available until shortly before the Initial Settlement (SF) run, and compensation for Suppliers may not be practical until a subsequent reconciliation run.

6.5 The price (£/MWh) of compensation for a "system fault" during the Balancing Mechanism Window Period and beyond the "wall"

The Modification Proposal states that compensation should be at submitted Bid and Offer Prices in the same manner as for intertrips in BSC Section Q5.1.5[3]. This could cause some high payouts for extreme Bid/Offer prices, which would not normally be accepted by the Transmission Company. It can be argued that a Bid-Offer Price only becomes a market price once it has been voluntarily accepted in a competitive market.

At the moment some Parties present extreme Bid-Offer prices from time to time. P80MG noted that in many cases these prices do not represent the cost to deviate from FPN but an indication that the BM Unit does not want to deviate from FPN at any price, for instance a generator whilst ramping their output (Figure 2).

In some cases the generators are submitting very extreme priced bid prices up to -£ 99,999 per MWh, which show quite strongly that they do not wish to deviate from submitted FPN.

The P80MG noted that the use of BM Unit dynamics such as Maximum Export Limit (MEL) could be used to restrict unwanted or prevent BM Unit Acceptances, but these are more complicated to submit.

[3] BSC Section Q5.1.5 is the subject of P87, which attempts to limit the potential for "windfall gains".

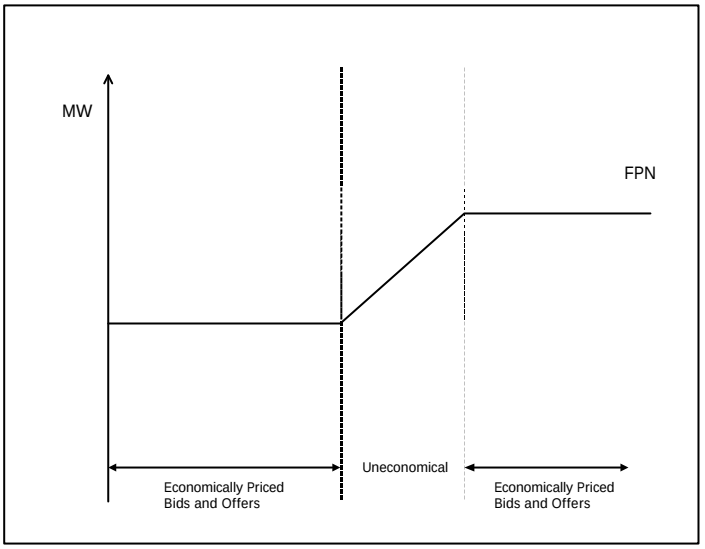

Figure 2. Bid and Offer Prices for a Generating BM Unit

Table 1. Percentage (%) of Settlement Periods over 12 days for two BM Units (17 February 2002 - 28 February 2002) with certain Bid-Offer Prices

	Bid Price per MWh			No. of changes between price categories
Plant Type	> £0	-£9,999	-£99,999	
COAL	3%	74%	23%	18
CCGT	78%	0%	22%	5

Table 1 shows Bid pricing for two BM Units over a 12-day period,. It can be seen that for both examples[4] just under one-quarter of Settlement Periods have a Bid Price of -£99,999 per MWh, which could result in large multi-million £ payouts from the Transmission Company. This data also shows that the number of changes between price categories is significant for both examples.

The P80MG agreed that "system faults" and the actions taken by the Transmission Company will in most cases, and in the absence of system constraints, represent system balancing actions. Furthermore, the Assessment Procedure will need to examine how, and to what extent, the various costs pass through to the Energy Imbalance Prices.

When such extreme Bid and Offer prices could be involved the natural reaction is that these Bid-Offer Acceptances should not be used in the calculation of Energy Imbalance Prices. However, in the case of disconnection of a large generator, for example, there would probably be a number of Offers accepted to replace automatic frequency response after the initial event. Therefore, the Offer stack would be affected as well as the Bid stack. However, it is hard to identify the Offers and this is the purpose of Automatic Trade Tagging (ATT). Deemed Acceptances due to faults may need to be included in the

[4] The plant type has been included for information and is not meant to represent any feature of that plant type.

imbalance price calculations such that normal trade tagging could take place and might remove some or all of these Accepted Bids and Offers due to a "system fault".

It has been suggested that an appropriate Balancing Services Agreement may be able to cancel the effect of extremely priced Bids and Offers in the Balancing Mechanism Energy Imbalance Prices. However, there would be a delay before the properly “adjusted” price became available if the Bid-Offer Acceptance was input to systems before the Balancing Services Adjustment Data (BSAD).

This issue forms the basis of the Assessment Procedure for P87 and the outcome of that procedure is therefore germane to this Modification Proposal.

6.6 The potential impact of widespread disruption to the Transmission System on BSUoS charges and imbalance prices.

The Transmission Company stated that only 526 MWh was lost to faults in 2000-2001 out of an approximate total of 300 TWh produced that year (Report to the Director of the Office of Gas & Electricity 2000-2001).

P80MG noted that compensation for faults through deemed Acceptances would be carried through in to BSUoS and high compensation prices could produce high BSUoS prices. P80 is effectively an insurance process and hence needs to consider freak events, i.e. just short of a Black Start.

Widespread disruption of the transmission system is considered to be covered under the Contingency Provisions referenced in Section G of the BSC (i.e. Black Start), which may effectively implement administered prices or suspend the Balancing Mechanism altogether.

P80MG agreed that the cost of compensation could be recovered through increased BSUoS charges.

P80MG expressed concern that longer-term "system faults" may enable a BM Unit to fix their Bid/Offer prices. However, in the first instance the P80MG considered that normal Bid and Offer pricing should prevail (i.e effectively rolling forward to those that applied when the fault occurred), along with regulatory oversight of any abuse.

6.7 Who are the potential beneficiaries?

The initial view of the P80MG is that Parties which do not have a Connection Agreement with the Transmission Company and are not paying TNUoS should probably not be entitled to receive compensation for Transmission System faults. Furthermore, as the method of compensation involves a deemed Acceptance, if a BM Unit has not submitted any Bids or Offers in the Balancing Mechanism then they cannot be compensated for the loss of access. Therefore to qualify for compensation the BM Unit must:

a) be connected directly to the Transmission System; and/or

b) be paying TNUoS or being paid in the case of a negative TNUoS Charges; and

c) be participating in the Balancing Mechanism when the "system fault" occurs.

6.8 The acceptable timescale for notifying a "system fault" and then subsequently determining/taking any necessary actions.

An amount of time is required to determine whether a fault notified by a BM Unit is a Transmission System fault. P80MG noted that they would need to ask the Transmission Company how much time is needed to determine whether they believe that a fault has occurred. Furthermore, a process similar to Workaround 18 (i.e. Bid-Offer Acceptances entered after the event) could be used to input deemed Acceptances.

It was suggested that it may not be possible to enter the deemed Acceptance for a fault into settlement until the SF run. This may result in reported Energy Imbalance Prices on the Balancing Mechanism Reporting Service (BMRS) and at Interim Information (II) Settlement Run that would not contain any information on deemed Acceptances, other than, possibly an indication that a particular Settlement Period may be subject to such a deemed Acceptance. This could have a negative impact on all participants, since potentially large Energy Imbalance Prices would not be known until the deemed Acceptance had been agreed upon and identified.

7 REPRESENTATIONS BY PARTIES AND INTERESTED THIRD PARTIES

7.1 Summary of Representations

It was decided that the initial consultation (Reference 2) should seek to find the level of acceptance for the P80MG's initial findings (section 6). On this basis a number of questions were asked regarding whether the parties agreed with the definition and scope that was discussed.

The consultation was issued on 13 June 2002 with responses due by 27 June 2002. There were 16 responses to the consultation representing 58 Parties. The following section describes the representations received on each of the questions and the P80MG view on the issues these raised, as discussed at the second Modification Group meeting (04 July 2002).

> Q1 - Do you believe that the following definition represents a high-level description of what constitutes a "system fault" as referred to by Modification Proposal P80?
>
> "Non-availability of the Transmission System which brings about a forced deviation from FPN, as amended by previous Bid-Offer Acceptances, not due to system constraints, intertrips or Black Start".

The majority of respondents believed the definition was a suitable high-level description of a fault. However, some responses wanted further clarification as to whether the following points should be included, such as:

- acts of God such as freak weather events;
- "system faults" caused by the system frequency being outside limits; and
- faults that occur as a result of the non availability of the distribution system that bring about the forced deviation from FPN for embedded generators that pay TNUoS charges.

One respondent also recognised that it was necessary to define "System Constraint" and "System Fault" clearly in the BSC so that no confusion could arise between the two.

On a related angle one Respondent wanted a clearer definition of which NGC assets were included and also believed that “system faults” should include Transmission Company systems failures and outages that prevent the submission of Physical Notification data to Transmission Company.

NGC suggested an alternative definition of:

> *"The de-energisation of National Grid owned equipment so as to sever all connections to a directly connected BM Unit"*

Q2 The Modification Group recognise that there are at least two different periods of time covering forced deviation that could be compensated:

(i) A BM Unit could be compensated by bid-offer acceptance during the period up to “the wall” (end of the Balancing Mechanism Window Period), a process contained within the BSC; and

(ii) Compensation beyond the wall could follow the constraints management process described in the Balancing Principles Statement.

Do you agree with these two approaches, which constitute the possible periods of time for compensation?

With the exception of NGC, the consultation responses were unanimous that both periods (i) and (ii) should be covered and that a BM Unit should be compensated until it could restore its output in line with its dynamics.

Two Parties commented that compensation following the constraints management process for period (ii) would require care as it was beyond the wall and cross governance issues could arise similar to the outcome of P59.

NGC did not believe that compensation via submitted Bids and Offers was a suitable approach. They pointed out that in the event of a disconnection there is no competition and hence compensation would be at the BM Unit's submitted bid and offer prices.

Q3 The Modification Group recognised that Final Physical Notification (as amended by previous Bid-Offer Acceptances) was the only data in the BSC that a deviation due a "system fault" could be measured against.

(i) Do you believe that FPN is a suitable datum to measure the deviation due to a "system fault" against?

(ii) If not, against what datum could the deviation due to a "system fault" be measured?

The majority of responses agreed that FPN is a suitable datum within the current Balancing Mechanism window, but no distinction between before and after the current Gate Closure was made. One respondent stated that a BM Units input or output subject to BC2.5.1 compared to its Physical Notification could be a method to determine the loss of volume associated with a "system fault".

Two Parties noted that the use of iPN would discriminate against Parties who only set their data close to Gate Closure. Furthermore, as contracts were not mandatory they are not an appropriate level to compensate against.

However, three responses described issues that could arise at the end of the current Balancing Mechanism Window:

- NGC caveated their response that the FPN should only be used to the end of the current BM Window;
- one Respondent believed that Generation Registered Capacity should be used; and
- another respondent was concerned over transparency and believed it would be difficult to identify a suitable datum beyond the wall.

Q4 The Modification Group recognised that some Bid or Offer Prices might not represent a market cost to deviate from FPN. For example, it was suggested that a Bid Price of -£99,999 per MWh shows that the Generating Plant is not able / willing to deviate from FPN?

What are your views on this, and do you have any examples?

The majority of respondents recognised that prices such as -£99,999/MWh could be used to represent an unwillingness to trade in the BM and hence it would be inappropriate to pay any compensation based on these prices. The responses put forward a number of alternative approaches listed below:

- a maximum Offer and minimum Bid Price should be agreed between the Transmission Company and the BM Unit involved;
- a BM Unit should provide a disconnection price along with their Bid-Offer Prices, whilst recognising that such price may need to be regulated;
- (Loss of Load Probability) LOLP should be re-introduced (i.e £2,550 / MWh indexed against RPI) as a cap on the maximum price. It was also proposed that this price could then be used BTW where there were no firm Bid Offer prices;
- BM Units should be compensated at a reference price, for example, UKPX; or
- Some form of default rules or feasibility test should be employed to ensure spurious costs are not incurred;

A minority believed the current Bid and Offer prices were suitable, making the following points:

- In general prices would be market prices and if there was a concern they could be reviewed after the event;
- With the introduction of more certainty some of these extremes may be ameliorated; and
- Whilst the submitted price may not represent the cost to deviate from FPN, it may represent the costs incurred during a critical loading period and resultant plant damage.

It could be argued that the above issues do not take into account the scale and risk of the problem, as identified in the NGC response, which noted the potential for very high payouts and impacts on other Parties through imbalance charges:

> *"The potential risk can be demonstrated by considering the realistic example of the disconnection of a 500MW genset for a 1.5 hrs BM window at the maximum bid price of -£99,999 / MWh. This would lead to :*
>
> *a) a £75M windfall payment to one party, and potentially*
>
> *b) a SSP = -£99,999 per MWh.*
>
> *Assuming a spill volume of 1000MWhr per period this would generate a cash flow of £125M per half hour to be re-distributed in an arbitrary and unpredictable manner."*

One Respondent also noted that it may be necessary to use a deemed Acceptance, rather than a Balancing Services Agreement, as an Acceptance would be the only mechanism

open to the supply side where it would not be appropriate to have individual contracts with each Supplier for each GSP Group.

Q5 The Modification Group recognised the difficulty in establishing the criteria to determine who is eligible for compensation due to "system faults". Which of the following criteria do you believe a BM Unit should fulfil:

i. Connected directly to the Transmission System; and/or

ii. Paying TNUoS Charges; and

iii. participating in the Balancing Mechanism when the "system fault" occurs.

The majority of respondents believed that the BM Unit must be paying TNUoS to benefit from P80.

However, there was a fairly balanced split between those who believed that the BM Unit required direct connection to the Transmission System, and those who believed that it was sufficient that the BM Unit was paying TNUoS.

Around a half of all respondents stated that a BM Unit should not have to participate in the BM to be eligible for compensation, and as one respondent stated the P80MG needs to consider compensation for Parties who do not operate in the BM and would not find it cost effective to do so.

Q6 The Modification Group identified that the loss in demand for Supplier BM Units (i.e. as calculated by SVA) should be spread across all SVA BM Units within same Grid Supply Point (GSP) Group. What are your views on this?

The majority of responses believed this was a suitable approach, although one respondent recommended other approaches should be assessed if they become known.

One respondent noted that Central Volume Allocation (CVA) BM Units that are embedded in Distribution Systems would be affected by "system faults" that directly results in a constraint on the relevant Distribution System and as a consequence is forced to deviate from FPN.

NGC did not support this approach believing that the existing SVA approach already represented a risk sharing approach and that it was sufficient.

Q7 Do you agree that any deemed Acceptances due to transmission failure should be included in energy imbalance price calculations, making them eligible for tagging as stated in Annex T-1 but possibly influencing imbalance cash-out prices?

This question was answered in two different styles:

- whether the price and volume of these Bids should be included in the final imbalance price calculation; or
- whether the BOA should be included in the calculations and then tagged out, i.e. trusting to ATT to remove them.

Most of the responses were related to the first point. Therefore, the majority of respondents did not believe that these bids should be included in the final imbalance price, the rationale being that they represented System and not Energy balancing. Some responses further indicated that the tagging methodology had not proven itself to be sufficiently robust to trust it to remove deemed Acceptances, if there was any risk they may feed into imbalance prices.

A couple of respondents stated that System balancing needs both a Bid and an Offer to cancel out any impact on Energy Imbalance Prices. This was sufficient to make some respondents believe that the Bid should be included in the tagging as it was the only way in which the system could attempt to identify the related offer and tag it out as well.

Another respondent recognising the same problem believed that the Bid should not be included, as tagging could not be trusted to find the associated offer, the response went further to suggest the offer should also be identified and removed, it did not suggest how.

Another respondent made the analogy to a generator or demand site trip i.e. the redeeming action should feed into Energy Imbalance Prices but not the event itself. For example if a 500MW unit trips, it is only the cost of subsequent Offer taken to redeem energy balance which feeds into Energy Imbalance Prices.

NGC stated that they believe that deemed acceptances are not an appropriate method to base the calculation of compensation on and they would support an alternative methodology to remove energy account imbalances completely.

Q8 Section 4.4 describes how any compensation due to deemed Acceptances for SVA BM Units could occur. In such circumstances the level of imbalance and imbalance prices may not approach final values until after the Initial Settlement (SF) run. Taking into consideration the expected low frequency of occurrence, do you consider this delay acceptable?

The majority of respondents did not believe such a delay was an issue, either because a "system fault" was a sufficiently rare occurrence as not to be significant, or because they did not believe it would occur.

However, it would seem that the later point assumes an implementation that can correct data prior to “SF” and for the effectiveness of any tagging methodology to be sufficiently accurate to minimise any changes in volumes between reconciliation runs (i.e. as Supplier BM Unit volumes change when estimated readings are replaced within SVA) and hence not significantly alter imbalance prices.

Q9 – By using Acceptances to compensate for "system faults" these costs will appear in BSUoS. Do you believe that in principle this is an acceptable manner in which to recover costs of compensation?

The majority of respondents believed that it was appropriate to recover the costs through BSUoS. However a minority did believe the costs should be borne by the Transmission Company:

- NGC should bear full commercial risk as any other party would for operational faults, not smear it amongst all users. Given the deemed acceptances will be clearly identified and given a sensible compensation mechanism this is not unreasonable; and
- one respondent stated that it is not appropriate that the industry bears all the cost for a Transmission System fault. Some, if not all, of the cost should fall on the Transmission System Operator and this can only be achieved through appropriate incentives under the Price Control.

Q10 Do you have any further comments on Modification Proposal P80?

NGC stated that they supported in principle the compensation of losses incurred by directly connected BM Units that are disconnected. However, P80 as drafted could lead to money flows vastly greater than the costs involved.

Another respondent stated that they do not believe that a BM Unit's Bid-Offer Price should be used to compensate that BM Unit for deviation from FPN due to a Transmission System fault. If a solution is to be found under the BSC it would be more appropriate to use actual SBP or SSP or maybe, or in the longer term a market (PX) price.

Williams Energy had a number of comments regarding P80:

- in principle NGC should bear full responsibility for its faults as a generator would bear full responsibility for their equipment failure;
- compensation beyond the wall is the crucial aspect of Mod P80, for example, how do you determine the MWh volume for compensation and (i) prove the party intended do a certain FPN n days after the "system fault", and (ii) at what point should a party be expected to trade out of the affected position? It could be suggested that there needs to a maximum continuous time duration of liability beyond which the transmission fault is deemed to be exceptional and/or exclusion of force majeure events, for example, storm damage; and
- given the above two points raised in the above paragraph, liability should be restricted to the period defined by the natural dynamics of the BM Unit (i.e. Run Down Rate (RDR) + Minimum Zero Time (MZT) + Run Up Rate (RUR) to FPN levels preceding transmission fault, assuming this exceeds 1hr which should be minimum duration of compensation). This at least is a move towards responsible compensation for transmission faults and at the very least removes imbalance and spot trading costs from the affected party.

There was support for P80 as it was stated that individual participants have no protection against system failures, and NGC is best placed to manage the risks associated with these.

- Immingham CHP LLP fully support the placing of an obligation on the company to deem offer/bid acceptances in such circumstances until such times as firm transmission access rights are available.

Another respondent stated that the group should consider whether a sunset clause (such as has been proposed for P87) would also be required for P80 in the event of any overlap by future Transmission Access arrangements.

The following points were raised by Scottish & Southern Energy:

- at first glance this appears to be a 'reasonable' Modification. However, it raises many serious concerns, based primarily on the question of "Is there going to be any flooring of bid prices or market testing of price against avoided cost"?

- It seems at the moment that this Modification could result in large industry smeared costs. It would allow for significant 'gaming' opportunities with an operator who becomes aware of a potential 'local' Transmission problem seeking to exploit the opportunity. What, for example, would prevent an operator, aware that a lightning storm is approaching, from putting large negative Bid prices on in anticipation that a fault may arise, and receiving vastly disproportionate and unreasonable profits?

- The old Pool mechanism is fundamentally different, as compensation at a day ahead energy "market" price is quite different from compensation at the Bid price of one player. One can argue that the Pool price was not market reflective, but it is not as potentially flawed as a Bid price set in a captive market. In the light of these concerns, we are not be supportive of this Modification Proposal as currently drafted.

Innogy made raised the following concerns:

- they did not believe that the intertrip scheme creates the potential for “windfall gains” to be made to the BM Unit concerned. Also, they did not accept either the arguments made by transmission company in support of P87 nor the rationale why, if P87 is progressed and agreed in advance of P80, it would have an impact against the baseline on which P80 is being considered. In the first instance, an intertrip would only be armed following a request by the Transmission Company and acceptance by the lead party for the BM Unit and therefore the decision whether or not to arm the intertrip is entirely within the control of Transmission Company. Secondly, the payment may not be sufficient to cover the plant damage that is almost certainly likely to occur as a result of an emergency trip and full load rejection following intertrip. This can in no way be regarded as being a “windfall” payment. Innogy note that the provisions set out in the BSC/Grid Code make no reference to any form of a risk premium payment by Transmission Company for the provision of such service. As a final point, it should be recognised that intertrip provides an alternative to infrastructure reinforcement by Transmission Company and, as such, the decision to arm an intertrip would be an economic decision based on the cost and likelihood of intertrip operation; and

- Whilst the Grid Code and BSC provides for compensation in the event of an intertrip, Innogy regard these as being default arrangements in the absence of a Commercial Ancillary Service Agreement covering the provision of intertrip. If Transmission Company is concerned about perceived “windfall" benefits arising from deeming bids and offers following a trip, then the correct place to address that concern is through a bilateral agreement and not the BSC.

7.2 Consideration of Consultation Responses by the P80MG 04 July 2002

The P80MG believed that the definition did include freak weather events, but that changes due to system frequency should not be included.

The P80MG noted that extreme frequency events would have a widespread impact on the Transmission System whereas "system faults" may just affect an individual BM Unit. The P80MG agreed that "system faults" should only include any loss of passageway down which power can flow, and frequency events are sufficiently different from "system faults" and if required should be the subject of another Modification.

P80MG were minded of the Terms of Reference set for P80 and this Modification should not include Distribution System faults.

The P80MG stated that the concept of system constraint should be excluded from the definition to include a more generic description of any action taken for system constraints or intertrips. It was also requested that during the Assessment Phase that clarification of differences and similarities between system constraints, intertrips and "system faults" would be assessed further for both P80 and P87.

Therefore, the amended definition is:

> *"Non-availability of the Transmission System which brings about a forced deviation from FPN as amended by previous Bid-Offer Acceptances, not due to any action that is already covered by the issuing of Bid-Offer Acceptances."*

The P80MG noted that the suggested NGC definition did not include partial de-energisation. The Transmission Company's Representative stated that this could result in a limited transmission capability, which would be treated as a constraint and a Bid Acceptance would be issued. The P80MG stated that this would be considered further in the Assessment Procedure.

One respondent stated that faults in the Transmission Company's IT systems could be covered by P80, however, this type of system failure is already covered in the Grid Code and the P80MG stated that this was a separate issue.

The P80MG discussed compensation beyond the wall in relation to how changes are made to the BPS and noted that it is the Authority and the Transmission Company who can direct changes to this document. The P80MG stated that they may wish to make a clear recommendation that compensation beyond the wall should be addressed in the BPS to form a total solution P80. The P80MG asked the Transmission Company's Representative if the BPS could be used to compensate for "system faults" beyond the wall. It was noted that the BPS could be used to compensate in principle, however, the Transmission Company could dispute any compensation as the BPS is ambiguous with regard to compensation beyond the wall. The P80MG also noted that if a BM Unit changed their submitted data after a "system fault" then the Transmission Company may not honour BM Unit Dynamics beyond the wall.

The P80MG noted that if there was no compensation outside the initial Balancing Mechanism Window Period (BMWP) then BM Units may continue to submit extreme Bid-Offer Prices in the Balancing Mechanism as a means of receiving compensation to cover all costs.

Therefore, the P80MG considered that under the BSC compensation is limited to within the BMWP. Therefore, even though it may be beneficial to compensate beyond the wall this is outside the vires of the BSC. A number of proposed solutions that are listed in Table 2 were discussed by the P80MG. The P80MG believed that only options 3a,3b and 4 could be consider by the P80MG. Table 2 shows the examples of the different solutions that could be proposed for Modification Proposal P80. Options 1a and 1b would compensate against FPN in the BMWP and forward market but the price to compensate at varies. Options 2a and 2b would compensate against both FPN and iPN in the BMWP and forward market, respectively. Options 3a and 3b would only compensate in the BMWP against FPN, and Option 4 proposes that compensation for "system faults" should be outside the BSC.

Table 2. Proposed Solutions for P80

	BSC Compensation		Datum		Payment Level	
	BMWP	**Forward**	**BMWP**	**Forward**	**BMWP**	**Forward**
1a	Y	Y	FPN	FPN (Rolled)	Bid	Bid (Rolled)
1b	Y	Y	FPN	FPN (Rolled)	Other	Other
2a	Y	Y	FPN	iPN (P59 - BPS rules)	Bid	iBid (P59 - BPS rules)
2b	Y	Y	FPN	iPN (P59 - BPS rules)	Other	Other
3a	Y	N	FPN	n/a	Bid	n/a
3b	Y	N	FPN	n/a	Other	n/a
4	N	N	n/a	n/a	n/a	n/a

The P80MG stated that maybe the trigger to compensate for "system faults" could be actioned for a number of BMWP so that compensation could last longer than the current maximum BMWP of 1.5 hours. This will be an issue for further assessment.

The P80MG agreed that the suitable datum for compensation would be against FPN, but considering the above paragraphs compensation would only be up to the end of the Balancing Mechanism Window Period.

The P80MG were in support of the fact that submitted Bid-Offer Prices may not be an ideal price to compensate at, and it would be more appropriate to determine a compensation price during the Assessment (i.e. Option 3b).

The P80MG stated that the full impact on SVA of a "system fault" was complex and that this would require further assessment. NGC's consultation response suggested that there would be minimal impact on SVA BM Units in any case. The consequences of disconnection would need to be quantified in the Assessment Procedure. The P80MG accepted that if the levels of compensation were low this may constitute a reason not to include compensation for SVA Supplier BM Units. Also, the P80MG noted that it may not be suitable for the Transmission Company to have a Balancing Services Agreement with all SVA Suppliers.

The P80MG agreed that BM Units should be paying TNUoS to receive compensation and agreed that directly connected SVA BM Units should also be included. One member of the P80MG requested that P80 should not be limited to directly connected customers and hence embedded participants paying TNUoS should be included. This will require further assessment as there may be a situation whereby a Transmission System Fault would hinder an embedded participant being able to export onto to Transmission System. Any assessment should also consider that an embedded generator may be islanded from the Transmission System and hence have additional value supporting other local resources.

The P80MG noted that ATT may not be 100% effective in tagging out Bids and Offers associated with a "system fault". They recognised that this was a complex area and that the impact of any solution would need to be assessed as to its impact on ATT. The P80MG also stated that any the proposed solution for P80 should be robust to the proposed changes from any pricing Modifications that have been raised.

The P80MG discussed whether the industry should pay for Transmission System faults or the Transmission Company. The P80MG stated that it was not ideal for the cost to be passed back to participants through BSUoS.

Finally, the P80MG felt that there was no requirement to have a sunset clause in P80 due to the planned introduction of Transmission Access arrangements. The P80MG stated that they should not have to anticipate what the future may hold otherwise every clause in the BSC would require a caveat. The P80MG did not believe that it was appropriate to include a potential date in the BSC by which a clause should be removed. Furthermore, Transmission Access arrangements fall under the Connection and Use of System Code (CUSC) governance and if such a sunset clause existed then this could lead to a hierarchy between the CUSC and the BSC.

8 REPRESENTATION FROM THE TRANSMISSION COMPANY

The P80MG commissioned in accordance with clause 2.5.6 of section F of the BSC commission an analysis the Transmission Company with regard to the following matters as described in clause 2.8 of section F of the BSC. The Transmission Company responded that in view of the comments we have made in the P80 definition consultation, they believed that it is premature to answers those questions marked below. We suggest it would be more appropriate for the answers to be given during an assessment stage HLIA when the modification group have confirmed the definition/methodology of P80 and any proposed alternatives.

Q1. An assessment of the impact of P80 on the ability of the Transmission Company to discharge its obligations efficiently under the Transmission Licence and on its ability to operate an efficient, economical and co-ordinated transmission system;

We believe it is more appropriate to answer this during the assessment stage.

Q2. The views as to the following initial definition for Transmission System Fault: *"Non-availability of the Transmission System which brings about a forced deviation from Final Physical Notification, as amended by previous Bid-Offer Acceptances, not due to system constraints, intertrips or Black Start".*

Please see our answer to Q1 in the definition consultation.

Response to Q1: We believe that any definition of a "system fault" should be easily measurable and apply solely to the Transmission Company's equipment. Therefore we suggest that a better definition would be "The de-energisation of National Grid owned equipment so as to sever all connections to a directly connected BM Unit"

Q3. The views and rationale as to whether the normal constraints management process could manage compensation for "system faults" beyond the wall.

Please see our answer to Q2 in the definition consultation.

Response to Q2: We do not support the approach of using bid-offer acceptances to set the level of compensation. Given that there can be no competition in the event of a disconnection, we believe that the use of commercial bids/offers is inappropriate, but would support compensation based on the actual costs incurred. It follows that the only distinction between time periods (i) and (ii) is the need to deal with imbalance exposure. We would also suggest that an alternative methodology be employed to remove the imbalance exposure from affecting imbalance price setting.

Q4. The views as to whether FPN should reflect the expectation of energy flow in the absence of any constraint or "system fault" or the actual energy flow;

Please see our answer to Q3 in the definition consultation.

Response to Q3: Yes, up to the end of the BM window.

Q5. The views as to whether the Transmission Company should pay up to £99,999 / MWh in compensation if a "system fault" occurred

Please see our answer to Q4 in the definition consultation.

Response to Q4: This is one of the issues that lead us to propose cost based compensation under Q2. The potential risk can be demonstrated by considering the realistic example of the disconnection of a 500MW genset for a 1.5 hrs BM window at the maximum bid price of £-99,999. This would lead to :

a £75M windfall payment to one party, and potentially

a SSP = £-99,999.

Assuming a spill volume of 1000MWhr per period this would generate a cash flow of £125M per half hour to be re-distributed in an arbitrary and unpredictable manner.

Q6. The views on whether the cost of compensation for "system faults" should be recovered through BSUoS charges;

Please see our answer to Q9 in the definition consultation.

Response to Q9: We propose the payment of compensation outside of the BM. However, such costs could be recovered via BSUoS and we believe that this is appropriate.

Q7. The views on whether to be eligible for compensation a BM Unit should be connected directly to the Transmission System; and/or paying TNUoS; and participating in the Balancing Mechanism when the "system fault" occurs;

Please see our answer to Q5 in the definition consultation.

Response to Q5: We believe that the eligibility should be restricted to (i) Connected directly to the Transmission System, and (ii) paying TNUoS charges.

Q8. How much time (in working days) does the Transmission Company require to determine if a "system fault" occurred?;

The answer depends upon the exact definition of a "system fault", using our proposed definition (see Q1 in the definition consultation) we would be able to confirm within one working day.

Q9. Is dynamic data received from BM Units truncated by the Transmission Company once it is transferred to BSC Systems (i.e. BMRA and SAA)?

The Transmission Company does not truncate any data it receives from BM Units, the data is either rejected as invalid or passed through as valid. These rules limiting the size of the

data sets is defined in the "Data Validation, Consistency & Defaulting Rules" which can be found on the National Grid web-site via the following link:

http://www.nationalgrid.com/uk/indinfo/grid_code/pdfs/dvc&d_rules_issue_5.pdf

Q10. Would the Transmission Company be able to issue a deemed Acceptance to affected Supplier SVA BM Units in a GSP Group in time for the SF run;

We are not convinced that this is appropriate, please see our views on acceptances in Q2 and on the eligibility of SVA BM Units to receiving compensation in Q5, Q6 & Q8.

Response to Q8: We believe that it is not appropriate to compensate SVA BM Units, see earlier answers.

Q11. The views and rationale of the Transmission Company as to whether P80 would better facilitate achievement of Applicable BSC Objectives;

We believe it is more appropriate to answer this during the assessment stage.

Q12. An assessment of the impact of P80 on the computer systems and processes of the Transmission Company;

We believe it is more appropriate to answer this during the assessment stage.

Q13. An assessment of the changes required to such systems and processes in consequence of P80;

We believe it is more appropriate to answer this during the assessment stage.

Q14. An assessment of an estimate of the development capital and operating costs (broken down in reasonable detail) which the Transmission Company anticipates that it would incur in and as a result of implementing P80 and any consequential changes to Core Industry Documents.

We believe it is more appropriate to answer this during the assessment stage.

9 ASSESSMENT REQUIREMENTS

On the basis of the consultation responses received and the issues identified by the group, the P80MG consider that significant work would need to be undertaken to assess Modification Proposal P80. The activities below were identified as essential to the Assessment Procedure.

Initial Assessment: The initial phase of the Assessment Procedure would comprise establishing how a BM Unit could be compensated for a "system fault", as well as identifying the interaction between "system fault", system constraints and intertrips. Also, the P80MG will carry out an initial assessment of the issues and identification of any Alternative Modifications. Some consideration of the Assessment of P87 may need to be taken into account for this activity.

Impact Assessment: The second phase would involve the completion of a requirement specification against which the solution can be assessed. As the proposed solution for P80 is manual as it is assumed this process would be rarely invoked only a high level impact assessment on BSC System is required.

Consultation: The third phase would involve an industry consultation on the responses of the requirement solution to be carried out in parallel to any legal drafting that may be required.

Assessment Report: The final phase would involve drafting and reviewing an Assessment Report. The report would take into account the analysis undertaken and all consultation responses received.

The above activities are largely sequential, with the commencement each phase being dependent on the completion of most activities detailed under the previous phase.

The Gantt chart on the next page translates the activities described above into a detailed plan that provides the rationale for the P80MG's recommendation of a three-month Assessment Procedure.

ID	Task Name	Duration	Start	Finis
1	July Panel Meeting	1 day	18 Jul	18 Jul
2	Initial Assessment of P80MG	8 days	19 Jul	30 Jul
3	P80 Modification Group 3	1 day	31 Jul	31 Jul
4	Prepare Requirement Specification	12 days	01 Aug	16 Aug
5	P80 Modification Group 4	1 day	19 Aug	19 Aug
6	Finalise Requirement Specification	4 days	23 Aug	28 Aug
7	Issue Requirement Specification	10 days	29 Aug	11 Sep
8	prepare Consultation Document	10 days	29 Aug	11 Sep
9	P80 Modification Group 5	1 day	12 Sep	12 Sep
10	Finalise Consultation Document	1 day	13 Sep	13 Sep
11	Issue Consultation Document	10 days	16 Sep	27 Sep
12	Legal Drafting	10 days	16 Sep	27 Sep
13	prepare Assessment Report	5 days	30 Sep	04 Oct
14	P80 Modification Group 6	1 day	07 Oct	07 Oct
15	Finalise Assessment Report including Legal Drafting	3 days	08 Oct	10 Oct
16	October Panel Paper Day	1 day	11 Oct	11 Oct
17	Panel Review Period	3 days	14 Oct	16 Oct
18	October Panel Meeting	1 day	17 Oct	17 Oct

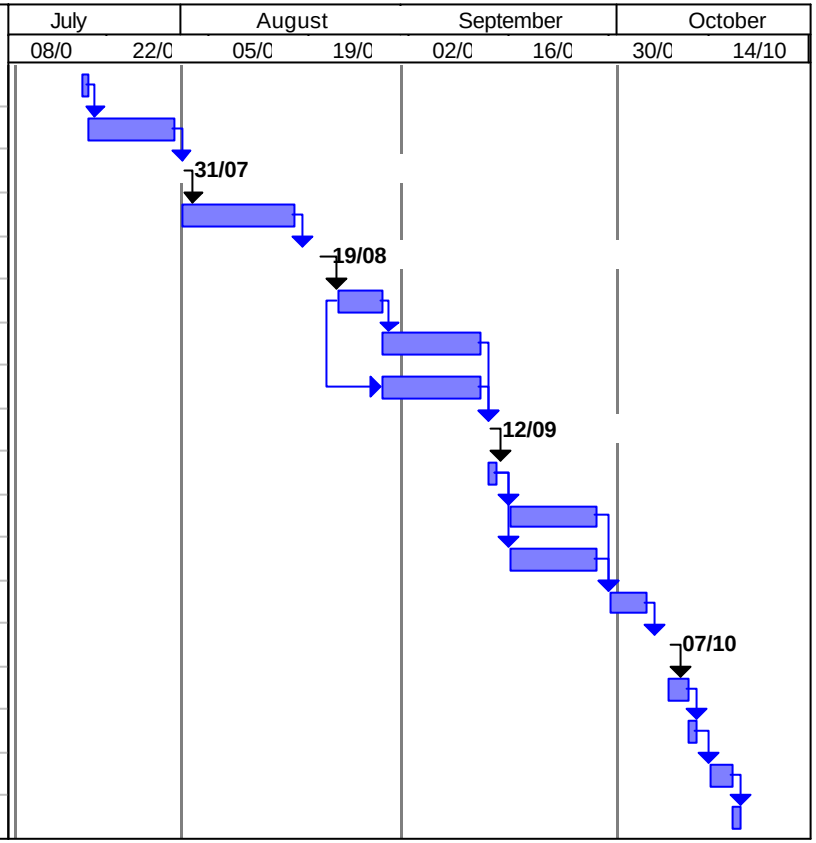

Figure 3. Proposed Timetable for Modification Proposal

ANNEX A: RESPONSES FROM P80 DEFINITION CONSULTATION

Attached as separate document

ANNEX B: RELEVANT SECTIONS FROM THE BSC AND THE GRID CODE

Attached as separate document