



National Grid

AMENDMENT REPORT

CUSC Amendment Proposal CAP011

**(Changes to Frequency Response Payments
to reflect potential changes to BSC)**

*The purpose of this report is to assist the
Authority in their decision of whether to
implement Amendment Proposal CAP011*

| | |
|---------------|---------------|
| Amendment Ref | CAP011 |
| Issue | 1.0 |
| Date of Issue | 25 March 2002 |
| Prepared by | National Grid |

DOCUMENT CONTROL

| Issue | Date | Author | Change Reference |
|-------|----------|---------------|--|
| 0.1 | 15/03/02 | National Grid | Initial Draft for internal comment |
| 0.2 | 15/03/02 | National Grid | Draft for Industry comment |
| 1.0 | 25/03/02 | National Grid | Formal version for submission to the Authority |
| | | | |

DOCUMENT LOCATION

National Grid website:

<http://www.nationalgridinfo.co.uk/cusc/index.html>

DISTRIBUTION

| Name | Organisation |
|--|--------------|
| The Gas and Electricity Markets Authority | Ofgem |
| CUSC Parties | Various |
| Panel Members | Various |
| National Grid Industry Information Website | |
| | |

CONTENTS TABLE

| | |
|---|-----------|
| DOCUMENT CONTROL | 2 |
| DOCUMENT LOCATION..... | 2 |
| DISTRIBUTION | 2 |
| CONTENTS TABLE..... | 3 |
| 1.0 SUMMARY AND RECOMMENDATIONS | 4 |
| 2.0 INTRODUCTION | 6 |
| 3.0 THE PROPOSED AMENDMENT..... | 7 |
| 4.0 ASSESSMENT AGAINST APPLICABLE CUSC OBJECTIVES | 7 |
| 5.0 PROPOSED IMPLEMENTATION AND TIME-SCALES | 8 |
| 6.0 IMPACT ON CUSC..... | 8 |
| 7.0 IMPACT ON CORE INDUSTRY DOCUMENTS | 8 |
| 8.0 IMPACT ON CUSC PARTIES | 9 |
| 9.0 ALTERNATIVE AMENDMENTS | 9 |
| 10.0 SUMMARY OF VIEWS AND REPRESENTATIONS..... | 10 |
| ANNEX 1 – CUSC AMENDMENT PROPOSAL..... | 13 |
| ANNEX 2 – INTERACTION BETWEEN BSC MODIFICATIONS P34/P71/P36 AND CUSC PARAGRAPH 4.1.3.9A..... | 17 |
| ANNEX 3 – CONSEQUENTIAL CHANGES TO CUSC TEXT FOR CAP011 (SHOULD BSC MODIFICATION P34, P34A OR P71 BE APPROVED)..... | 20 |
| ANNEX 4 – CONSEQUENTIAL CHANGES TO CUSC TEXT FOR CAP011 ALTERNATIVE (SHOULD BSC MODIFICATION P36 OR P36A BE APPROVED)..... | 31 |
| ANNEX 5 – COPIES OF REPRESENTATIONS RECEIVED (CONSULTATION DOCUMENT)..... | 42 |
| ANNEX 6 – COPIES OF REPRESENTATIONS RECEIVED (DRAFT AMENDMENT REPORT)..... | 53 |

1.0 SUMMARY AND RECOMMENDATIONS

Summary

- 1.1 All licensed generators are required to provide the service of mandatory frequency response as set out in CC.8.1 of the Grid Code. Prior to the introduction of NETA it was recognised that generators would incur imbalance charges under the BSC when mandatory frequency response was provided. A mechanism was introduced at NETA Go-live that was intended to compensate generators for this imbalance exposure due to providing response. This mechanism was implemented via the NETA Implementation Scheme in the Mandatory Services Agreements (MSAs) and codified into the CUSC.
- 1.2 Various proposals have been submitted under both the CUSC and the BSC that seek to change the arrangements for imbalance compensation. CAP011 seeks to modify the CUSC should either BSC Modification Proposal P34¹ or BSC Modification Proposal P36² or a similar proposal with the same effect be implemented. A description of the current process for compensation and the interaction between BSC Modifications P34/P36 and the CUSC is contained in Annex 2.
- 1.3 Both of the proposals (i.e. P34 or P36 or their Alternatives) could potentially, if approved by the Authority, have a consequential impact on the methodologies contained within the CUSC and result in the need for a number of changes being made to Section 4 of the CUSC. The inclusion of Mode A Frequency Response within a Methodology Statement implemented by either of these proposals will result in the requirement to change the CUSC.
- 1.4 In view of the above requirement, CUSC Amendment Proposal CAP011 (which deals with the consequential changes that could be required to CUSC if P34 or its Alternative is approved) was submitted by National Grid for consideration by the CUSC Amendments Panel at their 11 January 2002 meeting (see Annex 1). Following submission of the Amendment Proposal, the Amendments Panel agreed that the issue was appropriate to proceed to wider consultation by National Grid (in accordance with 8.17.12(b)). However, at the meeting, the Panel also agreed it was appropriate that an Alternative to CAP011 should be developed and included in the Consultation Document to deal with the consequential CUSC changes that could be required in the event P36 or its Alternative was approved.
- 1.5 As a result of the above, National Grid circulated a Consultation Document to CUSC Parties and Panel Members (and other interested

¹ P34 proposes the transfer of imbalances caused by Balancing Services to the Transmission Company Energy Account

² P36 proposes the generation of Bid-Offer Acceptances relating to energy delivered as a result of providing Applicable Balancing Services

Parties) on 4 February 2002. Comments were requested by no later than close of business, 11 March 2002. Following the consultation, and in accordance with 8.20.3, a draft of this Amendment Report was circulated for comment on the 15 March 2002. Comments were requested by close of business, 22 March 2002.

- 1.6 This Amendment Report (Issue 1.0) was submitted to the Authority on 25 March 2002. The purpose of this document is to assist the Authority in their decision of whether to implement Amendment Proposal CAP011.

Recommendations

National Grid Recommendation

- 1.7 The inclusion of Mode A Frequency Response within a Methodology Statement implemented through BSC Modifications P34 or P36 or their Alternatives will require consequential changes to the CUSC. In the case of P34 or Alternative (or a similar proposal with the same effect), National Grid recommends that the CUSC changes as outlined in Annex 3 be implemented. In the case of P36 or Alternative (or a similar proposal with the same effect), National Grid recommends that the CUSC changes as outlined in Annex 4 be implemented.
- 1.8 This is on the basis that the changes as proposed better facilitate achievement of the Applicable CUSC Objectives as set out in paragraph 1 of Condition C7F to National Grid's Transmission Licence. More specifically:
- in the case of P34 or its Alternative, it prevents the Transmission Company refunding payments for costs that are not incurred under the BSC, which would otherwise result in unnecessary payments being made to service providers; and
 - in the case of P36 or its Alternative, it prevents the Transmission Company refunding payments for costs that are not incurred under the BSC, which would otherwise result in unnecessary payments being made to service providers and prevents further payments being made for energy which would already have been made under the BSC.
- 1.9 This in turn enables National Grid to discharge its obligations under the Act and the Transmission Licence and to facilitate effective competition in the generation and supply of electricity, and (so far as consistent therewith) facilitating such competition in the sale, distribution and purchase of electricity.

2.0 INTRODUCTION

- 2.1 This Amendment Report has been issued by National Grid under the rules and procedures specified in the Connection and Use of System Code (CUSC) as designated by the Secretary of State. It addresses a number of potential consequential changes to the Mandatory Frequency Response provisions set out in Section 4 of the CUSC. Such changes could be required in the event BSC Modification P34 or P36 (or their Alternatives) gain approval from the Authority.
- 2.2 BSC Modifications P34 or P36 (or their Alternatives) propose that a Methodology Statement be created (under the governance of either the Transmission Licence or the Balancing and Settlement Code) which defines the applicable Balancing Services to be included under the mechanism. The inclusion of Mode A Frequency Response within this Methodology Statement will require changes to the provisions of CUSC.
- 2.3 Amendment Proposal CAP011 was submitted to the CUSC Panel for their consideration at the 11 January 2002 meeting. CAP011 considered the potential, consequential changes relating to BSC Modification P34. At their meeting, the Amendments Panel agreed that the issue was appropriate to proceed to wider consultation by National Grid in accordance with 8.17.12(b).
- 2.4 In view of the close relationship between BSC Modifications P34 and P36, the Amendments Panel agreed it was appropriate that an Alternative to CAP011 should be developed. This Alternative was included in the Consultation Document to deal with the consequential CUSC changes that could be required in the event P36 or its Alternative was approved.
- 2.5 Since issuing the CAP011 Consultation Document, BSC Modification P71 has been proposed. P71 proposes a prospective implementation of P34 but is the same as the original P34 in all other aspects.
- 2.6 This document outlines the nature of the changes that would be required to the CUSC if P34, P36 (or their Alternatives) or P71 is implemented. It also incorporates National Grid's and the Amendments Panel's recommendations to the Authority concerning the Amendment. Copies of all representations received in response to the consultation have been included. Furthermore, a 'summary' of the representations received is also provided.
- 2.7 This Amendment Report has been prepared in accordance with the terms of the CUSC. An electronic copy can be found on the National Grid website, at <http://www.nationalgridinfo.co.uk/cusc>.

3.0 THE PROPOSED AMENDMENT

- 3.1 CUSC Amendment Proposal CAP011 (see Annex 1) as submitted by National Grid proposes a number of consequential changes to the CUSC to reflect potential changes to the BSC. In the event that P34, P34 Alternative or a similar proposal with the same effect e.g. P71, was approved by the Authority, and the resulting methodology statement included the service of Mode A Frequency Response, then a change to the CUSC would be required. Specifically this change would remove the refund of imbalance charges and refund of non-delivery charges incurred under the BSC. The payment for energy delivery (or avoided delivery) would remain within the CUSC.
- 3.2 Following submission of CAP011, the Amendments Panel agreed that the scope of CAP011 should be broadened so as to include the consequential changes to the CUSC that would potentially be required, in the event that the Authority approved BSC Modification P36 or its Alternative. In view of this, an “Alternative Amendment Proposal” was included in the CAP011 Consultation Document (and is detailed in Section 9 below). The Alternative Proposal proposes the consequential changes that could be required to the CUSC in the event BSC Modification P36 or its Alternative receives approval by the Authority.
- 3.3 The changes proposed by CAP011 to the Mandatory Frequency Response provisions of the CUSC are set out in Annex 3.

4.0 ASSESSMENT AGAINST APPLICABLE CUSC OBJECTIVES

- 4.1 The applicable CUSC Objectives are set out in paragraph 1 of Condition C7F of the Transmission Licence. CUSC amendments should better facilitate achievement of the Applicable CUSC Objectives. These can be summarised as follows:
- (a) the efficient discharge by NGC of the obligations imposed on it by the Act and the Transmission Licence; and
 - (b) facilitating effective competition in the generation and supply of electricity, and (so far as consistent therewith) facilitating such competition in the sale, distribution and purchase of electricity.
- 4.2 In the event that BSC Modification P34, P34 Alternative or P71 is approved by the Authority and Mode A Frequency Response is included under this mechanism, National Grid recommends that CAP011 be approved. This is on the basis that the changes as proposed better facilitate achievement of the Applicable CUSC

Objectives as set out in paragraph 1 of Condition C7F to National Grid's Transmission Licence.

- 4.3 This is on the grounds that it prevents the Transmission Company refunding payments for costs that are not incurred under the BSC, which would otherwise result in unnecessary payments being made to certain service providers. This in turn enables National Grid to discharge its obligations under the Act and the Transmission Licence and to facilitate effective competition in the generation and supply of electricity, and (so far as consistent therewith) facilitating such competition in the sale, distribution and purchase of electricity.

5.0 PROPOSED IMPLEMENTATION AND TIME-SCALES

- 5.1 It is recommended that Amendment Proposal CAP011 (or CAP011 Alternative) as detailed in this Amendment Report be implemented coincident to the time-scales of either P34, P71 or P36 (or their Alternatives or any similar BSC proposal with the same effect).

6.0 IMPACT ON CUSC

- 6.1 In the event BSC Modifications P34, P71 or P36 (or their Alternatives or any similar BSC proposal with the same effect) are approved, consequential changes to Section 4 of the CUSC (as detailed in Annex 3 or Annex 4) will be required.

7.0 IMPACT ON CORE INDUSTRY DOCUMENTS

- 7.1 It is envisaged that Amendment Proposal CAP011 will have no impact on any core industry documents.

Changes required & Timescales to be followed to give effect to the Proposed Amendment

- 7.2 As it is envisaged that Amendment Proposal CAP011 will have no impact on any core industry documents no changes are required.

Changes or Developments Required to Central Computer Systems & Timescales Involved

- 7.3 It is envisaged that Amendment Proposal CAP011 will have no impact on Central Computer Systems established under core industry documentation.

Estimation of Costs

7.4 Not Applicable.

8.0 IMPACT ON CUSC PARTIES

8.1 It is envisaged that Amendment Proposal CAP011 will have no impact on any CUSC Parties.

9.0 ALTERNATIVE AMENDMENTS

Description of Alternative Amendment

9.1 Innogy submitted BSC Modification P36 on 10 September 2001. The Modification Proposal recommends the use of Bid-Offer acceptances as the basis to value any energy that is delivered by a generator as a result of providing any applicable Balancing Services.

9.2 Following submission of CAP011, (dealing with P34) the Amendments Panel agreed that the scope of CAP011 should be broadened so as to include the consequential changes to the CUSC that would potentially be required, in the event that the Authority approved BSC Modification P36 or its Alternative. In view of this, an "Alternative Amendment Proposal" was included in the CAP011 Consultation Document and is detailed here.

9.3 The CAP011 Alternative proposes the consequential changes that could be required to the CUSC in the event BSC Modification P36 or its Alternative receives approval by the Authority.

9.4 In the event that P36 or its Alternative was approved by the Authority and the resulting methodology statement included the service of Mode A Frequency Response, then a change to the CUSC would be required. Specifically this change would remove the refund of imbalance charges and refund of non-delivery charges incurred under the BSC. In addition the payment for energy delivery (or avoided delivery) would be removed from CUSC.

9.5 The changes proposed by CAP011 Alternative, to the Mandatory Frequency Response provisions of the CUSC are set out in Annex 4.

Assessment against Applicable CUSC Objectives

9.6 In the event BSC Modification P36 or its Alternative is approved by the Authority and Mode A Frequency Response is included under this mechanism, National Grid recommends that the consequential CUSC changes as outlined in Annex 4 also be implemented. This is on the

basis that the changes as proposed better facilitate achievement of the Applicable CUSC Objectives as set out in paragraph 1 of Condition C7F to National Grid's Transmission Licence.

- 9.7 This is on the grounds that it prevents the Transmission Company refunding payments for costs that are not incurred under the BSC, which would otherwise result in unnecessary payments being made to certain service providers. This in turn enables National Grid to discharge its obligations under the Act and the Transmission Licence and to facilitate effective competition in the generation and supply of electricity, and (so far as consistent therewith) facilitating such competition in the sale, distribution and purchase of electricity.

10.0 SUMMARY OF VIEWS AND REPRESENTATIONS

Amendments Panel Members

- 10.1 No views have been received from CUSC Amendments Panel members following circulation of the Consultation Document.

Core Industry Document Owners

- 10.2 No views have been received from Core Industry Document Owners.

Respondents

- 10.3 National Grid received a total of 8 responses to the consultation on CUSC Amendment CAP011, of which 6 outlined their support for the proposal or alternative proposal in the event P34 or P36 were approved.
- 10.4 The following table provides an overview of the representations received. Copies of the representations are attached as Annex 5.

| Reference | Company Name | Supportive | Summary of Comments |
|--------------|---|------------|---|
| CAP011-CR-01 | PowerGen | Yes | Supportive of the Proposal or Alternative if P34 or P36 respectively is approved. |
| CAP011-CR-02 | TXU Companies | Yes | Supportive of the Proposal or Alternative. Presumes this also applies to P71. |
| CAP011-CR-03 | British Energy | Yes | Supports simultaneous implementation of the appropriate CUSC Section 4 text update in the event of any P34/P36 (or alternatives) determination by Ofgem to approve and implement. |
| CAP011-CR-04 | ScottishPower Energy Retail Limited and Scottish Power Generation Limited | Yes | Outlines support for P36 Alternative. Hopes the Authority will adopt a holistic approach to considering the issues raised by P34 and P36 and CAP011 and hope it |

| | | | |
|--------------|---|--------|---|
| | | | reaches its conclusions at the same time. Supportive of CAP011 Alternative and agrees that changes in CAP011 are necessary to ensure imbalance charges are dealt with under the correct framework by not resulting in unnecessary payments to the relevant service providers. |
| CAP011-CR-05 | London Electricity Group | | Note concerning P34A in that the applicable services have not been clearly specified. |
| CAP011-CR-06 | British Gas Trading Limited | Yes | Supportive of the Proposal or Alternative if P34 or P36 respectively is approved. Notes that should if P71 is approved, CAP011 may not be relevant. Notes the need to ensure that changes to CUSC or BSC do not force the respective documents to fall out of line. Notes preference for the issue to be addressed by CUSC (through CAP010). Unclear how the combination of options (i.e. CAP011 or CAP011 Alternative) can be accommodated under the current CUSC Amendment Process. |
| CAP011-CR-07 | Elexon | Yes | Supportive of the Proposal or Alternative if P34 or P36 respectively is approved. |
| CAP011-CR-08 | Innogy plc, npower Limited, Innogy Cogen Trading Limited, npower Direct Limited, npower Northern Limited, npower Yorkshire Limited. | No/Yes | Do not believe that CAP011 properly deals with the issues raised by the implementation of P34 or P34A. States that P34 will create a residual volume risk and therefore a mechanism is required to enable providers to recover any imbalance costs. Generally supports the CAP011 Alternative as far as it deals with the implementation of P36 or P36A. |

National Grid's Views

- 10.5 National Grid's recommendation regarding this Amendment Proposal is outlined in paragraphs 4.2 and 4.3 above. National Grid has reviewed responses to the consultation on CAP011 and CAP011 Alternative and is satisfied that these proposals should be implemented as agreed by the Amendments Panel.
- 10.6 National Grid is pleased that the majority of respondents support CAP011 and CAP011 Alternative. With regards to the issues raised in CAP011-CR-08, National Grid's view is that the consultation on CAP011 and CAP011 Alternative dealt only with the consequences of BSC Modifications P34/P36/P71 or their Alternatives being approved

by the Authority. Many of the issues raised in this response were outside the scope of this consultation and have already been debated within the relevant BSC Modifications Group and reflected accordingly in the BSC Assessment Report.

- 10.7 Response CAP011-CR-06 raises two procedural issues. With regards to whether CAP011 is relevant with BSC Modification P71, it should be noted that P71 proposes a prospective implementation of P34 but is the same as the original P34 modification in all other aspects. Therefore, the amendment to CUSC as proposed by CAP011 remains the same and is hence still relevant. In addition, the original Amendment Proposal recognised this fact and stated that the proposed changes would be required if P34 *or any similar BSC proposal with the same effect* was adopted. With regards to how a combination of options i.e. CAP011 and CAP011 Alternative can both be put forward to the Authority, National Grid believes that the amendment process does accommodate for this. Furthermore, this approach was agreed by the CUSC Amendments Panel at their meeting on 11 January 2002.

Other unresolved comments

- 10.8 Following the publication of the draft of this Amendment Report, Innogy have responded with concerns that their views provided in response to the consultation were not adequately reflected or addressed in the draft report. Innogy's response states that their fundamental concern is that CAP011 does not allow for the full recovery of costs incurred when providing frequency response. Innogy's view is that P34, P34A or P71 would leave providers exposed to a residual volume risk and hence imbalance costs in the BSC.
- 10.9 National Grid's view of these comments remains unchanged i.e. that CAP011 deals only with the consequences of P34/P36/P71 or their Alternatives being approved by the Authority. Notwithstanding this, National Grid believes that the issue of residual volume risk (i.e. the volume risk associated with the inaccuracy of the response energy calculation methodology or due to under-delivery) was addressed by both the Pricing Issues Modification Group (PIMG) in their assessment of P34/P36 and the Balancing Services Standing Group (BSSG) in their assessment of CAP009 and CAP010. Furthermore, the BSSG has recommended the implementation of CAP009 and CAP010, both of which will allow service providers to manage the residual volume risk arising from P34, P34A or P71. Against this background, it is clearly not appropriate that the scope of CAP011 be extended as Innogy suggest and if Innogy believe that a defect exists then a further CUSC Amendment Proposal should be raised.
- 10.10 Representations received following circulation of the draft Amendment Report are attached in Annex 6 of this report.

Annex 1 – CUSC Amendment Proposal

| | |
|---|---------------|
| CUSC Amendment Proposal Form | CAP011 |
| <p>Title of Amendment Proposal: Changes to frequency response payments to reflect a potential change to the BSC.</p> | |
| <p>Description of the Proposed Amendment <i>(mandatory by proposer):</i></p> <p>National Grid has proposed a change to the BSC (BSC Mod P34) to remove certain charges made as a result of delivering Ancillary Services and Other Services, including Mode A Frequency Response. If this proposal, or a similar proposal with the same effect, was adopted, we believe that CUSC would need to be amended such that the refund of these payments (which is described in CUSC) is also removed. Specifically, we propose the removal of the following payments (currently made under paragraph 4.1.3.9A):</p> <ul style="list-style-type: none"> i. Refund of BSC imbalance charges; and ii. Refund of BSC non-delivery charges. <p>The effective date to be consistent with the effective date of the BSC modification.</p> <p>For the avoidance of doubt, the payment for energy delivered or avoided as a result of delivering Mode A Frequency Response will continue to be made under CUSC.</p> | |
| <p>Description of Issue or Defect that Proposed Amendment seeks to Address <i>(mandatory by proposer):</i></p> <p>The Transmission Company, in accordance with CUSC, currently refunds the following charges made under the BSC resulting from the delivery (along with certain other balancing services) of Mode A Frequency Response:</p> <ul style="list-style-type: none"> i. BSC energy imbalance charges; and ii. BSC none delivery charges. <p>National Grid has proposed a modification to the BSC to remove these charges at source. If this or a similar modification were adopted it would be necessary to modify CUSC to reflect the change to the BSC.</p> | |
| <p>Impact on the CUSC <i>(this should be given where possible):</i></p> <p>Modifications to section 4 of the CUSC, in particular (but not necessarily exclusively) paragraph 4.1.3.9A.</p> | |
| <p>Impact on Core Industry Documentation <i>(this should be given where possible):</i></p> <p>None identified (This amendment is in anticipation of a potential change to the BSC)</p> | |
| <p>Impact on Computer Systems and Processes used by CUSC Parties <i>(this should be given where possible):</i></p> <p>Changes to the Transmission Company's Balancing Services Settlement System. Revisions to users' systems which verify these payments.</p> | |

Details of any Related Modifications to Other Industry Codes (*where known*):

BSC modification proposal P34.

Justification for Proposed Amendment with Reference to Applicable CUSC Objectives
(*mandatory by proposer*):

Assuming the BSC is modified as described, this modification is justified since it prevents the Transmission Company refunding payments for costs that are not incurred, which would result in unnecessary payments being made to certain service providers. The cost of these payments would be borne by BSUoS customers.

This is compatible with CUSC objective (a), the efficient discharge by National Grid of its obligations under the Transmission Licence; and objective (b), facilitating competition.

| | |
|---|--|
| Details of Proposer: Organisation's Name: | National Grid |
| Capacity in which the Amendment is being proposed: (i.e. CUSC Party, BSC Party or "energywatch") | BSC Party |
| Details of Proposer's Representative: Name: Organisation: Telephone Number: Email Address: | Richard Phillips National Grid 024 7642 3184 richard.phillips@uk.ngrid.com |
| Details of Representative's Alternate: Name: Organisation: Telephone Number: Email Address: | Nick Sillito National Grid 024 7642 3082 nick.sillito@uk.ngrid.com |
| Attachments (Yes/No): No If Yes, Title and No. of pages of each Attachment: | |

Notes:

Those wishing to propose an Amendment to the CUSC should do so by filling in this "Amendment Proposal Form" that is based on the provisions contained in Section 8.15 of the CUSC. The form seeks to ascertain details about the Amendment Proposal so that the Amendments Panel can determine more clearly whether the proposal should be considered by a Working Group or go straight to wider National Grid Consultation.

The Panel Secretary will check that the form has been completed, in accordance with the requirements of the CUSC, prior to submitting it to the Panel. If the Panel Secretary accepts the Amendment Proposal form as complete, then he will write back to the Proposer informing him of the reference number for the Amendment Proposal and the date on which the Proposal will be considered by the Panel. If, in the opinion of the Panel Secretary, the form fails to provide the information required in the CUSC, then he may reject the Proposal. The Panel Secretary will inform the Proposer of the rejection and report the matter to the Panel at their next meeting. The Panel can reverse the Panel Secretary's decision and if this happens the Panel Secretary will inform the Proposer.

The completed form should be returned to:

Mark Cox
Panel Secretary
Commercial Development
National Grid Company plc
National Grid House
Kirby Corner Road
Coventry, CV4 8JY

Or via e-mail to: CUSC.Team@uk.ngrid.com

(Participants submitting this form by email will need to send a statement to the effect that the proposer acknowledges that on acceptance of the proposal for consideration by the Amendments Panel, a proposer which is not a CUSC Party shall grant a licence in accordance with Paragraph 8.15.7 of the CUSC. A Proposer that is a CUSC Party shall be deemed to have granted this Licence).

Annex 2 – Interaction between BSC Modifications P34/P71/P36 and CUSC Paragraph 4.1.3.9A

- 1) When a BM participant provides certain balancing services (e.g. mandatory frequency response) its output will move away from its expected position.
- 2) This change in output will contribute to the imbalance charge that the BM participant incurs under the BSC. In general, if output increases, the participant will receive System Sell Price (SSP), and if output decreases the participant will pay System Buy Price (SBP).
- 3) Provisions were put in place at NETA Go-live to compensate generators for this imbalance exposure when they are providing the balancing service of mandatory frequency response. This compensation mechanism is contained within the CUSC (paragraph 4.1.3.9A refers).
- 4) Under CUSC the volume of frequency response that is expected to be delivered from each service provider for each settlement period is calculated (currently using the CAP001 methodology which could be replaced by the CAP009 methodology):
 - When low frequency response is provided (i.e. output increases and the provider receives SSP under the BSC), the CUSC provides that the generator pays back an amount to National Grid equal to the expected volume multiplied by the relevant SSP; or
 - When high frequency response is provided (i.e. output decreases and the provider incurs SBP under the BSC), the CUSC provides that the generator receives an amount from National Grid equal to the expected volume multiplied by the relevant SBP.
- 5) These payments under 4 are intended to remove the imbalance exposure that the participant incurs for the volume of frequency response delivered (as described in 2 above).
- 6) A further payment is then calculated and paid under the CUSC for this volume of frequency response energy delivered:
 - When low frequency response is provided (i.e. the output has increased), the increase in energy volume receives a reference price intended to cover the costs of production (this could be replaced by the appropriate offer price if CAP010 is implemented); or
 - When high frequency response is provided (i.e. the output has decreased), the decrease in energy volume pays back a reference price intended to reflect the avoided costs of production (this could be replaced by the appropriate bid price if CAP010 is implemented)

P34 and P71

- 7) P34 or its Alternative proposes a mechanism whereby imbalance charges are not incurred when certain balancing services are delivered by transferring the imbalance volume to the energy account of the Transmission Company. Applicable Balancing Services (which could include mandatory frequency response) would be defined in a Methodology Statement under the governance of either the Transmission Licence or the Balancing and Settlement Code. For these applicable services, imbalance exposure arising from the provision of these services (as described in 2 above) does not occur. Therefore, assuming that Mode A Frequency Response is included in this mechanism, the compensation payments under CUSC (described in 4 above) will no longer be required. Note the payment for cost or avoided cost of production (described in 6 above) is still required.
- 8) Recently, P71 has been submitted which proposes a prospective implementation of P34 but is the same as the original P34 in all other aspects.
- 9) CAP011 proposes that the equations in CUSC which calculate the payments due under 4 above, are removed i.e. the consequential changes to CUSC arising from the implementation of P34 or its Alternative.
- 10) Therefore, National Grid is of the view that if P34, P34 Alternative or P71 is implemented and Mode A Frequency Response is included in the Methodology Statement, then CAP011 needs to be implemented at the same time.

P36

- 11) P36 proposes a mechanism whereby imbalance charges are not incurred when certain balancing services are delivered by treating the delivery of the balancing service as a bid or offer acceptance. Applicable Balancing Services (which could include mandatory frequency response) would be defined in a Methodology Statement under the governance of the Balancing and Settlement Code. For these applicable services, imbalance exposure arising from the provision of these services (as described in 2 above) does not occur. Therefore, assuming that Mode A Frequency Response is included in this mechanism, the compensation payments under CUSC (described in 4 above) are no longer required.
- 12) Furthermore, the bid or offer acceptance will attract the relevant bid or offer price for the volume of balancing service delivered and the payments under CUSC (described in 6 above) are no longer required.

- 13) P36 Alternative proposes that the P34 approach is used for balancing services other than mandatory frequency response and the P36 approach is used for mandatory frequency response.
- 14) CAP011 Alternative proposes that the equations in CUSC that calculate the payments due under 4 and 6 above, are removed i.e. the consequential changes to CUSC arising from the implementation of P36 or its Alternative.
- 15) Therefore, National Grid is of the view that if P36 or its Alternative is implemented and Mode A Frequency Response is included in the Methodology Statement, then CAP011 Alternative needs to be implemented at the same time.

Annex 3 – Consequential changes to CUSC text for CAP011 (should BSC Modification P34, P34A or P71 be approved)

Calculation of Payments

- 4.1.3.8 The payments to be made by **NGC** to a **User** hereunder in respect of the provision of any **Mode A Frequency Response** from a **BM Unit** shall be comprised of **Holding Payments** and ~~Imbalance—CompensationResponse~~ **Energy Payments** and shall be determined in accordance with the formulae in, respectively, Paragraphs 4.1.3.9 and 4.1.3.9A and in accordance with Paragraphs 4.1.3.10 to 4.1.3.12 inclusive.

Payment Formulae - Holding Payments

- 4.1.3.9 The **Holding Payments** for a **BM Unit** to be made by **NGC** to a **User** referred to in Paragraph 4.1.3.8 shall be calculated in accordance with the following formula:-

$$HP_M = P_M + H_M + S_M$$

Where:

HP_M is the **Holding Payment** to be made to the **User** calculated in £ per minute.

P_M is the payment per minute to be made by **NGC** to the **User** for the **Ancillary Service of Primary Response** provided by the **User** from the **BM Unit** concerned pursuant to an instruction from **NGC** to provide **Mode A Frequency Response**, and is calculated as follows:-

$$P_M = (P_{PR} \times P_{MW} (1 - SF_P)) \times K_T \times K_{GRC} \times \left[\frac{1}{60} \right]$$

H_M is the payment per minute to be made by **NGC** to the **User** for the **Ancillary Service of High Frequency Response** provided by the **User** from the **BM Unit** concerned pursuant to an instruction from **NGC** to provide **Mode A Frequency Response**, and is calculated as follows:-

$$H_M = (H_{PR} \times H_{MW} (1 - SF_H)) \times K_T \times K_{GRC} \times \left[\frac{1}{60} \right]$$

S_M is the payment per minute to be made by **NGC** to the **User** for the **Ancillary Service of Secondary Response** provided by the **User** from the **BM Unit** concerned pursuant to an instruction from **NGC** to provide **Mode A Frequency Response**, and is calculated as follows:-

$$S_M = (S_{PR} \times S_{MW} (1 - SF_S)) \times K_T \times K_{GRC} \times \left[\frac{1}{60} \right]$$

In this Paragraph 4.1.3.9, the following terms shall have the following meanings:-

- P_{PR} = the appropriate payment rate for **Primary Response** set out in the **Mandatory Services Agreement**;
- P_{MW} = the **Primary Response** capability (expressed in MW) for the level of **De-Load** of the **BM Unit** concerned at the end of the minute in which the service is provided;
- H_{PR} = the appropriate payment rate for **High Frequency Response** set out in the **Mandatory Services Agreement**;
- H_{MW} = the **High Frequency Response** capability (expressed in MW) for the level of **De-Load** of the **BM Unit** concerned at the end of the minute in which the service is provided;
- S_{PR} = the appropriate payment rate for **Secondary Response** set out in the **Mandatory Services Agreement**;
- S_{MW} = the **Secondary Response** capability (expressed in MW) for the level of **De-Load** of the **BM Unit** concerned at the end of the minute in which the service is provided;
- K_T = the ambient temperature adjustment factor. **NGC** and each **User** acknowledge and agree, as between **NGC** and that **User**, that K_T shall be deemed to be 1 for the purposes of calculating payments until such time as they agree upon an appropriate formula and a suitable method of measuring the ambient temperature on a minute by minute basis which shall be set out in the **Mandatory Services Agreement**. In the event that any agreed method of measuring the ambient temperature on a minute by minute basis should fail following its implementation, then **NGC** and each **User** acknowledge and agree, as between **NGC** and that **User**, that K_T shall be deemed to be 1 until the method of measuring the ambient temperature on a minute by minute basis is restored;
- K_{GRC} = where the **BM Unit** is a **CCGT Module**, the plant configuration adjustment factor set out in the relevant table in the **Mandatory Services Agreement** for the configuration of the **BM Unit** concerned at the time at which the capability to provide the service is carried, otherwise 1;
- SF_P = 0, subject to Paragraph 4.1.3.25 (e);
- SF_S = 0, subject to Paragraph 4.1.3.25 (e);
- SF_H = 0, subject to Paragraph 4.1.3.25 (e).

Payment Formulae - ~~Imbalance Compensation Response Energy Payment~~

- 4.1.3.9A (a) The ~~Imbalance Compensation Response Energy Payments~~ for **BM Unit i** in **Settlement Period j** to be made by **NGC** to a **User** referred to in Paragraph 4.1.3.8 ~~shall be comprised of an Imbalance Energy Payment and a Non-Delivery Payment~~, and shall be calculated in accordance with the following formulae:-

$$REP_{ij} = RE_{ij} \times \text{Reference Price}$$

But so that where $ICP_{ij}REP_{ij}$ is negative such amount shall be paid by the **User** to **NGC**.

Where:

~~ICP_{ij} is the Imbalance Compensation~~ ~~REP_{ij} is the Response Energy Payment~~ to be made to or, as the case may be, by the ~~User~~;

~~IEP_{ij} is the Imbalance Energy Payment for BM Unit i, in Settlement Period j, calculated in accordance with Paragraph 4.1.3.9A (b) below;~~ ~~User~~ and

~~$RNDC_{ij}$ is the Non-Delivery Payment for BM Unit i, in Settlement Period j, calculated in accordance with Paragraph 4.1.3.9A (c) below.~~

~~(b) The Imbalance Energy Payment (IEP_{ij}) shall be calculated as follows:-~~

~~$$IEP_{ij} = LFIEP_{ij} + HFIEP_{ij}$$~~

Where:

~~$LFIEP_{ij}$ is the low frequency response imbalance energy payment for BM Unit i, in Settlement Period j, and $HFIEP_{ij}$ is the high frequency response imbalance energy payment for BM Unit i, in Settlement Period j, and are calculated as follows:-~~

~~if $IE_{ij} > 0$, then~~

~~$$LFIEP_{ij} = |IE_{ij}| * (\text{reference price} - SSP_j)$$~~

~~and~~

~~$$HFIEP_{ij} = 0$$~~

~~otherwise~~

~~$$LFIEP_{ij} = 0$$~~

~~and~~

~~$$HFIEP_{ij} = |IE_{ij}| * (SBP_j - \text{reference price})$$~~

Where ~~IE_{ij}~~ ~~RE_{ij}~~ is the expected ~~imbalance response~~ energy for **BM Unit i** in **Settlement Period j** calculated as follows:-

$$RE_{ij} = \int_0^{SPD} FR_{ij}(t)dt$$

Where:

$\int_0^{SPD} dt$ is the integral at times t, over the **Settlement Period** duration.

$FR_{ij}(t)$ is the expected change in **Active Power** output for **BM Unit** i, at time t (resolved to the nearest integer minute), expressed in MW derived from the relevant table set out in the **Mandatory Services Agreement** (as such table is interpreted in accordance with Paragraph 4.1.3.11) by reference to the level of **De-Load** of the **BM Unit** concerned at the end of the minute and the mean **Frequency Deviation** over that minute when that **BM Unit** is providing **Mode A Frequency Response** and zero at all other times.

For this purpose:-

- (i) for a positive **Frequency Deviation** the expected change in **Active Power** output of **BM Unit** i shall be derived from the high frequency response table set out in the **Mandatory Services Agreement** and shall be signed negative; and
- (ii) for a negative **Frequency Deviation**, the expected change in **Active Power** output of **BM Unit** i shall be derived from:
 - A) the **Primary Response** data in the case of a **BM Unit** being instructed to deliver **Primary Response** without **Secondary Response**; or
 - B) the mean of the **Primary Response** and **Secondary Response** data in the case of a **BM Unit** being instructed to deliver **Primary Response** and **Secondary Response**,

in each case shown in the low frequency response tables set out in the **Mandatory Services Agreement** and shall be signed positive.

$$\text{reference price} = \frac{(\overline{SBP}_{month} + \overline{SSP}_{month})}{2}$$

Where:

\overline{SBP}_{month} and \overline{SSP}_{month} are the calculated time weighted average of SBP_j and SSP_j respectively (each as defined in the **Balancing and Settlement Code**) for

the preceding calendar month in which the service is provided.

~~(c) The **Non-Delivery Payment** ($RNDC_{ij}$) shall be calculated as follows:-~~

$$\del{RNDC_{ij} = CND_{ij} - CNDR_{ij}}$$

~~Where:~~

~~$CNDR_{ij}$ is a quantity referred to in this Paragraph 4.1.3.9A (c) as the **BM Unit Period Non-Delivery Charge (Revised)** determined as follows:-~~

~~In respect of each **Settlement Period** j , for each **BM Unit** i , a quantity referred to in this Paragraph 4.1.3.9A (c) as the **Period BM Unit Non-Delivered Offer Volume (Revised)** ($QNDOR_{ij}$) will be determined as follows:-~~

$$\del{QNDOR_{ij} = \min(\max(QME_{ij} + IE_{ij} - QM_{ij}, 0), \sum_n QAO_{ij}^n)}$$

~~where \sum_n represents the sum over all **Bid-Order Pair Numbers** for the **Accepted Offer Volumes** for the **BM Unit**.~~

~~In respect of each **Settlement Period** j , for each **BM Unit** i , a quantity referred to in this Paragraph 4.1.3.9A (c) as the **Period BM Unit Non-Delivered Bid Volume (Revised)** ($QNDBR_{ij}$) will be determined as follows:-~~

$$\del{QNDBR_{ij} = \max(\min(QME_{ij} + IE_{ij} - QM_{ij}, 0), \sum_n QAB_{ij}^n)}$$

~~where \sum_n represents the sum over all **Bid-Order Pair Numbers** for the **Accepted Bid Volumes** for the **BM Unit**.~~

~~Now, in respect of each **Settlement Period** j , for each **BM Unit** i , if the **Period BM Unit Non-Delivered Offer Volume (Revised)** is greater than zero then to determine values of a quantity referred to in this Paragraph 4.1.3.9A (c) as the **Offer Non-Delivery Volume (Revised)** ($QNDOR_{ij}^n$), the **Period BM Unit Non-Delivered Offer Volume (Revised)** will be apportioned across accepted **Offers**, in the following way:-~~

~~In respect of each **Settlement Period** j , for each **BM Unit** i , the set of all accepted **Offers** will be ranked in order of decreasing price. The accepted **Offer** with the highest price will be allocated **Non-Delivery Order Number 1**, the next highest priced accepted **Offer** will be allocated **Non-Delivery Order Number 2** and so on until all accepted **Offers** for the **Settlement Period** have been allocated a **Non-Delivery Order Number**.~~

~~The set of accepted Offers $\{QAO_{ij}^{n_1}, QAO_{ij}^{n_2}, \dots, QAO_{ij}^{n_u}\}$ is then a ranked set of accepted Offers.~~

~~The Offer Non-Delivery Volume (Revised) will be allocated to the first accepted Offer in the list first, then, once the first accepted Offer has been wholly accepted, to the second accepted Offer and so on until the Period BM Unit Non-Delivered Offer Volume (Revised) is fully apportioned.~~

~~Then the Offer Non-Delivery Volume (Revised) for accepted Offer n, is:~~

$$\del{QNDOR_{ij}^n = \min(QAO_{ij}^{n_u}, RQNDOR_{ij}^{u-1})}$$

~~where $RQNDOR_{ij}^{u-1}$ is a quantity referred to in this Paragraph 4.1.3.9A (c) as the Remaining Period BM Unit Non-Delivered Offer Volume (Revised) determined as:~~

$$\del{RQNDOR_{ij}^u = RQNDOR_{ij}^{u-1} - QNDOR_{ij}^{n_u-1}}$$

$$\del{\text{and } RQNDOR_{ij}^0 = QNDOR_{ij}}$$

$$\del{\text{and } QNDOR_{ij}^{n_u} = 0.}$$

~~Now, in respect of each Settlement Period j, for each BM Unit i, if the Period BM Unit Non-Delivered Bid Volume (Revised) is less than zero then to determine values of a quantity referred to in this Paragraph 4.1.3.9A (c) as the Bid Non-Delivery Volume (Revised) ($QNDBR_{ij}^n$), the Period BM Unit Non-Delivered Bid Volume (Revised) will be apportioned across accepted Bids, in the following way:-~~

~~In respect of each Settlement Period j, for each BM Unit i, the set of all accepted Bids will be ranked in order of increasing price. The accepted Bid with the lowest price is allocated Non-Delivery Order Number 1, the next lowest priced accepted Bid is allocated Non-Delivery Order Number 2 and so on until all accepted Bids for the Settlement Period have been allocated a Non-Delivery Order Number. The set of accepted Bids $\{QAB_{ij}^{n_1}, QAB_{ij}^{n_2}, \dots, QAB_{ij}^{n_u}\}$ is then a ranked set of accepted Bids.~~

~~The Bid Non-Delivery Volume (Revised) will be allocated to the first accepted Bid in the list first, then, once the first accepted Bid has been wholly accepted, to the second accepted Bid and so on until the Period BM Unit Non-Delivered Bid Volume (Revised) is fully apportioned.~~

~~Then the Bid Non-Delivery Volume (Revised) for accepted Bid n, is:~~

$$\cancel{QNDBR_{ij}^n} = \max(\cancel{QAB_{ij}^n}, \cancel{RONDBR_{ij}^{(n-1)}})$$

where $\cancel{RONDBR_{ij}^{(n-1)}}$ is a quantity referred to in this Paragraph 4.1.3.9A (c) as the **Remaining Period BM Unit Non-Delivered Bid Volume (Revised)** determined as:

$$\cancel{RONDBR_{ij}^n} = \cancel{RONDBR_{ij}^{(n-1)}} - \cancel{QNDBR_{ij}^{(n-1)}}$$

$$\text{and } \cancel{RONDBR_{ij}^0} = \cancel{QNDBR_{ij}}$$

$$\text{and } \cancel{QNDBR_{ij}^0} = 0.$$

In respect of each **Settlement Period** j , for each **BM Unit** i , for each accepted **Offer**, a quantity referred to in this Paragraph 4.1.3.9A (c) as the **Non-Delivered Offer Charge (Revised)** will be determined as follows:-

$$\cancel{CNDOR_{ij}^n} = \cancel{QNDR_{ij}^n} \times \max((\cancel{PC_{ij}^n} - \cancel{SBP_j}), 0) \times \cancel{TLM_{ij}}$$

In respect of each **Settlement Period** j , for each **BM Unit** i , for each accepted **Bid**, a quantity referred to in this Paragraph 4.1.3.9A (c) as the **Non-Delivered Bid Charge (Revised)** will be determined as follows:-

$$\cancel{CNDBR_{ij}^n} = \cancel{QNDBR_{ij}^n} \times \min((\cancel{PB_{ij}^n} - \cancel{SSP_j}), 0) \times \cancel{TLM_{ij}}$$

In respect of each **Settlement Period** j , for each **BM Unit** i , the **BM Unit Period Non-Delivery Charge (Revised)** ($\cancel{CNDR_{ij}}$) will be determined as follows:-

$$\cancel{CNDR_{ij}} = \sum_n (\cancel{CNDOR_{ij}^n} + \cancel{CNDBR_{ij}^n})$$

where \sum_n represents the sum over all **Bid-Offer Pair Numbers** for the **BM Unit**.

(b) (not used)

(c) (not used)

- (d) In this Paragraph 4.1.3.9A, the following terms shall have the meanings ascribed to them in the **Balancing and Settlement Code**:-

~~“Accepted Offer Volumes”~~

~~“Accepted Bid Volumes”~~

~~“Bid”~~

~~“Bid-Offer Pair Numbers”~~

~~“BM Unit Period Non-Delivery Charge”~~

~~“CND_{ij}”~~

~~“Non-Delivery Order No.1”~~

~~“Non-Delivery Order No.2”~~

~~“Offer”~~

~~“QABⁿ_{ij}”~~

~~“QAO_{ij}”~~
~~“QM_{ij}”~~
~~“QME_{ij}”~~
“SSP_j”
“SBP_j”
“SPD”

4.1.3.10

NGC and each **User** acknowledge and agree, as between **NGC** and that **User**, that no **Holding Payment** or **Imbalance Compensation Response Energy Payment** shall be payable except in relation to periods in respect of which instructions have been issued by **NGC** pursuant to this Paragraph 4.1.3.

4.4 CHARGING PRINCIPLES

4.4.1 Application

The provisions of this Paragraph 4.4 shall apply to payments made by **NGC** to a **User** pursuant to **Mandatory Services Agreements** in respect of the provision of the **Mandatory Ancillary Service of Frequency Response**, and (if agreed between **NGC** and a **User**) may also be incorporated by reference into any other **Ancillary Services Agreement** as a term thereof so as to apply in respect of payments made by **NGC** to that **User** in respect of the provision of other **Ancillary Services** (but for the avoidance of doubt not so as to thereby create any obligations on **NGC** and that **User** under the **CUSC** in respect thereof).

4.4.2 Charging Principles - General

- 4.4.2.1 These principles are to be used to establish the basic arrangements but are not intended to stifle innovation in the development of new services or the giving of appropriate economic signals.
- 4.4.2.2 The charges shall be "cost reflective" ie. based and founded upon the actual or estimated costs directly incurred or to be incurred by the **User** for the purpose of providing the service or capability concerned.
- 4.4.2.3 Where a capability to provide an **Ancillary Service** is required by the **Grid Code** from all **BM Units** or **CCGT Units** (as opposed to a capability made available by agreement between **NGC** and a **User** from some only of the **User's BM Units** or **CCGT Units**), no **Ancillary Service** capability payment shall be made.
- 4.4.2.4 The cost of "Grandfathering" **User's** Equipment (i.e. bringing equipment owned by the **User** on 30th March 1990 to a condition of compliance with the **Grid Code**) shall not be included in **Ancillary Services** payments. Where a **Derogation** is withdrawn or reduced in scope then, except in relation to **Frequency Response**, the **User** shall be entitled to take the cost of meeting the withdrawal or reduction in the scope of the **Derogation** into account in its charges.
- 4.4.2.5 Subject to the other provisions of this Paragraph 4.4.2, the charges shall take due account of any change in or amendments to the **Grid Code** or any other statutory or regulatory obligation coming into force after 30th March 1990 affecting the provision of **Ancillary Services**.
- 4.4.2.6 If as a result of any changes to the **Balancing and Settlement Code** the **User** ceases to be entitled to receive payment under the **Balancing and Settlement Code** in respect of any elements of **Ancillary Services** provided by it which are expressed in this Paragraph 4.4 to be paid for under the **Balancing and Settlement Code**, the **User** shall be entitled to charge for such elements under an **Ancillary Services Agreement**. Where, however, such change entitles the **User** to be paid for any elements of **Ancillary Services** which are expressed in this Paragraph 4.4 to be paid for under an **Ancillary Services Agreement** the **User**

shall cease to be entitled to charge for such elements under an **Ancillary Services Agreement**.

4.4.3 Charging Principles – Frequency Response

- 4.4.3.1 The variable cost of producing **Primary Response**, **Secondary Response**, **High Frequency Response** shall include sums in respect of the additional inefficiency costs incurred in providing these services but shall not include any sums payable in respect of any costs which are the subject of Paragraph 4.4.3.3 or any costs which are incurred under the Balancing and Settlement Code in providing these services.
- 4.4.3.2 Part-loading of a **BM Unit** at a level other than that specified in a **Physical Notification** in order to provide **Frequency Response** will normally be achieved by the issue of a **Bid-Offer Acceptance**.
- 4.4.3.3 In recognition of the energy production costs likely to be incurred under the Balancing and Settlement Code or avoided when providing **Frequency Response**, an additional amount based upon an expected exposure to energy imbalance and non-delivery charges when providing these services delivery of Frequency Response energy shall be payable under Paragraph 4.1.3.9A.

Related Changes to Definitions for CUSC Paragraph 11.3

| | |
|---|--|
| “Imbalance Compensation Payment” | that component of the payment for Mode A Frequency Response referred to in Paragraph 4.1.3.9A comprising the Imbalance Energy Payment and the Non-Delivery Payment; |
| “Imbalance Energy Payment” | that component of the Imbalance Compensation Payment calculated in accordance with Paragraph 4.1.3.9A(b); |
| “Non-Delivery Payment” | that component of the Imbalance Compensation Payment calculated in accordance with Paragraph 4.1.3.9A(c); |
| “Response Energy Payment” | that component of the payment for Mode A Frequency Response calculated in accordance with Paragraph 4.1.3.9A; |

Annex 4 – Consequential changes to CUSC text for CAP011 Alternative (should BSC Modification P36 or P36A be approved)

Calculation of Payments

4.1.3.8 The payments to be made by **NGC** to a **User** hereunder in respect of the provision of any **Mode A Frequency Response** from a **BM Unit** shall be comprised of **Holding Payments** and ~~Imbalance Compensation Payments~~ and shall be determined in accordance with the formulae in, ~~respectively, Paragraphs 4.1.3.9 and 4.1.3.9A in Paragraph 4.1.3.9~~ and in accordance with Paragraphs 4.1.3.10 to 4.1.3.12 inclusive.

Payment Formulae - Holding Payments

4.1.3.9 The **Holding Payments** for a **BM Unit** to be made by **NGC** to a **User** referred to in Paragraph 4.1.3.8 shall be calculated in accordance with the following formula:-

$$HP_M = P_M + H_M + S_M$$

Where:

HP_M is the **Holding Payment** to be made to the **User** calculated in £ per minute.

P_M is the payment per minute to be made by **NGC** to the **User** for the **Ancillary Service of Primary Response** provided by the **User** from the **BM Unit** concerned pursuant to an instruction from **NGC** to provide **Mode A Frequency Response**, and is calculated as follows:-

$$P_M = (P_{PR} \times P_{MW} (1 - SF_P)) \times K_T \times K_{GRC} \times \left[\frac{1}{60} \right]$$

H_M is the payment per minute to be made by **NGC** to the **User** for the **Ancillary Service of High Frequency Response** provided by the **User** from the **BM Unit** concerned pursuant to an instruction from **NGC** to provide **Mode A Frequency Response**, and is calculated as follows:-

$$H_M = (H_{PR} \times H_{MW} (1 - SF_H)) \times K_T \times K_{GRC} \times \left[\frac{1}{60} \right]$$

S_M is the payment per minute to be made by **NGC** to the **User** for the **Ancillary Service of Secondary Response** provided by the **User** from the **BM Unit** concerned pursuant to an instruction from **NGC** to provide **Mode A Frequency Response**, and is calculated as follows:-

$$S_M = (S_{PR} \times S_{MW} (1 - SF_S)) \times K_T \times K_{GRC} \times \left[\frac{1}{60} \right]$$

In this Paragraph 4.1.3.9, the following terms shall have the following meanings:-

- P_{PR} = the appropriate payment rate for **Primary Response** set out in the **Mandatory Services Agreement**;
- P_{MW} = the **Primary Response** capability (expressed in MW) for the level of **De-Load** of the **BM Unit** concerned at the end of the minute in which the service is provided;
- H_{PR} = the appropriate payment rate for **High Frequency Response** set out in the **Mandatory Services Agreement**;
- H_{MW} = the **High Frequency Response** capability (expressed in MW) for the level of **De-Load** of the **BM Unit** concerned at the end of the minute in which the service is provided;
- S_{PR} = the appropriate payment rate for **Secondary Response** set out in the **Mandatory Services Agreement**;
- S_{MW} = the **Secondary Response** capability (expressed in MW) for the level of **De-Load** of the **BM Unit** concerned at the end of the minute in which the service is provided;
- K_T = the ambient temperature adjustment factor. **NGC** and each **User** acknowledge and agree, as between **NGC** and that **User**, that K_T shall be deemed to be 1 for the purposes of calculating payments until such time as they agree upon an appropriate formula and a suitable method of measuring the ambient temperature on a minute by minute basis which shall be set out in the **Mandatory Services Agreement**. In the event that any agreed method of measuring the ambient temperature on a minute by minute basis should fail following its implementation, then **NGC** and each **User** acknowledge and agree, as between **NGC** and that **User**, that K_T shall be deemed to be 1 until the method of measuring the ambient temperature on a minute by minute basis is restored;
- K_{GRC} = where the **BM Unit** is a **CCGT Module**, the plant configuration adjustment factor set out in the relevant table in the **Mandatory Services Agreement** for the configuration of the **BM Unit** concerned at the time at which the capability to provide the service is carried, otherwise 1;
- SF_P = 0, subject to Paragraph 4.1.3.25 (e);
- SF_S = 0, subject to Paragraph 4.1.3.25 (e);
- SF_H = 0, subject to Paragraph 4.1.3.25 (e).

~~Payment Formulae – Imbalance Compensation Payment~~
4.1.3.9A (a) ~~The Imbalance Compensation Payments for BM Unit i in Settlement Period j to be made by NGC to a User referred to in Paragraph 4.1.3.8 shall be comprised of an Imbalance Energy Payment and a Non-Delivery Payment, and shall be calculated in accordance with the following formulae:-~~

~~$$ICP_{ij} = IEP_{ij} + RNDC_{ij}$$~~

But so that where ICP_{ij} is negative such amount shall be paid by the User to NGC.

Where:

ICP_{ij} is the Imbalance Compensation Payment to be made to or, as the case may be, by the User;

IEP_{ij} is the Imbalance Energy Payment for BM Unit i , in Settlement Period j , calculated in accordance with Paragraph 4.1.3.9A (b) below; and

$RNDC_{ij}$ is the Non-Delivery Payment for BM Unit i , in Settlement Period j , calculated in accordance with Paragraph 4.1.3.9A (c) below.

(b) The Imbalance Energy Payment (IEP_{ij}) shall be calculated as follows:-

~~$$IEP_{ij} = LFIEP_{ij} + HFIEP_{ij}$$~~

Where:

$LFIEP_{ij}$ is the low frequency response imbalance energy payment for BM Unit i , in Settlement Period j , and $HFIEP_{ij}$ is the high frequency response imbalance energy payment for BM Unit i , in Settlement Period j , and are calculated as follows:-

if $IE_{ij} > 0$, then

~~$$LFIEP_{ij} = |IE_{ij}| * (\text{reference price} - SSP_j)$$~~

and

~~$$HFIEP_{ij} = 0$$~~

otherwise

~~$$LFIEP_{ij} = 0$$~~

and

~~$$HFIEP_{ij} = |IE_{ij}| * (SBP_j - \text{reference price})$$~~

Where IE_{ij} is the expected imbalance energy for BM Unit i in Settlement Period j calculated as follows:-

~~$$RE_{ij} = \int_0^{SPD} FR_{ij}(t) dt$$~~

Where:

$\int_0^{SPD} dt$ is the integral at times t , over the ~~Settlement Period~~ duration.

$EP_{i,t}$ is the expected change in ~~Active Power~~ output for ~~BM Unit~~ i , at time t (resolved to the nearest integer minute), expressed in MW derived from the relevant table set out in the ~~Mandatory Services Agreement~~ (as such table is interpreted in accordance with Paragraph 4.1.3.11) by reference to the level of ~~De-Load~~ of the ~~BM Unit~~ concerned at the end of the minute and the mean ~~Frequency Deviation~~ over that minute when that ~~BM Unit~~ is providing ~~Mode A Frequency Response~~ and zero at all other times.

For this purpose:-

(i) for a positive ~~Frequency Deviation~~ the expected change in ~~Active Power~~ output of ~~BM Unit~~ i shall be derived from the high frequency response table set out in the ~~Mandatory Services Agreement~~ and shall be signed negative; and

(ii) for a negative ~~Frequency Deviation~~, the expected change in ~~Active Power~~ output of ~~BM Unit~~ i shall be derived from:

A) the ~~Primary Response~~ data in the case of a ~~BM Unit~~ being instructed to deliver ~~Primary Response~~ without ~~Secondary Response~~; or

B) the mean of the ~~Primary Response~~ and ~~Secondary Response~~ data in the case of a ~~BM Unit~~ being instructed to deliver ~~Primary Response~~ and ~~Secondary Response~~,

in each case shown in the low frequency response tables set out in the ~~Mandatory Services Agreement~~ and shall be signed positive.

$$\text{reference price} = \frac{(\overline{SBP}_{month} + \overline{SSP}_{month})}{2}$$

Where:

\overline{SBP}_{month} and \overline{SSP}_{month} are the calculated time weighted average of ~~SBP~~, and ~~SSP~~, respectively (each as defined in the ~~Balancing and Settlement Code~~) for the preceding calendar month in which the service is provided.

~~(c) The **Non-Delivery Payment** ($RNDC_{ij}$) shall be calculated as follows:-~~

$$\del{RNDC_{ij} = CND_{ij} - CNDR_{ij}}$$

~~Where:~~

~~$CNDR_{ij}$ is a quantity referred to in this Paragraph 4.1.3.9A (c) as the **BM Unit Period Non-Delivery Charge (Revised)** determined as follows:-~~

~~In respect of each **Settlement Period** j , for each **BM Unit** i , a quantity referred to in this Paragraph 4.1.3.9A (c) as the **Period BM Unit Non-Delivered Offer Volume (Revised)** ($QNDOR_{ij}$) will be determined as follows:-~~

$$\del{QNDOR_{ij} = \min(\max(QME_{ij} + IE_{ij} - QM_{ij}, 0), \sum_n QAO_{ij}^n)}$$

~~where \sum_n represents the sum over all **Bid-Offer Pair Numbers** for the **Accepted Offer Volumes** for the **BM Unit**.~~

~~In respect of each **Settlement Period** j , for each **BM Unit** i , a quantity referred to in this Paragraph 4.1.3.9A (c) as the **Period BM Unit Non-Delivered Bid Volume (Revised)** ($QNDBR_{ij}$) will be determined as follows:-~~

$$\del{QNDBR_{ij} = \max(\min(QME_{ij} + IE_{ij} - QM_{ij}, 0), \sum_n QAB_{ij}^n)}$$

~~where \sum_n represents the sum over all **Bid-Offer Pair Numbers** for the **Accepted Bid Volumes** for the **BM Unit**.~~

~~Now, in respect of each **Settlement Period** j , for each **BM Unit** i , if the **Period BM Unit Non-Delivered Offer Volume (Revised)** is greater than zero then to determine values of a quantity referred to in this Paragraph 4.1.3.9A (c) as the **Offer Non-Delivery Volume (Revised)** ($QNDOR_{ij}^*$), the **Period BM Unit Non-Delivered Offer Volume (Revised)** will be apportioned across accepted **Offers**, in the following way:-~~

~~In respect of each **Settlement Period** j , for each **BM Unit** i , the set of all accepted **Offers** will be ranked in order of decreasing price. The accepted **Offer** with the highest price will be allocated **Non-Delivery Order Number 1**, the next highest priced accepted **Offer** will be allocated **Non-Delivery Order Number 2** and so on until all accepted **Offers** for the **Settlement Period** have been allocated a **Non-Delivery Order Number**. The set of accepted **Offers** $\{QAO_{ij}^1, QAO_{ij}^2, \dots, QAO_{ij}^n, \dots\}$ is then a ranked set of accepted **Offers**.~~

The ~~Offer Non-Delivery Volume (Revised)~~ will be allocated to the first accepted ~~Offer~~ in the list first, then, once the first accepted ~~Offer~~ has been wholly accepted, to the second accepted ~~Offer~~ and so on until the ~~Period BM Unit Non-Delivered Offer Volume (Revised)~~ is fully apportioned.

Then the ~~Offer Non-Delivery Volume (Revised)~~ for accepted ~~Offer~~ n, is:

$$\del{QNDOR}_{ij}^n = \min(\del{QAO}_{ij}^{n_u}, \del{RQNDOR}_{ij}^{n-1})$$

where ~~RQNDOR~~ⁿ⁻¹_{ij} is a quantity referred to in this Paragraph 4.1.3.9A (c) as the ~~Remaining Period BM Unit Non-Delivered Offer Volume (Revised)~~ determined as:

$$\del{RQNDOR}_{ij}^n = \del{RQNDOR}_{ij}^{n-1} - \del{QNDOR}_{ij}^{n-1}$$

$$\text{and } \del{RQNDOR}_{ij}^0 = \del{QNDOR}_{ij}$$

$$\text{and } \del{QNDOR}_{ij}^n = 0.$$

Now, in respect of each ~~Settlement Period~~ j, for each ~~BM Unit~~ i, if the ~~Period BM Unit Non-Delivered Bid Volume (Revised)~~ is less than zero then to determine values of a quantity referred to in this Paragraph 4.1.3.9A (c) as the ~~Bid Non-Delivery Volume (Revised)~~ (~~QNDBR~~ⁿ_{ij}), the ~~Period BM Unit Non-Delivered Bid Volume (Revised)~~ will be apportioned across accepted ~~Bids~~, in the following way:-

In respect of each ~~Settlement Period~~ j, for each ~~BM Unit~~ i, the set of all accepted ~~Bids~~ will be ranked in order of increasing price. The accepted ~~Bid~~ with the lowest price is allocated ~~Non-Delivery Order Number~~ 1, the next lowest priced accepted ~~Bid~~ is allocated ~~Non-Delivery Order Number~~ 2 and so on until all accepted ~~Bids~~ for the ~~Settlement Period~~ have been allocated a ~~Non-Delivery Order Number~~. The set of accepted ~~Bids~~ $\{\del{QAB}_{ij}^{n_1}, \del{QAB}_{ij}^{n_2}, \dots, \del{QAB}_{ij}^{n_u}, \dots\}$ is then a ranked set of accepted ~~Bids~~.

The ~~Bid Non-Delivery Volume (Revised)~~ will be allocated to the first accepted ~~Bid~~ in the list first, then, once the first accepted ~~Bid~~ has been wholly accepted, to the second accepted ~~Bid~~ and so on until the ~~Period BM Unit Non-Delivered Bid Volume (Revised)~~ is fully apportioned.

Then the ~~Bid Non-Delivery Volume (Revised)~~ for accepted ~~Bid~~ n, is:

$$\del{QNDBR}_{ij}^n = \max(\del{QAB}_{ij}^{n_u}, \del{RQNDBR}_{ij}^{n-1})$$

where $\overline{RQNDBR}_{ij}^{u-1}$ is a quantity referred to in this Paragraph 4.1.3.9A (c) as the **Remaining Period BM Unit Non-Delivered Bid Volume (Revised)** determined as:

$$\overline{RQNDBR}_{ij}^u = \overline{RQNDBR}_{ij}^{u-1} - \overline{QNDBR}_{ij}^{u-1}$$

$$\text{and } \overline{RQNDBR}_{ij}^0 = \overline{QNDBR}_{ij}$$

$$\text{and } \overline{QNDBR}_{ij}^{u_0} = 0.$$

In respect of each **Settlement Period** j , for each **BM Unit** i , for each accepted **Offer**, a quantity referred to in this Paragraph 4.1.3.9A (c) as the **Non-Delivered Offer Charge (Revised)** will be determined as follows:-

$$\overline{CNDOR}_{ij}^n = \overline{QNDOR}_{ij}^n \times \max((\overline{PC}_{ij}^n - \overline{SBP}_j), 0) \times \overline{TLM}_{ij}$$

In respect of each **Settlement Period** j , for each **BM Unit** i , for each accepted **Bid**, a quantity referred to in this Paragraph 4.1.3.9A (c) as the **Non-Delivered Bid Charge (Revised)** will be determined as follows:-

$$\overline{CNDBR}_{ij}^n = \overline{QNDBR}_{ij}^n \times \min((\overline{PB}_{ij}^n - \overline{SSP}_j), 0) \times \overline{TLM}_{ij}$$

In respect of each **Settlement Period** j , for each **BM Unit** i , the **BM Unit Period Non-Delivery Charge (Revised)** (\overline{CNDR}_{ij}) will be determined as follows:-

$$\overline{CNDR}_{ij} = \sum_n (\overline{CNDOR}_{ij}^n + \overline{CNDBR}_{ij}^n)$$

where \sum_n represents the sum over all **Bid Offer Pair Numbers** for the **BM Unit**.

(d) In this Paragraph 4.1.3.9A, the following terms shall have the meanings ascribed to them in the **Balancing and Settlement Code**:-

“Accepted Offer Volumes”

“Accepted Bid Volumes”

“Bid”

“Bid Offer Pair Numbers”

“BM Unit Period Non-Delivery Charge”

“CND_{ij}”

“Non-Delivery Order No.1”

“Non-Delivery Order No.2”

“Offer”

“QAB^R_{ij}”

“QAO^R_{ij}”

“QM_{ij}”

“QME_{ij}”

“SSP_j”

“SBP_j”

“SPD”

4.1.3.10 **NGC** and each **User** acknowledge and agree, as between **NGC** and that **User**, that no **Holding Payment** ~~or Imbalance Compensation Payment~~ shall be payable except in relation to periods in respect of which instructions have been issued by **NGC** pursuant to this Paragraph 4.1.3.

4.4 CHARGING PRINCIPLES

4.4.1 Application

The provisions of this Paragraph 4.4 shall apply to payments made by **NGC** to a **User** pursuant to **Mandatory Services Agreements** in respect of the provision of the **Mandatory Ancillary Service of Frequency Response**, and (if agreed between **NGC** and a **User**) may also be incorporated by reference into any other **Ancillary Services Agreement** as a term thereof so as to apply in respect of payments made by **NGC** to that **User** in respect of the provision of other **Ancillary Services** (but for the avoidance of doubt not so as to thereby create any obligations on **NGC** and that **User** under the **CUSC** in respect thereof).

4.4.2 Charging Principles - General

- 4.4.2.1 These principles are to be used to establish the basic arrangements but are not intended to stifle innovation in the development of new services or the giving of appropriate economic signals.
- 4.4.2.2 The charges shall be "cost reflective" ie. based and founded upon the actual or estimated costs directly incurred or to be incurred by the **User** for the purpose of providing the service or capability concerned.
- 4.4.2.3 Where a capability to provide an **Ancillary Service** is required by the **Grid Code** from all **BM Units** or **CCGT Units** (as opposed to a capability made available by agreement between **NGC** and a **User** from some only of the **User's BM Units** or **CCGT Units**), no **Ancillary Service** capability payment shall be made.
- 4.4.2.4 The cost of "Grandfathering" **User's** Equipment (i.e. bringing equipment owned by the **User** on 30th March 1990 to a condition of compliance with the **Grid Code**) shall not be included in **Ancillary Services** payments. Where a **Derogation** is withdrawn or reduced in scope then, except in relation to **Frequency Response**, the **User** shall be entitled to take the cost of meeting the withdrawal or reduction in the scope of the **Derogation** into account in its charges.
- 4.4.2.5 Subject to the other provisions of this Paragraph 4.4.2, the charges shall take due account of any change in or amendments to the **Grid Code** or any other statutory or regulatory obligation coming into force after 30th March 1990 affecting the provision of **Ancillary Services**.
- 4.4.2.6 If as a result of any changes to the **Balancing and Settlement Code** the **User** ceases to be entitled to receive payment under the **Balancing and Settlement Code** in respect of any elements of **Ancillary Services** provided by it which are expressed in this Paragraph 4.4 to be paid for under the **Balancing and Settlement Code**, the **User** shall be entitled to charge for such elements under an **Ancillary Services Agreement**. Where, however, such change entitles the **User** to be paid for any elements of **Ancillary Services** which are expressed in this Paragraph 4.4 to be paid for under an **Ancillary Services Agreement** the **User**

shall cease to be entitled to charge for such elements under an **Ancillary Services Agreement**.

4.4.3 Charging Principles – Frequency Response

4.4.3.1 The variable cost of producing **Primary Response**, **Secondary Response**, **High Frequency Response** shall include sums in respect of the additional inefficiency costs incurred in providing these services but shall not include any sums payable in respect of the energy delivered in providing these services or any costs which are the subject of incurred under the **Balancing and Settlement Code**, Paragraph 4.4.3.3.

4.4.3.2 Part-loading of a **BM Unit** at a level other than that specified in a **Physical Notification** in order to provide **Frequency Response** will normally be achieved by the issue of a **Bid-Offer Acceptance**.

~~4.4.3.3 In recognition of the costs likely to be incurred under the **Balancing and Settlement Code** when providing **Frequency Response**, an additional amount based upon an expected exposure to energy imbalance and non-delivery charges when providing these services shall be payable under Paragraph 4.1.3.9A.~~

Related Changes to Definitions for CUSC Paragraph 11.3

| | |
|---|--|
| “Imbalance Compensation Payment” | that component of the payment for Mode A Frequency Response referred to in Paragraph 4.1.3.9A comprising the Imbalance Energy Payment and the Non-Delivery Payment; |
| “Imbalance Energy Payment” | that component of the Imbalance Compensation Payment calculated in accordance with Paragraph 4.1.3.9A(b); |
| “Non-Delivery Payment” | that component of the Imbalance Compensation Payment calculated in accordance with Paragraph 4.1.3.9A(c); |

Annex 5 – Copies of Representations Received (Consultation Document)

This Annex includes copies of any representations received following circulation of the consultation document (circulated on 4th February 2002 requesting comments by close of business 11th March 2002).

Representations were received from the following parties:

| No. | Company | File Number |
|-----|---|--------------|
| 1 | PowerGen | CAP011-CR-01 |
| 2 | All TXU Companies which are CUSC Signatories | CAP011-CR-02 |
| 3 | British Energy | CAP011-CR-03 |
| 4 | Scottish Power Energy Retail Limited and Scottish Power Generation Limited. | CAP011-CR-04 |
| 5 | London Electricity Group | CAP011-CR-05 |
| 6 | British Gas Trading Ltd | CAP011-CR-06 |
| 7 | Elexon Limited | CAP011-CR-07 |
| 8 | Innogy plc, npower Limited, Innogy Cogen Trading Limited, npower Direct Limited, npower Northern Limited, npower Yorkshire Limited. | CAP011-CR-08 |

| | |
|------------------|---------------------|
| Reference | CAP011-CR-01 |
| Company | PowerGen |

-----Original Message-----

From: Chris.Price@pgen.com [<mailto:Chris.Price@pgen.com>]
Sent: 11 February 2002 16:03
To: Friend, David
Cc: Piers.Anthony@pgen.com; John.France@pgen.com; Peter.Bolitho@pgen.com;
Claire.Maxim@pgen.com; Mike.Fernando@pgen.com
Subject: CAP 011

Powergen Response

David,

Powergen has no further comments on CAP011 or CAP011 Alternative. We agree that either CAP011 or CAP011 Alternative will be necessary should either P34 or P36 respectively be implemented

regards
chris price
024 7642 5253

| | |
|------------------|----------------------|
| Reference | CAP011-CR-02 |
| Company | TXU Companies |

TXU Europe Energy Trading Ltd
Wherstead Park
Wherstead
Ipswich
Suffolk
IP9 2AQ
8th March 2002

David Friend
Commercial Development
National Grid Company plc
National Grid House
Kirby Corner Road
Coventry
CV4 8JY

Dear David

We agree that the proposal and alternative as drafted do better achieve the relevant CUSC objective if P34 or P36 or their alternatives are approved by the Authority – presumably the same would apply to P71 ?.

Yours sincerely

Philip Russell
Market Development Manager
For and on behalf of 21 TXU CUSC Parties

| | |
|-----------|--------------------|
| Reference | CAP0011-CR-03 |
| Company | British Energy plc |



8th March 2002

David Friend
Commercial Development
The National Grid Company plc
Kirby Corner Road
COVENTRY
CV4 8JY

Dear

**CUSC Consultation Document CAP011:
Changes to Frequency Response Payments to reflect a Potential Change to the BSC**

Thank you for the opportunity to comment on the above consultation document. It is not appropriate within this response to cover consultation issues which have been raised in response to the BSC consultations on modifications P34/P36 (or their alternatives) via the BSC Modification Proposal procedure

We are pleased to offer our support for the relevant consequential changes to CUSC section 4 as outlined by NGC in this CUSC amendment proposal, should Ofgem determine that either P34/P36 (or their alternatives) be approved and implemented.

British Energy (BE) also notes the direct linkage between P34/P36 (or alternatives) to this CAP011 and support the requirement for simultaneous implementation of the appropriate CUSC section 4 text update in the event of any P34/P36 (or alternatives) determination by Ofgem to approve and implement.

If you have any queries in relation to any of the above, please do not hesitate to contact me.

Yours faithfully,

Steve Phillips

Senior Trading Consultant
Market Development
Power & Energy Trading

| | |
|------------------|--|
| Reference | CAP011-CR-04 |
| Company | ScottishPower Energy Retail Limited and Scottish Power Generation Limited |

CUSC Amendment Consultation

CAP011: Changes to frequency response payments to reflect potential changes to BSC

Dear Mr. Friend,

Many thanks for the opportunity to consider this consultation in respect of CUSC Amendment proposal CAP011. This response is provided on behalf of ScottishPower Energy Retail Limited and Scottish Power Generation Limited.

In considering our response to this consultation, we are mindful that there has been extensive debate relating to how Balancing Services providers should be treated in terms of any imbalance charges which they might incur in undertaking their obligations to provide applicable Balancing Services within the Balancing Mechanism. This debate has primarily been carried out in the context of the changes to the BSC proposed through modifications P34 and P36.

Our view, expressed in responses to the various consultations on those proposals, has been to favour the solution outlined in P36 Alternative. We believe that that solution deals with this issue under the correct governance structure, viz. within the framework of the BSC, and affords all applicable Balancing Services providers with a flexible approach rather than a certain group of providers who are Lead Parties for BM Units.

In view of the links which clearly exist between the various solutions discussed under P34 and P36 and this CUSC Amendment, we would hope that the Authority will adopt a holistic approach to considering the issues and reach its conclusions on all these proposals at the same time.

It follows from our support for P36 Alternative indicated above that we would be in favour of those changes to the CUSC that flow from this solution. We would, therefore, wish to indicate our support for the Alternative proposal to CAP011 to ensure logical consistency between changes to the two legal frameworks. We also agree with NGC's view that the changes in CAP011 are necessary to ensure that imbalance charges are dealt with under the correct framework by not resulting in unnecessary payments to the relevant Service providers, and that the relevant Applicable CUSC Objectives are also met by making these changes.

We have also considered the legal drafting related to CAP011 Alternative and are satisfied that this is appropriate.

If you wish to discuss the content of this response, please do not hesitate to contact me.

Yours sincerely,

Abid Sheikh
Commercial Analyst (0141 568 3113)

| | |
|------------------|---------------------------------|
| Reference | CAP011-CR-05 |
| Company | London Electricity Group |

-----Original Message-----

From: Cecil Dick [<mailto:Dick.Cecil@le-group.co.uk>]
Sent: 11 March 2002 17:28
To: Friend, David
Subject: CAP011 Response

Dear David

Consultation response CUSC Amendment Proposal CAP011

London Electricity has the following comments to make in response to the Consultation to CUSC Amendment Proposal CAP011.

The Amendment anticipates the implementation of BSC modification P34 or P34A (and subsequently we assume P71) and is proposed to be effective consistent with the effective date of the BSC modification (where retrospection is included we assume effective refers to the retrospective date).

A concern (although an unlikely possibility) we still have with the modification in respect of P34A, is that the applicable services have not been clearly specified. If mandatory frequency response services were excluded, those paragraphs under 'P34' on Page 9 would need to be revised and a scenario excluding mandatory freq. response services from applicable services scope added. Annex 3 on page 14 would need be revision.

Other comments:

Page 6, Section 5. The title of the section is incorrect. We suggest to replace 'Alternative' by 'Different'

Page 22. Clause 4.4.3.3, line 2, word 'saved' should be replaced by 'avoided'

Dick Cecil
London Electricity Group

| | |
|-----------|-------------------------|
| Reference | CAP011-CR-06 |
| Company | British Gas Trading Ltd |

G/transp/elec/cusc



energy management group

National Grid Company plc
National Grid House
Kirby Corner Road
Coventry
CV4 8JY

Charter Court
50 Windsor Road
Slough
Berkshire
SL1 2HA

Tel. (01753) 758051
Fax (01753) 758170
Our Ref. CAP011
Your Ref.
11 March 2002

For the Attention of Mr D Friend
- Commercial Development

Dear David,

CUSC Amendment Proposal 011: Changes to frequency response Payments to reflect potential changes to BSC

Thank you for the opportunity to comment on this Amendment proposal. British Gas Trading Ltd (BGT) notes the interaction these proposals have with BSC Modification Proposals P34 (*Transfer of imbalances caused by Balancing Services to the Transmission Company Energy Account*) and P36 (*The generation of Bid-Offer Acceptances relating to energy delivered as a result of providing Applicable Balancing Services*) including the relevant alternatives, and most recently P71 (*Transfer of imbalances caused by Balancing Services to the Transmission Company Energy Account*).

In view of the interaction between the BSC and CUSC proposals we support either CAP011 or the suggested alternative dependent upon either P34/P34 alternative or P36/P36 alternative being implemented, respectively. We would not support either change should no change to the BSC be made as a consequence of P34 or P36. However, we would note that should P71 be approved by the authority, then CAP011 may not be relevant. Although the BSC is not a core industry document for CUSC it is essential that any changes to the CUSC or BSC do not force the respective documents to fall out of line. However, we would note that our preference in respect of the changes proposed for CUSC and BSC is for this issue to be addressed by CUSC (through Amendment Proposal CAP010)

Since our understanding of the CUSC Amendment Process is that only one recommendation in respect of a Proposal can be submitted to Ofgem for their acceptance or rejection, we are unclear as to how the combination of options described above can be accommodated and would welcome NGC's urgent clarification of this before the matter is progressed.

Should you require any clarification of our views, please do not hesitate to contact the undersigned.

Yours sincerely,

Simon Goldring
Transportation Manager

| | |
|------------------|---------------------|
| Reference | CAP011-CR-07 |
| Company | Elexon |

Our ref. H:/Comments on CAP011
Your ref. CAP011



25 March 2002

Mr David Friend
Commercial Development
National Grid Company plc
National Grid House
Kirby Corner Road
Coventry CV4 8JY

(By email to: David.Friend@uk.ngrid.com)

Dear Mr Friend

Comments on Consultation Paper CAP011

ELEXON acting as the Balancing and Settlement Code Company have reviewed the Consultation Paper CAP011 and make the following observations regarding the 'Proposed Amendment' and 'Alternative Amendment' to the CUSC, as outlined in ANNEX 3 (Proposed Amendment) and ANNEX 4 (Alternative Amendment), respectively, of the Consultation Paper.

ELEXON recognise that a consequential amendment to the CUSC is required if the Authority direct that either of the referenced Balancing and Settlement Code Modifications, (Modification Proposal 34 and its Alternative and Modification Proposal P36 and its Alternative), should be made. Therefore, on this basis, ELEXON has no comment on either the 'Proposed Amendment' or the 'Alternative Amendment', as ELEXON expect that, where the Authority determines to direct that a Modification to the Balancing and Settlement Code should be made, the Authority will also direct that the relevant CUSC Amendment should be made.

Therefore, ELEXON would not oppose either the 'Proposed Amendment' or the 'Alternative Amendment', where the Authority direct / have directed that the associated Balancing and Settlement Code Modification be made.

ELEXON see no reason why either Amendment would not enable National Grid to develop the transmission system in an efficient, co-ordinated and economic fashion and promote transparent competition in generation if either the 'Proposed Amendment' or the 'Alternative Amendment' is implemented in conjunction with the relevant Balancing and Settlement Code Modification.

Yours sincerely

| | |
|-----------|--------------|
| Reference | CAP011-CR-08 |
| Company | Innogy plc |



**Innogy's comments on CAP011 Consultation document on behalf of Innogy plc,
npower Limited, Innogy Cogen Trading Limited, npower Direct Limited, npower
Northern Limited, npower Yorkshire Limited**

Background

1. Currently, energy delivered as a consequence of providing Mandatory Frequency Response is paid for at system prices in the BM either as spilled energy or as a shortfall. It is recognised that this transaction will result in an imbalance cost and a mechanism in CUSC seeks to compensate for this imbalance exposure.
2. P34 and its Alternative (P34A) would transfer a calculated volume from the provider's account to NGC's energy account. In this way, the imbalance exposure would change from being the volume of energy delivered as a result of providing Response to the difference between the calculated volume and the delivered volume.
3. By notifying the SAA of the volumes to be transferred, the CUSC contracts become contracts for physical delivery of the calculated volume of energy. This changes fundamentally the nature of CUSC and variations to CUSC in the event that P34 or P34A were implemented would need to account of this change.
4. One consequence of the change is that over or under delivery of the expected volume of energy will expose the provider to exactly the same costs as though that volume had been procured by a bid/offer acceptance.
5. When considering the issues surrounding P34 and P34A it is important to bear in mind the difference between calculated 'expected' energy levels, and the variations in output required by the contracts for the provision of the service of Frequency Response.
6. Differences between these two amounts occur for a number of reasons. For example, the calculation of expected energy does not mimic the contract requirements but seeks to estimate delivered volumes. Also, Units may legitimately deliver more response than the calculated values suggest since the contracts specify minimum requirements rather than absolute values of response. For these and other reasons, significant differences between the contract requirements and the calculated expectation can result.
7. The proposed CAP011 Alternative introduces changes to CUSC resulting from the potential implementation of BSC Modifications P36 or P36 Alternative (P36A). P36 is a more complete solution to the issue of Response energy than P34 or P34A since it removes the need for a compensation payment from the CUSC and does not require the introduction of an energy payment in its place.

Features of CAP011

8. CAP011 is founded on the assumption that the volume of energy notified under P34 or P34A is the same as the volume delivered as a consequence of providing Frequency Response. Whilst P34 does not specify the calculation that would be made, no methodology has yet been promoted that is able to perform this calculation with the accuracy required. Although CAP001 and potentially CAP009 improve on the original CUSC volume calculations, neither can claim the accuracy required to remove imbalance



9. risk and both were developed for a specific purpose that did not intend them being used in physical contracts.
10. Since there will be residual volume risk, there needs to be a mechanism that enables a provider to recover these imbalance costs. This requirement should also be made explicit in the charging principles.
11. Volume risk arising from under or over delivery of expected Response would have a different cost profile depending on whether high frequency or low frequency Response is being provided due to the asymmetry of system prices. This requires differential pricing of the delivered energy for high frequency compared with low frequency.
12. NGC have argued (in the debate on CAP010) that it is inappropriate to price Response energy at Bid or Offer prices under CUSC. However, in the case where a different volume from that calculated is delivered, the provider would, under P34 or P34A, be required to procure this difference at system prices exactly as though the energy had been bought through the acceptance of a bid or offer. Thus, the energy is ascribed two values. One where NGC is purchasing it and another, probably more costly, when a provider is required to procure it in the BM.
13. This difference in price is a central feature of the BM. However, unlike bid and offer prices, a provider is not able to factor the risks of exposure to system prices into the 'reference price'. Thus, under P34 or P34A, any administered price would fail in its purpose. As a result, there would be a requirement for individual providers to price the energy provided on a BMU basis and to be able to price energy delivered in response to high frequency differently to that delivered in response to low frequency. Without these requirements being met, a provider will incur unrecoverable costs leading to an increased reluctance to provide the service, and a risk of market failure.
14. Because of the increased significance of the volume calculation under P34 or P34A, it is crucial that a provider should be able to influence the matrices that feed into the calculation. The need to make adjustments to the standing data could arise for a variety of reasons. Temporary changes to MEL or other short-term issues could arise that might limit the available Response. Without the ability to change the variables feeding in to the volume calculation, this could either result in costs being incurred that were not recoverable or in the service being withdrawn temporarily until the provider could be confident of meeting the expected delivery of energy.
15. CAP011 as drafted specifically excludes from the Charging Principles any costs incurred in the BSC. This is contrary to the underlying rationale for the Charging Principles. If costs are incurred as a result of providing Response, then the issue of where they are incurred is irrelevant. Any costs legitimately incurred should be recoverable and the Charging Principles must reflect this.

Features of CAP011A

16. If P36 were to be introduced, then CUSC would remain a contract for the service of Frequency Response rather than becoming a contract for energy. This would keep CUSC aligned with the pre-NETA ASAs where delivered energy was traded entirely in the Pool and the payment for the response service made through the ASA.
17. The ability of providers to set the price of response energy would enable them to internalise any volume risk associated with the provision of Response and so remove many of the concerns outlined above with respect to P34 and P34A. This would greatly simplify the required changes to CUSC and contain them largely to the removal of the imbalance compensation payments.



18. The current deficiency in CAP011A is that it needs to be expanded to include the changes required, as described above, should P34 or P34A be implemented. Without such changes, the introduction of P34 or P34A would leave providers with unrecoverable costs.

Summary

19. P34 will result in some costs incurred in providing the service not being recovered and thus leave significant risks with the service provider. Without the appropriate changes to CUSC, rather than encourage the provision of the service when required, this economic signal will have precisely the opposite effect.
20. CAP011 with the proposed changes to CUSC would not result in providers of frequency response being able to recover costs when providing the service. As such, the proposals do not meet the requirements of the Charging Principles.
21. In order to meet these Charging Principles, CAP011 needs to go further than merely removing one element of the imbalance compensation payment and changing the description of the payment that would, under P34 or P34A, be a payment for energy at the reference price.

Conclusion

- 22. We agree that P34 or P34A if implemented would require changes to CUSC but do not believe that CAP011 properly deals with the issues raised by the implementation of P34 or P34A. Innogy generally supports the CAP011 Alternative as far as it deals with the implementation of P36 or P36A. However, we believe that it should also be expanded to deal with any of the possible modification proposals discussed and incorporate the following features:**
- Ability to deal with whichever of P34, P34A, P36 or P36A that might be approved.
 - Incorporates (for P34 or P34A):
 - Individual pricing by BMU to be set by the provider by Settlement Period
 - Differential pricing for high frequency energy compared with low frequency energy
 - Procedures for temporarily amending data that feed into the expected volume calculation (for any of the proposed BSC changes).
 - Changes to the Charging Principles should allow legitimate costs to be recovered wherever they are incurred (for any of the proposed BSC changes).
23. Generally we are concerned by the change in the nature of CUSC that would result from the implementation of P34 or P34A. We do not believe that the intention of CUSC was to become a contract for the physical delivery of energy. In accordance with the pre-NETA ASAs the CUSC should only be concerned with the dynamic associated with the delivery of energy when Frequency Responsive, and not the energy itself.
24. Far from better meeting the CUSC Objectives CAP 011 would appear to frustrate competition in the generation of electricity, and prevent NGC in the efficient discharge of its Licence obligations.

Annex 6 – Copies of Representations Received (Draft Amendment Report)

This Annex includes copies of any representations received following circulation of the draft Amendment Report (circulated on 15th March 2002 requesting comments by close of business 22nd March 2002).

Representations were received from the following parties:

| No. | Company | File Number |
|-----|---|--------------|
| 1 | British Gas Trading Limited | CAP011-AR-01 |
| 2 | Innogy plc, npower Limited, Innogy Cogen Trading Limited, npower Direct Limited, npower Northern Limited, npower Yorkshire Limited. | CAP011-AR-02 |
| 3 | Scottish Power Energy Retail Limited and Scottish Power Generation Limited. | CAP011-AR-03 |

| | |
|------------------|------------------------------------|
| Reference | CAP011-AR-01 |
| Company | British Gas Trading Limited |

-----Original Message-----

From: Goldring, Simon [<mailto:Simon.Goldring@centrica.co.uk>]
Sent: 19 March 2002 12:16
To: Friend, David
Subject: Re: CAP011

David,

Confirming our telecon this morning, having read the draft Amendment Report I still have procedural concerns about the proposal to "offer" the Authority more than one recommendation, when I believe that CUSC (and the Authority's powers themselves) only allow for one decision to be put in front of them to be accepted or rejected.
Regards

Simon Goldring

PS I assume that BSC P71 has been included as an "Alternative" identified during the consultation phase although your report does not make this clear, nor is it included in Section 1 of the report "Recommendations".

The information contained in or attached to this email is intended only for the use of the individual or entity to which it is addressed. If you are not the intended recipient, or a person responsible for delivering it to the intended recipient, you are not authorised to and must not disclose, copy, distribute, or retain this message or any part of it. It may contain information which is confidential and/or covered by legal professional or other privilege (or other rules or laws with similar effect in jurisdictions outside England and Wales).

The views expressed in this email are not necessarily the views of Centrica plc, and the company, its directors, officers or employees make no representation or accept any liability for its accuracy or completeness unless expressly stated to the contrary.

| | |
|------------------|---------------------|
| Reference | CAP011-AR-02 |
| Company | Innogy plc |

Innogy plc

Trading & Asset Management, Windmill Hill Business Park
Whitehill Way, Swindon, Wiltshire, SN5 6PB

Mr David Friend
BSSG Secretary
Commercial Development
The National Grid Company plc
National Grid House
Kirby Corner Road
Coventry CV4 8JY



21 March 2002

Dear David,

CUSC Amendment Proposal CAP011 Amendment Report

I am writing to you following the recent publication of the CAP011 Amendment Report. I am concerned that the report as currently drafted does not reflect the substantive concerns Innogy has raised in its response to the associated consultation.

Whilst our comments have been attached to the Amendment Report in full, neither the summary nor any of the accompanying text addresses the very substantial issues we have raised. Our fundamental concern with CAP011 is that it does not allow the costs incurred when providing Response to be recovered fully. Indeed, the proposed changes to the Charging Principles specifically exclude certain costs from being recovered (see proposed changes to 4.4.3.1).

Those who have considered these issues are agreed that no method so far developed will completely remove providers' imbalance exposure (see for example NGC's paper 'Proposal to determine Response Energy based on BMU metered output'). Thus should P34, P34A or P71 be adopted, any method used to determine expected volumes will leave providers exposed to imbalance costs in the BSC. NGC's previous paper is in stark contrast to the statement in Annex 2 paragraph 7 of the Amendment Report that categorically states that P34, P34A and P71 would result in imbalance charges not being incurred. As well as being contrary to the General Charging Principle of cost recovery this also introduces a serious risk of market failure.

In addressing this major concern our response to the consultation went on to suggest a possible solution that would help bring the proposal into line with the Charging Principles. It is thus somewhat galling to see our views reduced in the summary to an oblique reference to '*a number of other detailed issues*'.

The recovery of costs has long been one of the cornerstones of Mandatory Services. If the implementation of a BSC modification requires the removal of this principle, then it must be that either the BSC Modification or the consequential CUSC Amendment is fundamentally flawed.

The issue of cost recovery, should P34, P34A or P71 be implemented, has not been dealt with properly during the assessment of the BSC Modifications as is suggested in paragraph 10.6 of the Amendment Report. This must be an issue for the CUSC. Other than reaching agreement that costs would still be incurred, the BSSG has yet to agree how best to ensure that the costs could be recovered. The possibility of simply removing the right to recovery has never been raised as a possible approach.

I would ask that the Amendment Report be revised such that these concerns are properly recorded.

Yours sincerely,

David Tolley
Commercial Manager

cc CUSC Panel

| | |
|-----------|---|
| Reference | CAP011-AR-03 |
| Company | ScottishPower Energy Retail Limited and Scottish Power Generation Limited |

CUSC Amendment Consultation

To: David Friend
Commercial Development
National Grid Company plc
National Grid House
Kirby Corner Road
Coventry CV4 8JY

CAP011: Changes to frequency response payments to reflect potential changes to BSC

Dear David,

Many thanks for this further opportunity to consider CUSC Amendment proposal CAP011. This response is provided on behalf of ScottishPower Energy Retail Limited and Scottish Power Generation Limited.

We simply wish to reiterate the comments which we provided in our previous consultation response. We continue to support the Alternative proposal to CAP011 as it provides the logical consistency flowing from our preferred option in respect of the relevant changes to the BSC, viz. P36 Alternative.

If you wish to discuss the content of this response, please do not hesitate to contact me.

Yours sincerely,

Abid Sheikh
Commercial Analyst (0141 568 3113)