



Direct Dial: 020-7901-7412

09 April 2003

The National Grid Company, CUSC Signatories and  
Other Interested Parties

Your Ref: CAP046  
Our Ref: IND/COD/CUSC/CAP046

Dear Colleague

**Amendment to the Connection and Use of System Code ("CUSC") - Decision and Direction in relation to Proposed Amendment CAP046: "Mandatory frequency response (calculation of volumes)"**

The Gas and Electricity Markets Authority (the "Authority"<sup>1</sup>) has carefully considered the issues raised in the Amendment Report<sup>2</sup> in respect of Proposed Amendment CAP046 "Mandatory frequency response (calculation of volumes)".

The National Grid Company plc ("NGC") recommended to the Authority that Proposed Amendment CAP046 should be made and implemented.

The Authority has decided to direct an amendment to the CUSC.

This letter explains the background to Proposed Amendment CAP046, as set out in the Amendment Report, and sets out the Authority's reasons for its decision. In addition, this letter contains a direction to NGC to modify the CUSC in respect of Proposed Amendment CAP046.

This letter constitutes the notice by the Authority under section 49A of the Electricity Act 1989 in relation to the direction.

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<sup>1</sup> Ofgem is the office of the Authority. The terms "Ofgem" and "the Authority" are used interchangeably in this letter.

<sup>2</sup> CAP046 Amendment Report dated 28 March 2003.

## Background

As part of the Grid Code<sup>3</sup>, all Users are required to provide and must be capable of providing Mandatory Balancing Services if the system is to operate safely and reliably. Mandatory Balancing Services require generators to provide frequency response<sup>4</sup> and reactive power<sup>5</sup> to specified capabilities.

Providers of Balancing Services can be put into a situation of electricity imbalance (i.e. where the BSC Parties' notified generation/demand does not equal their actual generation/demand) when called upon by NGC to provide frequency response. A mechanism intended to compensate generators for the imbalance exposure due to delivering Mandatory Frequency Response was implemented via the NETA Implementation Scheme in the Mandatory Services Agreements ('MSAs') and codified into the CUSC.

A central element of the imbalance compensation mechanism is the estimation of the volume of energy delivered by a generator when it is providing Mandatory Frequency Response. The current methodology used is based on the Primary, Secondary and High frequency matrix values contained in the MSAs. These values are based on the response capability of generating units at periods of 10 and 30 seconds after a low frequency incident (referred to as Primary and Secondary Response) and 10 seconds after a high frequency incident (referred to as High Frequency Response).

An Amendment to the CUSC, CAP001<sup>6</sup>, altered the method used to calculate the response energy volume delivered or avoided by generators to more accurately reflect the energy volume delivered or avoided when providing Mandatory Frequency Response. In addition, it duplicated the BSC algebra used for calculating Non-Delivery Charges to compensate generators for Non-Delivery Charges incurred in the delivery of Mandatory Frequency Response.

On 1 November 2001, First Hydro Company submitted Proposed Amendment CAP009: 'Mandatory Frequency Response' proposing further changes to the methodology used for calculating response volumes. The Proposer believed Amendment Proposal CAP009 would better facilitate the achievement of the CUSC Objectives<sup>7</sup> by more accurately aligning payments

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<sup>3</sup> Stated in Connection Condition 8.1 of the Grid Code.

<sup>4</sup> Frequency response is used to balance the continuously changing system frequency that is determined and controlled by the balance between system demand and total generation. National Grid has a statutory obligation to maintain system frequency within 1% of 50Hz.

<sup>5</sup> The requirement for reactive power is primarily driven by the interaction of real power flows on the transmission system with the complex impedances of the various elements that make up the network together with the demand at the lower voltage system interfaces. NGC is required to maintain the real and reactive power balances between sources of generation and points of demand. Without the appropriate injections of reactive power at correct locations, the voltage profile of the transmission system will exceed statutory planning and operational limits.

<sup>6</sup> The decision letter for Approved Amendment CAP001 can be found at <http://www.nationalgrid.com/uk/indinfo/cusc/>

<sup>7</sup> The Applicable CUSC Objectives are contained in Condition C7F of the Transmission Licence and are:

made with costs incurred, as it considered the volume of Mandatory Frequency Response would now be more accurately calculated. First Hydro Company considered that this would ensure that the most economic sources of Mandatory Frequency Response continue to make their full capability available for despatch by NGC.

Amendment Proposal CAP009 was submitted prior to Authority approval of CAP001 and was made on the basis that First Hydro Company believed that neither the mechanism put in place at NETA go-live nor that proposed under CAP001 accurately reflected the Mandatory Frequency Response delivered by some types of plant.

The CUSC Panel considered the Amendment Proposal CAP009 at its meeting on 9 November 2001 and appointed the Balancing Services Standing Group ('BSSG') to act as a Working Group to consider the Proposed Amendment.

Amendment Proposal CAP009 sought to improve the accuracy of the calculations used to assess the volume of response energy produced by a generator over a period of time when it is operating in frequency sensitive mode. It was argued by First Hydro Company that the current use of primary and secondary response values to calculate the response energy being delivered by a plant continuously responding to minor frequency fluctuations could be inappropriate for certain types of plant. First Hydro Company proposed that an additional set of response delivery tables be added to the MSAs with the intention of representing the energy delivered by a generating unit following frequency deviations. It was proposed that the imbalance compensation mechanism would make use of these additional tables based on the per-minute, dual linear interpolation methodology introduced by Approved Amendment CAP001.

Amendment Proposal CAP009 provided that the values to be used in the new power delivery tables would be put forward by the service provider subject to agreement with NGC. The methodology within Amendment Proposal CAP009 allowed for the service provider or NGC to propose revisions to the values in accordance with the existing amendment provisions set out in the CUSC.

During discussions within the BSSG, NGC also put forward an 'add-on' to the Amendment Proposal CAP009 that built on work carried out in respect of Amendment Proposals CAP001 and CAP009. This approach, termed the 'Metered Volume Approach' determined the volume of response energy provide by comparing a BMU's actual imbalance volume against the calculated response volume. This approach was not put forward as a formal Alternative Amendment, although it was outlined in the Amendment Consultation document for Amendment Proposal CAP009 for the industry to comment on.

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- (a) the efficient discharge by the licensee of the obligations imposed upon it under the Act and by this 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.

The members of the BSSG supported implementation of the Amendment Proposal CAP009 as they believed it would better facilitate achievement of the Applicable CUSC Objectives. The BSSG members considered that Amendment Proposal CAP009 would more accurately align payments made with the costs incurred, as the volume relating to delivery of Mandatory Frequency Response would be more accurately calculated. This, in turn, would ensure that the most economic sources of Mandatory Frequency Response make their full capability available to NGC, enabling it to fulfil its Transmission Licence obligation of purchasing ancillary services from the most economical sources available, having regard to the quantity and nature of the service.

NGC and another member of the BSSG supported implementation of the Proposed Amendment only if it was implemented coincidentally with Balancing and Settlement Code ('BSC') Modification Proposals P34, P36 or P71. These BSSG members were of the opinion that without coincidental implementation of Proposed Modifications P34, P36 or P71 service providers would be encouraged to overstate the values put forward in the new Power Delivery tables, whereas NGC would have an incentive to understate them. Any new values would be difficult to validate and could lead to a number of disputes. It was considered that the correct incentives to submit accurate numbers would be created with coincidental implementation of Modification Proposals P34, P36 or P71. This was because under Proposed Modifications P34, P36 and P71 the calculated volume of energy delivered would be transferred from the service provider's energy account to the transmission company's energy account or treated as a Bid/Offer Acceptance ('BOA'). Therefore, if the values in the Power Delivery Tables are incorrect, the service provider could be exposed to imbalance.

Implementation of the Amendment Proposal CAP009 would require changes to the bilateral MSAs between NGC and each service provider. Therefore, the BSSG agreed that, should the Authority decide to approve the Amendment Proposal CAP009, the determination should include a direction to NGC to make amendments to the extant MSAs.

The BSSG presented its report in respect of Amendment Proposal CAP009 to the CUSC Amendments Panel on 22 February 2002. Following endorsement of the Working Group Report by the CUSC Panel, NGC circulated a consultation document to CUSC Parties, Panel Members and other interested parties on 8 March 2002, inviting comments by the close of business on 5 April 2002.

### **Respondents' views on Amendment Proposal CAP009**

In total, NGC received nine responses to the consultation on Amendment Proposal CAP009. All nine expressed support for the Amendment Proposal and agreed that it would provide a more accurate mechanism for approximating the energy volumes resulting from delivery of frequency response.

In reply to a specific consultation question on whether implementation of the Proposed Amendment should be dependent on the approval of BSC Modifications P34, P36 or P71, seven respondents argued that the Proposed Amendment should be implemented regardless of the

Authority's decision on the BSC Modifications. The remaining two respondents did not comment on this issue.

None of the respondents expressed clear support for NGC's 'Metered Volume Approach'. However, two respondents suggested that NGC could put it forward as a separate Amendment Proposal.

One respondent commented that the process for agreeing the frequency response delivery table data was vague and that testing witnessed by NGC would improve the methodology.

One respondent was concerned about the draft legal text that accompanied the consultation on the Proposed Amendment. In response to this concern, NGC stated that it remained of the view that the proposed text clearly reflected the arrangements of the Proposed Amendment.

The respondents' views are summarised and contained in the Amendment Report in respect of Amendment Proposal CAP009<sup>8</sup>.

#### **Amendments Panel Members' views on Amendment Proposal CAP009**

Those CUSC Amendment Panel Members that expressed a view were of the opinion that Amendment Proposal CAP009 should be implemented. These CUSC Amendment Panel Members noted the views of some members of the BSSG that Amendment Proposal CAP009 should only be implemented coincidental with Modification Proposals P34, P36 or P71. However, the majority of CUSC Amendments Panel Members that expressed a view were of the opinion that Amendment Proposal CAP009 should also be implemented without any such coincidental implementation of Proposed Modifications P34, P36 or P71.

#### **Respondents' views on draft Amendment Report for Amendment Proposal CAP009**

On 1 May 2002, NGC circulated a draft Amendment Report for comment by 9 May 2002. NGC received only one comment on the draft Amendment Report from the respondent that had previously responded to the consultation with concerns over the draft legal text. The respondent still expressed concern over the draft legal text. In response to this concern, NGC re-stated its view that it considered that the draft legal text clearly reflected the arrangements of the Proposed Amendment. Furthermore, NGC considered that the respondent could raise a 'house keeping' Amendment Proposal if it continued to believe that the proposed legal text for the Proposed Amendment was not appropriate.

NGC submitted the Final Amendment Report for the Amendment Proposal CAP009 to the Authority on 10 May 2002.

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<sup>8</sup> CAP009 Amendment Report dated 10 May 2002.

## **NGC's view on Amendment Proposal CAP009**

NGC believed that Amendment Proposal CAP009 should only be implemented coincident with either BSC Modification Proposals P34 (or P71) or P36. The Amendment Proposal was based on the use of a new table of response values submitted by service providers, which, in NGC's view, would be difficult to validate. This could place incentives on service providers to overstate these values in order to increase compensation payments. Similarly, NGC would be incentivised to understate values to minimise payments. The introduction of BSC Modification Proposals P34, P36 or P71 would remove these incentives, as the service provider would be exposed to imbalance charges in the event that the energy volumes delivered were over or understated.

It was NGC's view that the implementation of Amendment Proposal CAP009 coincident with Modification Proposals P34, P36 or P71 would more closely align payments for frequency response provision with the actual cost incurred. This would ensure that Mandatory Frequency Response providers continued to make their full capability available for despatch by NGC. In NGC's view, this would better facilitate achievement of the Applicable CUSC Objectives.

NGC wrote to Ofgem on 31 January 2003 stating that NGC could no longer recommend approval of the Amendment Proposal CAP009. This was due to a flaw in the legal text for the Amendment Proposal CAP009.

NGC explained that the issues with the legal text for Amendment Proposal CAP009 had arisen due to changes to the CUSC baseline brought about by Approved Amendments CAP011 and CAP016. Both Approved Amendment CAP011 and CAP016 modified the same sections of the CUSC that Amendment Proposal CAP009 would have modified. The clean legal text for Amendment Proposal CAP009 would have undone the changes that had already been made by Approved Amendment CAP011.

NGC also noted that Approved Amendment CAP011 undid the changes made by Approved Amendment CAP016. NGC announced its intention of raising a further Amendment Proposal to introduce the intended changes of Amendment Proposal CAP009 and Approved Amendment CAP016 if the Authority rejected Amendment Proposal CAP009 due to the problems highlighted with the legal text.

## **The Authority's decision on Amendment Proposal CAP009**

Ofgem rejected Amendment Proposal CAP009 on 25 February 2003.

Ofgem approved Modification Proposal P71 on 22 November 2002 and it was implemented on 11 March 2003<sup>9</sup>. In its decision letter for Modification Proposal P71, Ofgem indicated that it was minded to accept Amendment Proposal CAP009. Ofgem's provisional view of the intended

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<sup>9</sup> Modification Proposal P71 was intended for implementation on 25 February 2003. On 17 February 2003, Ofgem approved a request from the BSC Panel Chairman to delay the implementation to 11 March 2003.

effect of Amendment Proposal CAP009 had not changed when it issued its decision for Amendment Proposal CAP009. Ofgem's decision to reject Amendment Proposal CAP009 was based on the implications of the difficulties with the legal text as pointed out by NGC in its letter to the Authority sent on 31 January 2003.

Ofgem considered that if it had accepted Amendment Proposal CAP009, this would have taken out from the CUSC the sections introduced by Approved Amendment CAP011<sup>10</sup>. Ofgem considered that the effect of this, together with implementation of Modification Proposal P71 and the introduction of an Applicable Balancing Services Volume Data Methodology Statement, could have been that providers of Mandatory Frequency Response received a payment for imbalance exposure for provision of this service. However, the mechanism introduced by Modification Proposal P71 and the new ABSVD Methodology Statement would have transferred this imbalance exposure to NGC's Energy Account. It would therefore have been possible for providers of Mandatory Frequency Response to receive payment for an imbalance that they would no longer have incurred. Ofgem considered this to be detrimental to facilitating achievement of both Applicable CUSC Objectives. Ofgem also considered that this possible negative impact of approving Amendment Proposal CAP009 would, on balance, have outweighed the possible improvements in accuracy in the data populating the Power Delivery tables if Amendment Proposal CAP009 were approved.

### **The Proposed Amendment CAP046**

NGC submitted Amendment Proposal CAP046 for consideration at the 21 February 2003 CUSC Panel meeting. The Proposer considered the Proposed Amendment would better facilitate achievement of the Applicable CUSC Objectives as it would more accurately align payments made with costs incurred when procuring the ancillary service of Mandatory Frequency Response. This was because the volume of frequency response would be more accurately calculated. NGC considered that this in turn will ensure that the most economic sources of Mandatory Frequency Response continue to make their full capacity available for despatch.

NGC recommended to the CUSC Panel that the Proposed Amendment should be treated as an Urgent Amendment Proposal. The CUSC Panel agreed the Proposed Amendment should be treated as Urgent, and wrote to the Authority on 24 February 2003 to request it be treated as Urgent. The CUSC Panel suggested that the Proposed Amendment be submitted to a two week consultation process and that the BSSG should meet to review the proposed legal text for the Proposed Amendment. The Authority approved the Urgent status for the Proposed Amendment and the procedures and timetable proposed by the CUSC Panel on 25 February.

The Proposed Amendment is identical in all respects to Amendment Proposal CAP009 apart from the fact that the legal text to implement the Proposed Amendment has been drafted to correctly incorporate changes made to the CUSC by Amendment Proposals which were

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<sup>10</sup> The Authority approved Amendment Proposal CAP011 on 22 November 2002 and it was implemented on 11 March 2003. Amendment Proposal CAP011 introduced a change to the CUSC that had been identified as necessary for implementing Modification Proposal P71.

approved after Amendment Proposal CAP009 was raised. The legal text to introduce the Proposed Amendment Proposal is therefore drafted so that Approved Amendment Proposals CAP011 and CAP016 are kept as part of the baseline CUSC.

The BSSG considered the legal text for the Proposed Amendment and concluded it was appropriate to meet the intended effect of Amendment Proposal CAP009.

NGC issued a consultation document for the Proposed Amendment on 28 February 2003, inviting respondent's views by close of business on 14 March 2003.

### **Alternative Amendment**

In response to the consultation, British Gas Trading proposed an Alternative Amendment. The Proposer of the Alternative Amendment supported the principle of the Amendment Proposal but considered the Alternative Amendment would be a better solution.

The Alternative Amendment is only different to the Amendment Proposal in the following respects:

1. Paragraph 4.3.1(e) amended by inserting "Primary and" so the paragraph reads as follows:

"for the purposes of Paragraph 4.1.3.9 of the **CUSC**, the payment rates in Appendix 2, Section B constitute the payment rates in respect of **Primary Response**, ***Primary and Secondary Response*** and **High Frequency Response** referred to therein; and"

2. The missing values in the square brackets in Paragraphs 4.4 and 4.5 added dependent upon the date of any Ofgem approval of the Amendment Proposal.
3. The square brackets surrounding the text in Paragraph 4.6 removed.
4. The tables in Appendix 1, Section B, Part 4 extended to include values up to and including a Frequency Deviation of +/- 0.8Hz (depending on type of response) to match the data provided in Part 1.

### **Respondents' views**

NGC received five responses to the consultation in respect of Proposed Amendment CAP046. All five respondents supported the principle of the Proposed Amendment. Two of the respondents considered the Proposed Amendment would better facilitate the achievement of the Applicable CUSC objectives and should therefore be made. Another two respondents considered that there were some flaws with the legal text for the Proposed Amendment, including the definition of "Response", and proposed changes to the legal text to improve the Proposed Amendment. These respondents considered that the defined term "Response" should not relate to the Power Delivery Data Tables which they considered are not restricted to the



definition of "Response" in the CUSC. One respondent proposed an Alternative Amendment (described above).

NGC commented on the issues raised by respondents. In relation to the suggested additional changes as set out above for the Alternative Amendment, NGC considered that:

- ◆ the addition of "Primary and" in Paragraph 4.3.1(e) would not be appropriate because there is no defined service consisting of "Primary and Secondary Response" and that there is no payment rate associated with it,
- ◆ it would not be appropriate to add values to the blank square brackets in Paragraphs 4.4 and 4.5 because these would be filled in on agreement of the contract with the counterparty. The values are left blank as the Mandatory Services Agreement is an Exhibit to the CUSC. Furthermore NGC considered the proposal to remove the square brackets in Paragraph 4.6 is not material in enabling the Alternative Amendment to better facilitate achievement of the Applicable CUSC Objectives, and
- ◆ it would not be necessary to extend the tables in Appendix 1, Section B, Part 4 to include values up to and including a Frequency Deviation of +/- 0.8Hz. NGC highlighted that there has not been frequency deviations greater than 0.5Hz over the last 6 years. NGC also explained that its systems can only store response data for frequency deviations up to 0.5Hz, and that another 4 months would need to be allowed before implementation if its system were to accommodate data for response to frequency deviations up to 0.8Hz.

In relation to the comments by two respondents on the use of the defined term "Response", NGC considered that if Power Delivery were not part of the Response service then it may not be subject to the cost reflective charging principles. NGC considered that Power Delivery should be part of the Response service, and hence subject to the cost reflective charging principles. NGC considered that the Grid Code definitions of Response services confirms its view.

The respondents' views are summarised and contained in the Amendment Report in respect of Proposed Amendment CAP046.

#### **Amendments Panel Members' views**

Those Amendment Panel Members that expressed a view considered that the Proposed Amendment should be implemented to the time-scales as recommended.

#### **Respondents' views on draft Amendment Report**

On 20 March 2003, NGC circulated a draft Amendment Report for comment by 27 March 2003. NGC received additional views only from the Proposer of the Alternative Amendment. The respondent provided additional comments on the legal text for the Alternative Amendment. The full text of this response is available in the Amendment Report in respect of Proposed Amendment CAP046

NGC submitted the Final Amendment Report for Amendment Proposal CAP046 to the Authority on 28 March 2003.

### **NGC's recommendation**

NGC recommended to the Authority that Proposed Amendment CAP046 be approved and implemented 10 business days after the Authority's decision.

NGC did not consider the Alternative Amendment would better facilitate achievement of the Applicable CUSC Objectives over the Proposed Amendment. This was because NGC considers some of the proposed changes in the Alternative Amendment are flawed or introduce changes that have not been fully debated and consulted on as part of the process for considering Amendment Proposals CAP009 and CAP046. NGC identified that the timescales for implementing the Alternative Amendment would be 4 months after the Authority decision.

### **Ofgem's view**

Ofgem considers, having had regard to its statutory duties, that both the Proposed Amendment and the Alternative Amendment would better facilitate achievement of the Applicable CUSC Objectives compared to the existing CUSC. Ofgem considers that on balance, the Proposed Amendment would better facilitate the Applicable CUSC Objectives compared to the Alternative Amendment.

Ofgem considers that the output characteristics from different types of generating plant can vary both according to its fuel type and control system design. For example, the output characteristics of a coal fired boiler plant is in general different from that of a hydro plant. Ofgem considers both the Proposed Amendment and the Alternative Amendment would allow the individual characteristics of each plant to be represented in the Power Delivery Tables. Ofgem considers that this would lead to a more accurate calculation of the volumes due to delivering frequency response. Ofgem considers that this in turn would lead to a more cost reflective remuneration for the Mandatory Frequency Response service. Ofgem considers this would better facilitate achievement of Applicable CUSC Objective (a): the efficient discharge by NGC of its licence obligation to procure balancing services from the most economical sources available to it having regard to the quality, quantity and nature of such balancing services at that time available for purchase.

Ofgem considers that providers of frequency response would be appropriately incentivised under both the Proposed Amendment and the Alternative Amendment to populate the Power Delivery Tables with data that accurately reflect the characteristics of the particular plant. This is because Modification Proposal P71 has been implemented. Modification Proposal P71 introduced a mechanism where energy volumes associated with providing Applicable Balancing

Services<sup>11</sup> would be transferred to the Energy Account of the Transmission Company and therefore not be exposed to imbalance charges. If providers of frequency response populate the Power Delivery Tables with inaccurate data this would lead to the Party becoming in imbalance and being liable for imbalance charges. Ofgem therefore considers the implementation of Modification Proposal P71 has ensured appropriate incentives are in place for providers of frequency response to populate the Power Delivery Tables with as accurate data as possible.

Ofgem agrees with NGC that it would not be appropriate to add “Primary and” in Paragraph 4.3.1(e) as there is no defined service consisting of Primary and Secondary Response and there is no payment rate associated with it. Ofgem also agrees with NGC that the blank square brackets in Paragraph 4.4 and 4.5 should stay blank in the exhibit to the CUSC and be filled in on agreement between NGC and the Party. Ofgem considers for the above reasons, that the Alternative Amendment may lead to inconsistencies in the CUSC.

Ofgem has also considered the implementation lead times for the Proposed and Alternative Amendments. Ofgem considers that the Alternative Amendment would delay delivery of the increased accuracy in the calculation of energy volumes due to providing frequency response as the Alternative Amendment has an implementation lead time of 4 months from the Authority’s decision compared to the Proposed Amendment’s 10 business days from the Authority’s decision. Ofgem therefore considers that the Alternative Amendment would unnecessarily delay the delivery of the benefits associated with increased accuracy in the calculation of energy volumes due to providing frequency response. For this reason, Ofgem considers the Proposed Amendment would better facilitate achievement of Applicable CUSC Objective (a) as compared to the Alternative Amendment.

Finally, Ofgem considers that increasing the range of the values in the Frequency Response Power Delivery Data Table up to frequency deviations of +/-0.8Hz, as proposed in the Alternative Amendment, could be reviewed in future. Ofgem notes NGC’s comment that there have been no frequency excursions outside the 0.5Hz range over the last 6 years.

### **The Authority’s Decision**

The Authority has therefore decided to direct that the Proposed Amendment CAP046, as set out in the Amendment Report, should be made and implemented and that the Alternative Amendment should not be made and implemented.

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<sup>11</sup> These services are defined in the Applicable Balancing Services Volume Data (“ABSVD”) Methodology statement, which is published on NGC’s website: [http://www.nationalgrid.com/uk/indinfo/balancing/pdfs/AppendixD\\_ABSVD\\_final\\_copy.pdf](http://www.nationalgrid.com/uk/indinfo/balancing/pdfs/AppendixD_ABSVD_final_copy.pdf). Currently, the ABSVD Methodology statement defines all frequency response services as Applicable Balancing Services.

### **Direction under Condition C7F.7(a) of NGC's Transmission Licence**

Having regard to the above, the Authority, in accordance with Condition C7F.7(a) of the licence to transmit electricity treated as granted to NGC under Section 6 of the Electricity Act 1989 as amended (the "Transmission Licence"), hereby directs NGC to modify the CUSC in respect of the Proposed Amendment CAP046, as set out in the Amendment Report.

The modification is to be implemented and take effect 10 business days after the date of this letter.

In accordance with Condition C7F.7(b) of NGC's Transmission Licence, NGC shall modify the CUSC in accordance with this direction of the Authority.

If you have any queries in relation to the issues raised in this letter, please feel free to contact me on the above number.

Yours sincerely

A handwritten signature in black ink, appearing to read "Sonia Brown".

**Sonia Brown**

**Director of Electricity Trading Arrangements**

Signed on behalf of the Authority and authorised for that purpose by the Authority