



National Grid Company, CUSC Signatories and  
Other Interested Parties

28 September 2004

Direct Dial: 020-7901-7389

Our Ref: IND/COD/CUSC/CAP047

Dear Colleague

**Amendment to the Connection and Use of System Code (CUSC) - Decision and Notice in relation to Proposed Amendment CAP047: "Introduction of a competitive process for the provision of Mandatory Frequency Response"**

The Gas and Electricity Markets Authority (the Authority<sup>1</sup>) has carefully considered the issues raised in the Amendment Report<sup>2</sup> and the responses to the Impact Assessment (see annex 1) in respect of Proposed Amendment CAP047: "Introduction of a competitive process for the provision of Mandatory Frequency Response".

National Grid Company plc (NGC) recommended to the Authority that Alternative Amendment B be approved with an implementation date of 1 October 2004.

Having carefully considered the Amendment Report and NGC's recommendation and having regard to the Applicable CUSC Objectives<sup>3</sup> and the Authority's wider statutory duties<sup>4</sup>, the Authority has decided to direct a modification to the CUSC in line with Alternative Amendment A.

A separate letter contains the direction to NGC to modify the CUSC in accordance with Alternative Amendment A as set out in the Amendment Report.

This letter explains the background to Proposed Amendment CAP047, and sets out the Authority's reasons for its decision. This letter constitutes 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> CAP047 Amendment Report dated 3 September 2003.

<sup>3</sup> The Applicable CUSC Objectives are contained in Standard Condition C10 of the licence to transmit electricity treated as granted to NGC under Section 6 of the Electricity Act 1989 (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.

<sup>4</sup> Ofgem's statutory duties are wider than the matters that the Panel must take into consideration and include amongst other things a duty to have regard to social and environmental guidance provided to Ofgem by the government.

## Background

NGC has a duty under the Electricity Safety, Quality and Continuity Regulations 2002<sup>5</sup> to control the frequency of the system to within  $\pm 1\%$  of the nominal system frequency of 50 Hz. NGC must therefore ensure that sufficient generation and/or demand-side response is held in a position where it is ready to provide frequency response to manage all credible frequency change contingencies. All licensed generators are obliged under the Grid Code to provide the service of mandatory frequency response.

Under the current arrangements, NGC procures mandatory frequency response via non-tendered bilateral contracts. The payments made for mandatory frequency response under the CUSC are calculated in accordance with 'cost reflective' charging principles<sup>6</sup> and are designed to reflect inefficiency, and 'wear & tear' costs associated with service provision. For this reason there is a range of contract prices designed to reflect the different costs incurred by different generation equipment. The cost reflective charging principles require that payments are based upon the actual or estimated costs directly incurred or to be incurred by the service provider for the purpose of providing the service or capability concerned. The payment mechanisms under the CUSC associated with mandatory frequency response comprise two elements, the Holding Payment and the Response Energy Payment.

The Holding Payment is paid during the period that a generator is held on standby in a frequency sensitive mode ready to provide frequency response. Holding Payment rates (£/MWh) are agreed between the service provider and NGC for each of Primary, Secondary and High frequency response and payments are made in accordance with the price and power delivery tables detailed within the Mandatory Service Agreements (MSAs). These rates are based on the cost reflective charging principles. Under the current arrangements, service providers have the right to request that prices relating to the Holding Payment are amended on a bi-monthly basis. This request takes the form of a bilateral agreement with NGC with reference to the cost reflective charging principles.

The Response Energy Payment is made for the expected volume of frequency response delivered. It is intended to compensate generators for Energy Imbalance exposure under the Balancing and Settlement Code (BSC) due to providing frequency response. The mechanism also includes an element to compensate for the cost or avoided cost of energy production.

Proposed Amendment CAP047 was raised by Innogy plc and was submitted for consideration at the CUSC Amendments Panel (the Panel) meeting on 21 March 2003. At the meeting, the Panel determined that the Balancing Services Standing Group (BSSG) should act as a Working Group to consider the Proposed Amendment. The BSSG formulated Alternative Amendment A which it considered better facilitated achievement of the Applicable CUSC Objectives as compared with the Proposed Amendment. The BSSG submitted its report for consideration at the Panel meeting on 20 June 2003. The Panel endorsed the Working Group report and determined that CUSC Amendment Proposal CAP047 should proceed to wider consultation by NGC. A consultation paper was issued on 4 July 2003 with responses invited by 20 August 2003. In response to the

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<sup>5</sup> See <http://www.legislation.hmsso.gov.uk/si/si2002/20022665.htm>

<sup>6</sup> Section 4.4 of the CUSC.

consultation, one respondent (NGC) put forward Alternative Amendment B. The final Amendment Report was submitted to the Authority on 3 September 2003.

### **The Proposed Amendment**

The Proposed Amendment seeks to introduce more flexibility in the way that service providers can submit prices for Holding Payments. It has the following features:

- generators would be allowed to submit holding prices on a monthly basis for each of the mandatory frequency response services (Primary Response, Secondary Response and High Frequency Response) by Balancing Mechanism Unit. These prices must be submitted by the 15th business day in each month;
- NGC would be required to publish market data describing prices and volumes of frequency response services procured in previous months as well as data on submitted prices for each service by Balancing Mechanism Unit and a forecast of future requirements;
- the cost reflective charging principles would not apply to holding prices;
- the prices from the previous month will automatically apply if a User does not submit new prices. The price will be deemed to be zero in the event that the User has not previously submitted any price; and
- NGC should only instruct service providers with a deemed price of zero to provide frequency response where no other source of frequency response is available to meet the total system requirement at the time of instruction.

The Proposer suggested that the current arrangements in the CUSC for the provision of mandatory frequency response services do not enable parties to actively compete in the provision of the service and circumstances can emerge where service providers cannot fully recover their costs. The Proposer considered that removing the link to the cost reflective charging principle with respect to the Holding Payment would encourage further competition in the provision of frequency response but would also give confidence that costs can be fully recovered, thus enhancing security of supply. The Proposer considered that the Proposed Amendment would better facilitate achievement of Applicable CUSC Objective (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.

### **Alternative Amendment A**

Alternative Amendment A is broadly similar to the Proposed Amendment but differs in the following respects:

- NGC would not be required to publish further requirements about the service, as this information is already available to service providers through the Weekly Operational Planning Report and Demand forecasts;

- where no prices were submitted the deemed price for each service would be that which applied prior to the implementation of Alternative Amendment A as specified in the existing MSAs; and
- where there is no previous price available, for example in the case of a newly commissioned generator and no prices are submitted, prices should default to zero.

### **Alternative Amendment B**

Alternative Amendment B differs from Alternative Amendment A in the following respects:

- Alternative Amendment B, unlike the Proposed Amendment and Alternative Amendment A, proposes to retain the cost-reflective charging principle;
- service providers would be able to alter holding prices, although this would be subject to a maximum cap of 1.25 and 1.5 times the existing MSA cost-reflective price in year 1 and year 2 respectively. This arrangement would be subject to review by NGC at the end of the two year period and therefore the price caps would not be automatically removed after two years; and
- monitoring and claw-back arrangements would be included with the intention of encouraging accurate service delivery. In the interim, measures would be introduced which result in holding prices defaulting to the MSA price should participants under deliver against contracted levels more than a predefined number of times.

### **Respondents' views to NGC's consultation**

NGC received 13 responses to the consultation in respect of CUSC Amendment Proposal CAP047, of which ten expressed support for the Proposed Amendment, and three did not support the Proposed Amendment. The majority of respondents who expressed support for the Proposed Amendment considered that Alternative Amendment A offered some additional benefits over the Proposed Amendment. Despite its availability for comment, no respondents offered views on Alternative Amendment B within the consultation timescales, however, nine respondents considered price caps to be incompatible with the introduction of market arrangements.

The respondents in support of Alternative Amendment A considered that allowing generators to make monthly price submissions for the Holding Payment would promote competition in the provision of mandatory frequency response. A reason given for this was allowing the true costs of response to be realised would encourage new and existing providers to make additional response available. The majority of these respondents consider that there is sufficient liquidity in the provision of frequency response to ensure that the revised market arrangements would lead to overall more efficient costs of providing response.

The respondents that did not support the Proposed Amendment considered that it would most likely increase the procurement costs of the frequency response service. One respondent

considered that the ownership of plant which provides significant amounts of frequency response is in the hands of too few market participants. One respondent commented that as mandatory frequency response is paid for on a cost-reflective basis at present, prices should be close to minimum costs and so any market mechanism would only increase prices. Two respondents agreed with the principle of introducing price caps for a period of time, feeling that this would allow time for further analysis on the competitiveness of the market.

The respondents' views in respect of CAP047 are summarised and contained in the Amendment Report.

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

No member of the amendment panel expressed a view on the Draft Amendment Report.

### **NGC's recommendation**

NGC recommended to the Authority that the Proposed Amendment and Alternative Amendment A be rejected and that Alternative Amendment B be approved with an implementation date of 1 October 2004.

NGC considered that the Proposed Amendment and Alternative Amendment A would increase costs for the procurement of frequency response services without any associated benefits to either the System Operator or customers as a whole. NGC was concerned that market participants may be able to, in effect, undermine the Grid Code obligation to provide responsive capability through the submission of high prices. NGC further considered that it is arguable whether a market for frequency response could exhibit proper market forces as the provision of frequency response is demand inelastic. NGC considered that irrespective of price, the System Operator has to procure the last MW of response irrespective of costs. NGC argued that in the shorter term the System Operator could be deemed to be a distressed buyer and therefore open to possible price manipulation.

NGC considered that Alternative Amendment B would facilitate a smoothed introduction of market principles in the provision of frequency response, whilst mitigating the potential for significant price increases with no associated benefit. NGC suggested that the cap on prices in Alternative Amendment B would allow some price based competition to develop whilst ensuring that prices are not manipulated in order to sterilise capacity or unduly increase the costs of frequency response provision. In addition NGC suggested that Alternative B would enable the market to establish and determine whether true competition exists before complete pricing freedom occurs.

NGC estimates that procurement costs would increase over two years by £45m for Alternative Amendment A and by £35m for Alternative Amendment B.<sup>7</sup> Based on limited analysis, NGC

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<sup>7</sup> As part of the Impact Assessment (see below), Ofgem requested NGC to update some of the data provided in the Amendment Report and to provide some additional data which had not previously been included. This additional data included NGC's estimate on the increase in the procurement costs for Alternative Amendment B and the likely implementation and administration costs for both alternatives.

estimates that the implementation and ongoing administration costs would be no greater than £2m for the Proposed Amendment or Alternative Amendment A and £500,000 for Alternative Amendment B.

### **Responses to Ofgem's first GB Consultation**

On 5 December 2003, Ofgem undertook to invite responses on additional implications that a Proposed Amendment may have, were it to be applied on a GB wide basis, as opposed to being limited to England and Wales. In order to discharge this undertaking Ofgem published a GB consultation paper for CUSC Amendment Proposal CAP047 on 18 December 2003 which invited respondents' views by 15 January 2004. Ofgem received six responses to the consultation paper.

Three respondents considered that the perceived benefits to competition are equally applicable to the GB transmission system under BETTA and therefore would support the inclusion of the Proposed Amendment or Alternative Amendment A in the GB CUSC. These respondents suggested that inclusion of Scotland into the market would further increase competition in frequency response and lead to a further reduction in the overall cost of providing frequency response. Two of these respondents suggested that the frequency response market would also improve the economics of building and operating renewable plants (in particular wind farms), a significant number of which are planned for Scotland, because it will enable them to accurately reflect the costs of providing mandatory frequency response.

One respondent, NGC, considered that a frequency response market as envisaged by the Proposed Amendment or Alternative Amendment A in England and Wales would not be sufficiently competitive to counter the risk of substantial cost increases and they did not see any reason as to why this view should materially alter following the inclusion of Scottish providers. NGC estimated that the inclusion of Scotland would add an additional £5m in increased costs over two years under Alternative Amendment A.

Two respondents did not identify any additional implications arising from application of CAP047 to GB, compared to its application to England and Wales only.

### **Responses to Ofgem's second GB Consultation**

On 16 August 2004 Ofgem and the DTI published the proposed designation text of the GB CUSC. Ofgem therefore on 20 August 2004 invited responses about whether the designated text of GB CUSC should incorporate the proposals put forward in CUSC Amendment Proposal CAP047. Ofgem received two responses to the consultation paper.

One respondent supported the inclusion of Alternative Amendment A in the designated GB CUSC. This respondent considered that the perceived benefits of Alternative Amendment A are equally applicable to the GB transmission system under BETTA and are likely to be further enhanced by the greater number of potential providers of frequency response across GB as a whole. The other respondent, NGC, confirmed that its views expressed in response to the first GB consultation have not changed.

Both GB consultations and all responses can be found on the Ofgem website.<sup>8</sup>

### **Ofgem's view**

Having carefully considered the Amendment Report and the responses to the Impact Assessment, Ofgem considers, having regard to its statutory duties and the Applicable CUSC Objectives, that Alternative Amendment A would better facilitate the achievement of the Applicable CUSC Objectives.

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

Ofgem considers that economic and efficient system operation can be achieved by ensuring that NGC contracts for frequency response through a competitive process that will, over time, lead to prices that reflect the underlying costs incurred by the service providers. Ofgem considers that Alternative Amendment A (and to a lesser extent Alternative Amendment B) would enable service providers to better signal the value of the service and therefore NGC should be able to make more efficient decisions regarding which provider to use. Ofgem considers that the proposed market arrangements are likely to result in a more efficient outcome as NGC currently does not have visibility of all the costs to service providers and so cannot expect to optimise their interaction.

Ofgem considers that the existing mandatory frequency response arrangements potentially create risks to long-term security of supply to the extent that they do not provide adequate signals of the need, or provide the necessary incentives, for long-term investment in the frequency response service. Ofgem considers that Alternative Amendment A (and to a lesser extent Alternative Amendment B) will provide more accurate market signals as to the value of the frequency response service which should provide service providers with reliable additional information on which to determine their investment plans in the long-term, thereby facilitating security of supply. Ofgem considers that the proposed market arrangements are likely to provide an incentive to both potential new entrants and current providers to invest in the service to the extent that such investment is economically justified. This should ensure that the amount of frequency response capacity being made available to NGC would assist the efficient and secure operation of the transmission system in the long-term.

Ofgem considers that if the current cost-based mandatory frequency response arrangements are not amended in the long-term, NGC's ability to balance the transmission system may be affected. Frequency response is an important balancing tool that enables NGC to keep the system within safe and efficient operational limits. Insufficient frequency response capacity could reduce the ability of NGC to keep the system within safe and efficient operational limits and, potentially, increase the risk of system failures.

The BSSG agreed that the volume of frequency response available in the short-term would not be affected as it is a mandatory service. Ofgem agrees that the amount of mandatory frequency response from current providers should not be affected in the short-term. However, Ofgem

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<sup>8</sup> <http://www.ofgem.gov.uk>

considers that value based payments will encourage innovation in the delivery of the service from existing and new providers and could attract interest from potential new providers that may not have a current mandatory requirement to provide the service (including the demand side) in the short-term. Ofgem also considers that in the short-term Alternative Amendment A (and to a lesser extent Alternative Amendment B) should provide NGC with a powerful incentive to develop alternative procurement strategies and contract with a variety of providers which could increase the volume and diversity of supply in the short-term.

Ofgem's considers that Alternative Amendment A (and to a lesser extent Alternative Amendment B) would provide benefits for efficient system operation and for security of supply. Ofgem has carefully considered NGC's estimates of procurement costs and recognises the potential for these costs to increase in the short term. Having looked at the available evidence, Ofgem considers that the increase in procurement costs for frequency response under either amendment are likely to be significantly less than the amount NGC estimates. If the frequency response market is competitive and prices (and costs) rise in the short run this would suggest that the current prices for providing the service are too low. If this is the case, then prices (and costs) would have to rise under the existing arrangements. Furthermore, over a longer time frame, prices and procurement costs will be set competitively. This will encourage efficiency and innovation and there will be significant benefits to customers in terms of increased security of supply through the provision of frequency response at competitive prices.

Ofgem considers that the implementation and administration costs associated with Alternative Amendment A are likely to be proportionate to the potential benefits of introducing a competitive market in mandatory frequency response Holding Payments. Ofgem notes that NGC has undertaken preliminary work to establish the implementation costs associated with Alternative Amendment A. Ofgem will monitor the implementation of Alternative Amendment A to ensure that it is in accordance with NGC's duty<sup>9</sup> to maintain an efficient, co-ordinated and economical system of electricity supply.

On balance, Ofgem considers that the potential efficiency benefits of the Alternative Amendment A outweigh the costs (or negative impacts) of its implementation. Ofgem has carefully considered Alternative Amendment B and is of the view that the efficiency benefits of this alternative are less than Alternative Amendment A and do not outweigh the costs to the same extent. Ofgem considers that Alternative Amendment A would better facilitate the Applicable CUSC Objective (a) the efficient discharge by the licensee of the obligations imposed upon it under the Act and by this licence.

Applicable CUSC Objective (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

Ofgem considers that it is important that service providers are able to signal the terms on which they are willing to provide mandatory frequency response and that the System Operator accepts or rejects these terms based on their operational requirements and in accordance with their statutory and licence obligations. In this respect, it is important that a two-sided competitive

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<sup>9</sup> Section 9 (1) of the Electricity Act 1989.



market is established for mandatory frequency response services between market participants and NGC that would provide appropriate commercial incentives to invest and to operate efficiently.

Ofgem's principle objective is to protect the interests of consumers where appropriate by promoting competition. Ofgem therefore supports in principle, a move towards a market-based approach for mandatory frequency response Holding Payments. Before introducing competition into the provision of this service, Ofgem needs to be satisfied that the specific characteristics of the service are capable of developing and sustaining competition. This involves assessing whether the conditions for competition to develop already exist or are likely to develop relatively quickly (if for example the time it takes for additional supply to develop is very short). If these conditions are met, effective competition will, over time, protect customers' interests by promoting innovation and efficiency and providing a high quality service at competitive prices.

Having carefully considered respondents' views, Ofgem considers that there is the potential for there to be effective competition in a mandatory frequency response market. There is no evidence of significant barriers to entry in the provision of the service. In assessing the scope for competition between existing service providers, Ofgem notes that the the Hirschmann-Herfindal Index,<sup>10</sup> which can be used as an indicator of the degree of concentration in a market was 1338 in 2003/04 in the mandatory frequency response market in England and Wales. Ofgem agrees with the majority of the BSSG that there should be sufficient liquidity provided by the current level of market concentration. In addition, Ofgem considers that there could be more additional response available from a variety of providers such as non-conventional sources of generation which would add to available supply and liquidity in the mandatory frequency response market.

In considering the proposed amendment, NGC has raised concerns about the potential scope for manipulation and/or abuse of market power under Alternative Amendment A. Ofgem notes these concerns but considers that they could be effectively dealt with, if necessary, through the use of Ofgem's powers under competition law and/or its sectoral regulatory powers.

Ofgem considers that Alternative Amendment A would facilitate more competitive and transparent mandatory frequency response arrangements. Ofgem considers that in the longer-term the amount of frequency response capability is likely to increase particularly from more diverse sources of supply which would increase the amount of competition and liquidity in the mandatory frequency response market as proposed by Alternative Amendment A. Ofgem considers that Alternative Amendment A would better facilitate Applicable CUSC Objective (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.

Ofgem considers that Alternative Amendment B would facilitate more competitive and transparent mandatory frequency response arrangements than the status quo but not to the same

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<sup>10</sup> The Herfindahl index is used to "measure" competitiveness in a market. It is the sum of the squares of the market shares of all companies in the market. The range of the index is therefore 0 (completely competitive) to 10,000 (monopoly). A HHI of 1800 is commonly accepted as a level where concerns about a particular market's liquidity would be raised.

extent as Alternative Amendment A. Where appropriate, Ofgem considers that for a market to function properly, prices must be allowed to fluctuate according to market fundamentals. By introducing a fixed cap, and therefore introducing a limiting range within which prices can fluctuate, Ofgem considers that the investment signals for market providers would be distorted and impaired which would have a negative impact on the development of competition.

For the above reasons, Ofgem considers that Alternative Amendment A better facilitates Applicable CUSC Objectives (a) and (b). Ofgem considers that Alternative Amendment A has some benefits over the Proposed Amendment as it would prevent duplication in NGC reporting and provide default prices in the event service providers do not submit holding prices which would make the proposed arrangements more robust.

Ofgem notes that Alternative Amendment A does not contain claw back arrangements in the event of under delivery by service providers and that NGC considers that any move towards a more value based charging mechanism should be accompanied by the appropriate mechanisms for monitoring and incentivising delivery of the service as pre agreed. Ofgem would consider any future Amendment Proposal to introduce non-delivery charges for mandatory frequency response on its merits.

Ofgem notes the valuable work of the BSSG in appraising the Amendment Proposal. Ofgem urges the BSSG to consider the wider implications of CAP047 on the areas of the market and mandatory services where competition does not currently exist and, if appropriate, bring forward proposals to enhance these areas. In addition, Ofgem urges the group to monitor market behaviour following the imposition of CAP047 and, if necessary, review and bring forward proposals to further enhance the operation of the market for frequency response Holding Payments.

### **The Authority's Decision**

The Authority has therefore decided to direct that Alternative Amendment A, as set out in the Amendment Report, should be made and implemented. An attached letter contains this direction.

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 be 'Steve Smith', written in a cursive style.

**Steve Smith**

**Managing Director, Markets**

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

## **Annex 1: Impact assessment on Connection and Use of System Code Proposed Amendment CAP047: “Introduction of a competitive process for the provision of mandatory frequency response” Ofgem’s Conclusions**

### **Background**

Section 6 of the Sustainable Energy Act 2003 amends the Utilities Act 2000 to include section 5A into that Act. Section 5A requires the Authority to carry out Impact Assessments (IAs) for all decisions where it appears to the Authority that the proposal is “important”. Ofgem carefully considered the requirements of section 5A of the Utilities Act and decided that it was appropriate for an IA to be undertaken for CUSC Amendment Proposal CAP047 as its implementation could have a significant impact on licensees or on persons engaged in commercial activities connected with licensable activities.

The analysis undertaken in the IA led to Ofgem’s initial view that Alternative Amendment A should be implemented. It was explained that this initial view was without prejudice to Ofgem’s final consideration of whether to direct the implementation of Alternative Amendment A, which would need to include a consideration of whether the proposed amendment or alternative amendments better facilitate achievement of the CUSC applicable objectives and is consistent with Ofgem’s principle objective and general duties taking into account, among other things, the responses received to the IA.

### **Responses to the Impact Assessment**

Ofgem published the IA on CUSC Amendment Proposal CAP047 on 20 August 2004 requesting responses by 17 September 2004. The IA and all responses can be found on the Ofgem website.

Ofgem received six responses. Of the respondents, four supported the implementation of Alternative Amendment A and two did not. One of these two respondents supported the implementation of Alternative Amendment B whilst the other did not.

In the IA Ofgem outlined the main areas that are likely to be impacted upon by the introduction of a competitive process for the provision of mandatory frequency response. Respondents views on these areas are summarised below along with Ofgem’s conclusions.

### **Economy and efficiency**

#### *Efficient investment signals*

One respondent commented that Alternative Amendment A would deliver efficient investment signals for the provision of mandatory frequency response. Two respondents considered that price caps would distort market signals for efficient investment.

Ofgem remains of the view that a market framework as proposed by Alternative Amendment A would enable service providers to compete to provide the service in the most economic manner which would provide incentives for investment in more efficient provision in the long-term.

### *Efficient system operation decisions*

Two respondents agreed that failure to amend the current cost-based frequency response arrangements could potentially, in the long term, affect NGC's ability to balance the transmission system efficiently. NGC suggested that if Alternative Amendment A was approved, there would be the potential for providers to price themselves uncompetitively, therefore making economic dispatch of frequency response very difficult based on a limited number of economically viable providers.

Ofgem notes NGC's concerns that there is the potential for service providers to price themselves uncompetitively to avoid providing the service. However, as mentioned in the IA, Ofgem does not consider it likely that service providers would seek to manipulate prices as Ofgem conducts extensive ongoing market surveillance operations and analysis and has the ability to investigate and, if appropriate, use powers of investigation and enforcement under competition law, including the Competition Act 1998. Ofgem remains of the view that Alternative Amendment A has the potential to promote more efficient decisions by the SO and would help facilitate the efficient and secure operation of the transmission system.

### *Implementation & administration costs*

Three respondents considered that procurement cost increases are likely to be significantly less than NGC estimates. One of these respondents considered that there is sufficient response capability available, which is sufficiently diverse in terms of its ownership to suggest that competition is likely to develop. One respondent considered that the existence of a competitive market would be more likely to provide signals to potential frequency response service providers to make additional response available. One respondent suggested that there is significant potential for provision of frequency response by non-mandatory parties and therefore there is more competition than what would be suggested by considering only those generators who are obliged to provide the service. Three respondents considered that in the longer term the competitive arrangements would deliver enduring economically efficient frequency response costs.

NGC considers that if Alternative Amendment A was approved then the costs of frequency response would increase in line with analysis provided by NGC during the assessment of the amendment proposal. Another respondent had concerns over the level of competition given the concentration of ownership of plant capable of supplying the service.

NGC suggests that if pricing freedom was introduced as under Alternative Amendment A, a more complex system would have to be developed to enable effective optimisation and economic dispatch that could deal with any scenario which could arise under the new arrangements. One respondent did not agree with NGC that significant changes to their despatch systems would be required as a pre-requisite for the introduction of Alternative Amendment A and suggested it is unlikely that administrative costs for other market participants would be significant.

Ofgem notes that NGC re-confirmed their estimate of the increase in procurement costs for Alternative Amendment A. Ofgem remains of the view that the increase in procurements costs for Alternative Amendment A is likely to be significantly less than NGC estimate. In respect of the implementation and administration costs, Ofgem will monitor the implementation of Alternative Amendment A to ensure that it is in accordance with NGC's duty to maintain an efficient, co-ordinated and economical system of electricity supply. Ofgem notes that no respondents have indicated any significant administrative costs would be incurred by other market participants.

### **Security of supply**

One respondent considered that in both the short and the long term Alternative Amendment A would promote market entry and ensure a sufficiency of response capability which would promote security of supply. One respondent suggested that the current arrangements have delivered security of supply and noted that no evidence of under recovery had been presented by any of the service providers.

Ofgem considers that the current arrangements potentially create risks to long-term security of supply to the extent that they do not provide adequate signals of the need, or provide the necessary incentives, for long-term investment in the frequency response service. Ofgem remains of the view that the introduction of market based arrangements for mandatory frequency response as proposed by Alternative Amendment A should assist security of supply on the electricity network.

### **Consumers**

NGC suggest that overall the impact of Alternative Amendment A could raise Balancing Services Use of System (BSUoS) charges<sup>11</sup> by 15% to the industry.

As mentioned above, Ofgem estimates that the increase in procurement costs for frequency response under Alternative Amendment A is likely to be significantly less than the amount NGC estimates and therefore the increase in BSUoS charges should also be significantly less than the 15% NGC estimate. Ofgem considers that Alternative Amendment A would make an important contribution to security of supply in long-term. This should benefit consumers in the long-term by reducing the risk of disconnections in supply and the avoiding the costs involved.

### **The environment**

Ofgem received no comments from respondents on potential environmental impacts. Ofgem remains of the view that Alternative Amendment A could have a positive environmental impact by improving the efficiency of investment signals to CHPs and renewables and more accurately reflecting the value of the frequency response service provided by CHP and renewables in the event that they are called upon to provide the mandatory frequency response service.

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<sup>11</sup> NGC's procurement costs for frequency response are included in BSUoS charges to generators and suppliers and these costs are ultimately paid for by consumers.

## **Conclusions**

Ofgem considers that, on balance, the benefits of the Alternative Amendment A outweigh the costs (or negative impacts). Ofgem considers that the benefits of Alternative Amendment B are less than Alternative Amendment A and do not outweigh the costs to the same extent. Therefore, Ofgem considers that Alternative Amendment A should be implemented.