

Amendment proposal:	<b>Connection and Use of System Code (CUSC) CAP107: Redefinition of Response Energy Payment (REP) for Mandatory Frequency Response</b>		
Decision:	<b>The Authority<sup>1</sup> directs an amendment to the CUSC in line with CAP107 Working Group Alternative B<sup>2</sup></b>		
Target audience:	<b>National Grid Electricity Transmission PLC (NGET), Parties to the CUSC and other interested parties</b>		
Date of publication:	<b>28 September 2006</b>	Implementation Date:	<b>28 December 2006</b>

### Background to the proposed amendment<sup>3</sup>

All licensed generators are obliged under the Grid Code to provide the service of mandatory frequency response, which is utilised in the event of a drop or an increase in system frequency<sup>4</sup>. Payment for provision of mandatory frequency response consists of a holding payment<sup>5</sup> and a Response Energy Payment (REP)<sup>6</sup>.

### The proposed amendment

CUSC proposed amendment CAP107 was raised by E.ON on 8 December 2005 and sought to change the definition of the REP. Two alternative amendments were developed by the Working Group established in accordance with section 8 of the CUSC.

#### *CAP 107 Original<sup>7</sup>*

E.ON proposed that the generator pay or be paid its first Bid Price for changes in energy output which occur as a result of delivering frequency response. The Working Group subsequently re-defined this within its Terms of Reference from Bid Price -1 to Offer Price -1 (i.e. the first unwinding offer price associated with the first Bid).

<sup>1</sup> The terms 'the Authority', 'Ofgem' and 'we' are used interchangeably in this document. Ofgem is the Office of the Gas and Electricity Markets Authority, the regulator of the gas and electricity markets in Great Britain.

<sup>2</sup> This document is notice of the reasons for this decision as required by section 49A of the Electricity Act 1989.

<sup>3</sup> Details of the current process for frequency response can be found in the Amendment Report and in Ofgem decision letter to CAP047. CAP047 ("Introduction of a competitive process for the provision of Mandatory Frequency Response") was approved by the Authority on 28 September 2004 and implemented on 1 October 2005 (see the Authority's decision at: <http://www.nationalgrid.com/NR/rdonlyres/FFF60053-FE31-484F-8D7C-BABA37DC9F2A/3741/CAP047Dir.pdf>). Additionally, NGET submitted a notice of an Income Adjusting Event (IAE) in relation to costs incurred under the CAP047 arrangements. The Authority issued its decision in relation to the proposed IAE on 25 September 2006 (see the Authority's decision at: [http://www.ofgem.gov.uk/temp/ofgem/cache/cmsattach/16850\\_IAE\\_Decision\\_Letter\\_FINAL.pdf?wtfrom=/ofgem/index.jsp](http://www.ofgem.gov.uk/temp/ofgem/cache/cmsattach/16850_IAE_Decision_Letter_FINAL.pdf?wtfrom=/ofgem/index.jsp)).

<sup>4</sup> The arrangements for the provision of frequency response are:

- ◆ Primary and Secondary frequency response: the automatic response to a decrease in system frequency. Primary response must be provided within 10 seconds and be sustainable for at least a further 20 seconds. Secondary response must be provided within 30 seconds and be sustainable for at least a further 30 minutes.
- ◆ High frequency response: the automatic response to an increase in system frequency. High frequency response must be provided within 10 seconds of the frequency change.

<sup>5</sup> This is the payment per minute for providing the service. Following the approval of CAP047, this is calculated on the basis of the payment rates submitted by providers.

<sup>6</sup> This is the payment per MWh for deviation in output as a result of providing response. This payment is currently based on a reference price which is the average of the time weighted average System Buy Price (SBP) and time weighted average System Sell Price (SSP) for the previous month.

<sup>7</sup> The terms "CAP 107 Original" and "the original proposal" are used interchangeably in this document.

### *CAP107 Working Group Alternative Amendment A (CAP107A)*

The Working Group developed an alternative proposal, CAP107A, which proposes that REP is based on:

- ◆ Generators being paid System Buy Price (SBP) for the prevailing settlement period for increasing energy output when called for low frequency response; and
- ◆ Generators paying System Sell Price (SSP) for the prevailing settlement period for reducing energy output when called for high frequency response.

### *CAP107 Working Group Alternative Amendment B (CAP107B)*

The Working Group developed a further alternative, CAP107B, under which REP is based on the Market Index Price (MIP)<sup>8</sup> adjusted by defined multipliers<sup>9</sup>, as a proxy for SBP and SSP. On this basis, CAP107B proposes that REP is based on:

- ◆ Generators being paid MIP for the prevailing settlement period increased by a multiplier of 1.25 for increasing energy output when called for low frequency response; and
- ◆ Generators paying MIP for the prevailing settlement period decreased by a multiplier of 0.75 for reducing energy output when called for high frequency response.

E.ON considers that given the average and retrospective nature of the current calculation of the REP and the significantly different costs of different types of generating unit, this price is unlikely to reflect the true costs that individual generators face. E.ON believes that there is an incentive for generators to cover the associated risk by increasing the holding payment rates, which can only be changed once a month by generators for use in the successive calendar month. E.ON considers that the level of risk premium factored into these rates therefore has to reflect the uncertainty of the level of usage of the service and the degree of uncertainty as to how an individual BMU's (Balancing Mechanism Unit) costs will differ from the REP. E.ON is of the view that by paying, or charging, the relevant BMU a price equivalent to its first Bid Price, the generator concerned is able to more closely reflect its actual costs.

E.ON considers that the proposed amendment will better facilitate the achievement of relevant objective (a)<sup>10</sup> by enabling NGET to meet its licence obligation to control frequency within prescribed limits more efficiently. This is because holding payment rates will not need to be inflated to reflect the risk associated with the present REP Reference Price.

### **Recommendation of the CUSC Panel (the Panel)<sup>11</sup>**

At its meeting on 28 July 2006, the Panel considered responses received in respect of CAP107 Original (as amended by the Working Group) and the two alternative proposed amendments, CAP107A and CAP107B. The Panel unanimously recommended that CAP107B would better facilitate the achievement of the applicable CUSC objectives. An

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<sup>8</sup> The Market Index Price is determined in accordance with Section T of the Balancing and Settlement Code. It is used to set the 'reverse' cash out price in the imbalance settlement arrangements.

<sup>9</sup> Under CAP107B, the defined multipliers would be hard-wired into the CUSC.

<sup>10</sup> As set out in Standard Condition C10(1) (a) of the Transmission Licence.

<sup>11</sup> The CUSC Panel is established and constituted from time to time pursuant to and in accordance with section 8 of the CUSC.

Implementation Date of three months after the Authority decision was recommended for CAP107B.

### **The Authority's decision**

The Authority has considered the issues raised by CAP107 Original, CAP107A and CAP107B and the final Amendment Report dated 16 August 2006. The Authority has considered and taken into account the responses to the Panel's Consultation Document and the Draft Amendment Report<sup>12</sup>. The Authority has concluded that:

1. implementation of CAP107B will better facilitate the achievement of the applicable objectives of the CUSC<sup>13</sup>, and
2. directing that the implementation be made is consistent with the Authority's principal objective and statutory duties<sup>14</sup>.

### **Reasons for the Authority's decision<sup>15</sup>**

#### **Applicable Objective (a) – The efficient discharge by the licensee of the obligations imposed upon it under the Act and by this licence**

Consistent with the views of a number of respondents, we consider that the current arrangements for REP may be resulting in a risk premium being factored into holding payments under the CAP047 mechanism, which will result in SO costs being higher than would otherwise be the case.

REP levels are fixed based on prices from the previous month. As such, providers may be increasing their holding payments to mitigate their potential financial exposure to month-to-month wholesale price movements. Therefore, we agree with the majority of respondents who believe the current arrangements are not fully cost reflective.

We consider that the REP payments/receipts that flow between NGET and frequency response providers should be more reflective of the actual costs incurred at dispatch. We therefore consider it likely that increased cost reflectivity of REP will tend to reduce holding payment prices, as providers should not be seeking to recover any element of REP via holding payments, and would instead better reflect the costs that they incur in providing the service. This increased certainty for providers should result in the true level of holding costs being revealed (enhancing market transparency and competition as a consequence).

Therefore, we agree with respondents who considered that efficient pricing on behalf of providers should enable NGET to better utilise frequency response services and manage

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<sup>12</sup> CUSC amendment proposals, amendment reports and representations can be viewed on NGET's website at <http://www.nationalgrid.com/uk/electricity/codes/systemcode/amendments>

<sup>13</sup> The CUSC Objectives as contained in Standard Condition C10 of the Transmission Licence 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

<sup>14</sup> The Authority's statutory duties are wider than matters which the Panel must take into consideration and are detailed primarily in 3A – 3D of the Electricity Act 1989.

<sup>15</sup> As all the proposed amendments are seeking to address the same concerns, Ofgem has considered them separately to determine which would better facilitate the achievement of the applicable CUSC objectives. In this section we set out the reasons for the Authority's decision. Unless otherwise stated the views below apply to CAP107 Original, CAP107A and CAP107B.

the system more efficiently. Consequently, we consider that improved cost reflectivity will enable more efficient system management, thereby better facilitating the achievement of relevant objective (a).

As discussed below, the relative benefits of each of the three proposed options in terms of NGET's efficient management of the system is linked to the enhancements in cost reflectivity and the timing of implementation.

#### *CAP107 Original*

We agree with those respondents who supported CAP107 Original and considered that it would provide a much greater level of cost reflectivity relative to both the existing baseline and the alternative proposals, as generators would be able to set individual prices based on their actual costs at the point of dispatch. This would therefore mitigate the need for generators to include a risk premium in the holding payment to compensate for any potential financial exposure. We agree that this should lead to efficient pricing by providers, which should enable NGET to enhance the efficiency of its utilisation of frequency response. Furthermore, we agree with respondents that although individual, provider-specific pricing will increase the difficulty NGET faces in reaching its decisions, it should be possible for NGET to adapt its information systems to appropriately account for the changes. Therefore, we do not consider that it has been demonstrated that it would be difficult to operate the system efficiently under a multiple pricing system and consider that CAP107 Original would enable more efficient operation of the system in theory, relative to the existing baseline and the alternatives.

However, we believe that any revision of the REP methodology should occur as soon as possible in order to realise these advantages, but note that NGET has asserted that the original proposal can not be implemented before April 2008<sup>16</sup> (whereas CAP107A and CAP107B can be implemented in three months). Therefore, unlike the alternatives, CAP107 Original cannot be implemented in time for the peak winter periods of January and February in 2007. We consider that this delay in implementation represents a considerable issue as it defers the improvements to NGET's efficient operation of the system that CAP107 Original offers and maintains the defects associated with the current arrangements for a substantial period of time. Therefore, despite the benefits that CAP107 Original offers, as outlined above, we consider that the lag in implementation relative to the alternatives means that, overall, it does not better facilitate the achievement of relevant objective (a).

#### *CAP107A*

We note that CAP107A would reduce the need for generators to include a risk premium in their holding payments, but recognise that it does not enable providers to individually price REP and that it could be volatile based on fluctuations in SSP and SBP. Therefore, we believe that CAP107A would only offer limited benefits in terms of improved cost reflectivity. Consequently, we believe that CAP107A will not lead to significant improvements in the efficiency of providers' pricing of frequency response services and so will only offer a small enhancement to the efficient management of the system by NGET. However, CAP107A can be implemented ahead of the January and February 2007 winter peak and, as such, the improvements that it does offer can be realised relatively

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<sup>16</sup> We do not consider that it has been demonstrated that the implementation of these new systems should take until April 2008 (at the earliest). We find it surprising that NGET is not willing to prioritise resource to implement these changes more quickly, particularly given that NGET proposed an income adjusting event relating to the high cost of frequency response in 2005/06.

quickly. Therefore, we consider that CAP107A would better facilitate the achievement of objective (a), but would only offer limited improvements.

#### *CAP107B*

While CAP107B does not enable generators to individually price their mandatory service we agree that it reduces the need for parties to include a risk premium in the holding payment, as providers will receive a REP more closely aligned to market prices. We also consider that this approach offers reduced volatility in REP levels compared to CAP107A. Therefore, in our view CAP107B would be more cost reflective than the current arrangements and those proposed under CAP107A.

As a result, we believe that CAP107B should result in more efficient pricing of frequency response services by providers, which should enable NGET to make more efficient frequency dispatch decisions when operating the system. We also note that the CAP107B solution can be implemented within three months, enabling the benefits of improved efficiency in frequency dispatch to be delivered for the peak winter 2006/07 months. Therefore, we consider that CAP107A would better facilitate the achievement of objective (a), relative to the existing baseline and to both of the other proposed solutions.

#### *Ofgem's view against the applicable objective*

We therefore consider that, overall, CAP107B will better facilitate the achievement of applicable objective (a) of the CUSC compared to the existing baseline and the other proposed solutions. In particular, we consider that CAP107B will enhance NGET's ability to develop and maintain an efficient, co-ordinated and economical system of electricity transmission in accordance with its duties as set out in s.9(2)(a) Electricity Act 1989. As noted above we consider that the level at which REP would be priced under the original proposal best reflects the costs incurred by generators in providing frequency response, but we consider that given the potential for additional costs to be incurred over the coming winter months should a change not be implemented, it is more important that a change is made to the pricing of the REP prior to the peak winter periods at the start of 2007.

#### **Applicable Objective (b) – Facilitating effective competition in the generation and supply of electricity, and (so far as consistent therewith) facilitating competition in the sale, distribution and purchase of electricity**

As discussed above, each of the proposed amendments has a differing impact upon the cost reflectivity of frequency response payments. These changes also impact, to differing extents, upon the level of competition in the provision of mandatory frequency response.

As the original proposal bases REPs on individual price submissions, it should enable each provider to set its REP dynamically to reflect its individual costs and the prevailing conditions in each half hour. We agree with respondents who considered that this flexibility should enhance the level of competition between providers for the provision of mandatory frequency response.

As both CAP107A and CAP107B would result in REPs which are uniform for all providers (i.e. not provider specific), they do not offer the same level of benefits in respect of enhancing competition in the provision of mandatory frequency response as CAP107 Original. CAP107A and CAP107B are, therefore, likely to be neutral in this respect. However, increased certainty arising from the improved cost reflectivity that these

proposals offer could further competition in the level of frequency response holding payments and so would better facilitate the achievement of applicable objective (b) relative to the current arrangements.

*Ofgem's view against the applicable objective*

We consider that the original proposal would best facilitate the achievement of applicable objective (b) as it would enable frequency response payments to better reflect the actual costs of individual generators. We consider that CAP107A and CAP107B will be neutral in terms of enhancing competition via REP, as these prices will be uniform. However, we consider that CAP107B (and CAP107A to a lesser extent) may still offer some improvement in competition in respect of frequency response holding payments and so would better facilitate the achievement of applicable objective (b) compared to the current arrangements.

**Conclusion**

Whilst we consider that the original proposal is likely to deliver the best solution of the options available in terms of achieving a more cost reflective REP, we do not consider the proposed implementation date of April 2008 to be acceptable. In light of the defects identified with the current REP arrangements and their impact on frequency response holding payments, we consider it is in the best interests of customers for a revision to be implemented quickly. On this basis, we consider that, overall, CAP107B would better facilitate achievement of the relevant CUSC objectives and our wider statutory duties, notably our principal objective to protect the interests of consumers.

However, we consider that there is merit in seeking to progress a solution such as that proposed under the original proposal on a more enduring basis and note that it remains open to parties to raise further amendments to the arrangements. Any such proposal would still need to be assessed against the applicable CUSC objectives and the Authority's principal objective and wider statutory duties.

**Decision notice**

**In accordance with Standard Condition C10.7(a) of the Transmission Licence, the Authority, hereby directs that proposed amendment CAP107B: Redefinition of Response Energy Payment (REP) for Mandatory Frequency Response be made.**

**The Implementation Date is 28 December 2006.**

Yours sincerely



**Sonia Brown  
Director, Wholesale Markets**

**Signed on behalf of the Authority and authorised for that purpose.**