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25 February 2003

The National Grid Company, CUSC Signatories and
Other Interested Parties

Your Ref: CAP009
Our Ref: IND/COD/CUSC/CAP009

Dear Colleague

Amendment to the Connection and Use of System Code ('CUSC') - Decision and Notice in relation to Proposed Amendment CAP009: 'Mandatory Frequency Response'.

The Gas and Electricity Markets Authority (the 'Authority'¹) has carefully considered the issues raised in the Amendment Report² in respect of Proposed Amendment CAP009 'Mandatory Frequency Response'.

In the Amendment Report, the National Grid Company plc ('NGC') recommended to the Authority that Proposed Amendment CAP009 must only be implemented if Balancing and Settlement Code ('BSC') Modification Proposals P34 'Transfer of Imbalances Caused by Balancing Services to the Transmission Company Energy Account', P36 'The Generation of Bid-Offer Acceptances Relating to Energy Delivered as a Result of Providing Applicable Balancing Services' or P71 'Transfer of Imbalances Caused by Balancing Services to the Transmission Company Energy Account' or Alternative Modification Proposals P34 and P36 or any similar BSC Modification Proposals with the same effect are implemented. However, it is NGC's view that the Proposed Amendment implemented coincident with the BSC Modification Proposals referred to previously would better facilitate achievement of the Applicable CUSC Objectives³.

¹ Ofgem is the office of the Authority. The terms 'Ofgem' and 'the Authority' are used interchangeably in this letter.

² CAP009 Amendment Report dated 10 May 2002.

³ The Applicable CUSC Objectives are contained in Condition C7F of the Transmission Licence and are:

- (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.

On 31 January 2003, NGC wrote to the Authority to withdraw its recommendation that the Proposed Amendment be made. NGC explained that due to unforeseen problems with the draft legal text, it could no longer recommend that the Proposed Amendment be made and implemented.

The Authority has decided not to direct a modification to the CUSC.

This letter explains the background to the Proposed Amendment, as set out in the Amendment Report, and sets out the Authority's reasons for its decision.

Background

As part of the Grid Code⁴, 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 response⁵ and reactive power⁶ 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).

⁴ Stated in Connection Condition 8.1 of the Grid Code.

⁵ 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.

⁶ 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.

An Amendment to the CUSC, CAP001⁷, 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 the Proposed Amendment would better facilitate the achievement of the CUSC Objectives by more accurately aligning payments 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.

The Proposed Amendment 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 Proposed Amendment 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.

The Proposed Amendment

The Proposed Amendment seeks 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 is 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 can be inappropriate for certain types of plant. First Hydro Company proposes 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 is proposed that the imbalance compensation mechanism will make use of these additional tables based on the per-minute, dual linear interpolation methodology introduced by Approved Amendment CAP001.

⁷ The decision letter for Approved Amendment CAP001 can be found at <http://www.nationalgrid.com/uk/indinfo/cusc/>

The Proposed Amendment provides that the values to be used in the new power delivery tables will be put forward by the service provider subject to agreement with NGC. The methodology within the Proposed Amendment allows 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 Proposed Amendment that built on work carried out in respect of Proposed Amendments CAP001 and CAP009. This approach, termed the 'Metered Volume Approach' determines 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 the industry to comment on.

The members of the BSSG supported implementation of the Proposed Amendment as they believed it would better facilitate achievement of the Applicable CUSC Objectives. The BSSG members considered that the Proposed Amendment 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 Proposed Modifications 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 is 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 Proposed Amendment 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 Proposed Amendment, the determination should include a direction to NGC to make amendments to the extant MSAs. In order to allow time for new MSAs to be drafted and agreed with service providers, the BSSG agreed that a short period of time between the Authority's decision and implementation should be allowed. Therefore, it was

recommended that the Proposed Amendment be implemented with effect from 10 business days after the Authority's decision if it is approved.

The BSSG presented its report 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

In total, NGC received nine responses to the consultation on Proposed Amendment CAP009. All nine expressed support for Proposed Amendment CAP009 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 the Proposed Amendment.

Amendments Panel Members' views

On 27 March 2002, NGC requested from Ofgem an extension to the timetables for Proposed Amendments CAP004 to CAP010 to allow the CUSC Panel the opportunity to consider the consultation responses prior to making their recommendations to the Authority. Ofgem decided not to object to a timetable extension.

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

Respondents' views on draft Amendment Report

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 considers that the draft legal text clearly reflects the arrangements of the Proposed Amendment. Furthermore, NGC considered that the respondent could raise a 'house keeping' Amendment Proposal if it continues to believe that the proposed legal text for the Proposed Amendment is not appropriate.

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

NGC's recommendation

As already set out above, NGC believed that the Proposed Amendment must only be implemented coincident with either BSC Modification Proposals P34 (or P71) or P36. The Proposed Amendment is 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 the Proposed Amendment 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.

As set out above, it was recommended that if the Proposed Amendment were approved, it should be implemented with effect from 10 business days after the Authority's decision.

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

NGC explained that the issues with the legal text for the Proposed Amendment have 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 Proposed Amendment CAP009 would modify. The clean legal text for the Proposed Amendment was submitted to the Authority with the Amendment Report on 10 May 2002. If approved, the Proposed Amendment would undo the changes that have 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 Proposed Amendment CAP009 and Approved Amendment CAP016 if the Authority rejects Proposed Amendment CAP009 due to the problems highlighted with the legal text.

Ofgem's view

Ofgem considers having had regard to its statutory duties, that the Proposed Amendment would not better facilitate achievement of the Applicable CUSC Objectives.

Ofgem has previously, in its decision letter for Modification Proposal P71, indicated that it is minded to accept the Proposed Amendment. Ofgem's provisional view of the intended effect of the Proposed Amendment has not changed since Ofgem published the decision letter for Modification Proposal P71. Ofgem's decision to reject the Proposed Amendment is 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 considers that if it were to accept the Proposed Amendment, this would take out from the CUSC the sections introduced by Approved Amendment CAP011. The effect of this, together with implementation of Modification Proposal P71 and the introduction of an Applicable Balancing Services Volume Data Methodology Statement on 25 February 2003, could be that providers of Mandatory Frequency Response receive 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 be possible for providers of Mandatory Frequency Response to receive payment for an imbalance that they will no longer incur. Ofgem considers this to be detrimental to facilitating achievement of both Applicable CUSC Objectives. Furthermore, Ofgem considers that this possible negative impact of approving the Proposed

Amendment would, on balance, outweigh the possible improvements in accuracy in the data populating the Power Delivery tables if the Proposed Amendment were approved.

Ofgem notes that NGC has submitted a new Amendment Proposal, CAP046, which seeks to introduce the changes that were intended by the Proposed Amendment and Approved Amendment CAP016.

Ofgem notes that the problems encountered with the legal text for the Proposed Amendment could easily occur again for future Amendment Proposals. Ofgem does not consider it efficient that there is no mechanism within the CUSC to address problems with legal text for Amendment Proposals, especially after submission of the Amendment Report, save for the Authority to reject the Amendment Proposal. Ofgem considers it would be prudent for NGC to consider options for a clear and transparent process to enable this to be resolved in future.

The Authority's decision

The Authority has therefore decided not to direct that Proposed Amendment CAP009, as set out in the Amendment Report, should be made and implemented.

If you have any queries in relation to the issues raised in this letter, please feel free to contact me on the above number or alternatively contact Richard Ford on 020 7901 7411.

Yours sincerely



Sonia Brown
Director of Electricity Trading Arrangements

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