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Direct Dial: 020 7901 7412

26 September 2003

The National Grid Company, BSC Signatories and Other Interested Parties

Our Ref: MP No P135

Dear Colleague

Modification to the Balancing and Settlement Code ("BSC") - Decision and Notice in relation to Modification Proposal P135: "Marginal System Buy Price During Periods of Demand Reduction"

The Gas and Electricity Markets Authority (the "Authority")[1] has carefully considered the issues raised in the Modification Report[2] in respect of Modification Proposal P135, "Marginal System Buy Price During Periods of Demand Reduction".

The BSC Panel (the "Panel") recommended to the Authority that Proposed Modification P135 should not be made, but in the event that the Authority determines that the Proposed Modification should be made, the Implementation Date should be 45 Working Days after such an Authority determination.

Having carefully considered the Modification Report and the Panel's recommendation and having regard to the Applicable BSC Objectives[3], the Authority has decided not to direct a Modification to the BSC.

This letter explains the background and sets out the Authority's reasons for its decision.

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

[2] ELEXON document reference UMRP135, Version No. 1.0, dated 12 September 2003

[3] The Applicable BSC Objectives, as contained in Standard Condition C3 (3) of National Grid Company's ("NGC's") Transmission Licence, are:

a) the efficient discharge by the licensee of the obligations imposed upon it by this licence;
b) the efficient, economic and co-ordinated operation by the licensee of the licensee's transmission system;
c) promoting effective competition in the generation and supply of electricity, and (so far as consistent therewith) promoting such competition in the sale and purchase of electricity;
d) promoting efficiency in the implementation and administration of the balancing and settlement arrangements
e) the undertaking of work by BSCCo (as defined in the BSC) which is:
(i) necessary for the timely and effective implementation of the proposed British Electricity Trading and Transmission Arrangements (BETTA); and
(ii) relevant to the proposed GB wide balancing and settlement code;
and does not prevent BSCCo performing its other functions under the BSC in accordance with its objectives.

Background

The Balancing Mechanism was designed to enable National Grid Company plc ("NGC"), amongst other things, as the System Operator ("SO"), to keep the transmission system (the "System") in balance close to, and in, real time by adjusting levels of generation and demand via the Bids and Offers submitted to the Balancing Mechanism. Under the rules of the Balancing and Settlement Code ("BSC"), a Party is in a position of imbalance if its notified contract volume does not match its metered volume, i.e. the Party is producing or consuming electricity which is not covered by contracts. Imbalance settlement ensures that any electricity not covered by contracts is paid for at, or charged at, a cost reflective price to target the costs that NGC has incurred in undertaking actions to match generation and demand ("Electricity Balancing") onto those Parties who are in imbalance, i.e. those Parties on whose behalf the SO has taken Electricity Balancing actions.

A dual cash-out system exists under which there are two Energy Imbalance Prices: the System Buy Price ("SBP") and the System Sell Price ("SSP"). Parties who are 'short' (for example, generators whose physical output is less than their contracted volume or suppliers whose customers' demand exceeds their contracted volume) are charged the SBP for their imbalance volumes. Parties who are 'long' (for example, generators whose physical output exceeds their contracted volume or suppliers whose customers' demand is less than their contract volume) receive the SSP for their imbalance volumes.

Approved Modification P78[4] ("Revised Definitions of System Buy Price and System Sell Price") changed the derivation of Energy Imbalance Prices such that there is a main and reverse price. The reverse price is derived from a market price based on short-term energy trades on the forwards and spot markets. The main price is derived from a volume weighted average of NGC's Electricity Balancing actions taken to alleviate the Net Imbalance Volume ("NIV"). The NIV is calculated by netting off all purchase actions against all sell actions to give the imbalance of the overall System. The main price is applied to imbalances in the same direction as the imbalance of the System and the reverse price is applied to imbalances in the opposite direction.

Approved Modification P78 was introduced to address a potential defect that NGC had identified in the rules for the calculation of Energy Imbalance Prices. It was the view of NGC and other market participants that Energy Imbalance Prices did not only reflect Electricity Balancing costs but also included costs associated with System Balancing. Moreover, these Parties suggested that SBP was tending to be distorted by System Balancing costs more frequently than SSP and hence that the spread between SBP and SSP was larger than would be the case if System Balancing costs were correctly excluded. NGC considered that this defect in the prevailing methodology was causing a consequential defect whereby Parties were incentivised to go long in order to avoid exposure to these high levels of SBP.

[4] The Authority's decision in respect of Approved Modification P78 was published on 9 September 2002 and can be found on the Elexon website: www.elexon.co.uk.

The Modification Proposal

NGC, the Proposer of Modification Proposal P135, considered that experience of Energy Imbalance Prices calculated using a volume weighted average methodology has shown that such prices understate the marginal cost of balancing the System. Further, the Proposer considered that this understatement was particularly significant in times of energy shortage (i.e. high demand and/or low generation availability) when the marginal cost of balancing energy is likely to be high.

It was the view of the Proposer that the use of an average methodology to calculate Energy Imbalance Prices has meant that market participants are not exposed to the full cost of the marginal action required to balance the System. As a consequence of this, the Proposer considered that market participants do not have sufficient incentives to contract ahead in the forward energy markets to mitigate the risk of not being able to achieve a balanced position in all scenarios. The Proposer had particular concerns that this could pose a threat to the security of electricity supplies this winter, a period during which NGC has forecast high demand relative to generation availability, and that this could lead to involuntary customer demand reduction.

Under Operating Code No.6 ("OC6") of the Grid Code, NGC is permitted to utilise three methods of demand reduction in the event that there is insufficient generation available to meet demand (hereafter the term "demand control" will be used solely to describe these three methods). These methods are specified in OC6.1.2 (c), (d) and (e) as demand reduction instructed by NGC; automatic low frequency demand disconnection; and emergency manual demand disconnection.

Modification Proposal P135 was submitted on 1 August 2003 by NGC. NGC recommended that Modification Proposal P135 should be treated as an Urgent Modification Proposal for the purposes of Section F2.9 of the BSC and this recommendation was supported by the BSC Panel. On 4 August 2003 the Authority consented that Modification Proposal P135 should be treated as an Urgent Modification Proposal and agreed the proposed timetable and process for Modification Proposal P135.

The Proposer considered that, in order to modify the BSC to address what it considered to be an insufficient incentive on Parties to achieve a balanced position in time for winter 2003, it was necessary to limit the scope of Modification Proposal P135. Accordingly, Modification Proposal P135 seeks to amend the Energy Imbalance Price calculation such that the SBP is calculated using a marginal methodology during periods of demand control and where the System is short (i.e. where there is insufficient generation to meet demand).

The start and end of demand control as instructed by NGC will be notified by NGC via a System Warning Message on the Balancing Mechanism Reporting Service ("BMRS") as close to real time as is practicable. Post event, NGC will define the time period that demand control was active (by publishing a physical start time and an end time) and notify this as a "Demand Control Period". During the period of demand control and when the market is short (i.e. where NIV > 0) the SBP for each Settlement Period that falls within, or partly within, a "Demand Control Period" will be calculated at the price of the most expensive accepted whole (or part) Offer Acceptance in the NIV for that Settlement Period.

Modification Proposal P135 does not seek to change any other aspects of the Energy Imbalance Price calculation, such as the mechanism for NIV Tagging, the derivation of Energy Imbalance Prices outside of demand control periods or the derivation of the reverse Energy Imbalance Price (i.e. the Energy Imbalance Price applied to imbalances in the opposite direction to the System).

It was the view of the Proposer that marginal pricing would provide an undiluted signal to the market as to the underlying cost of supplying the last increment of energy required to balance generation and demand and therefore, by introducing a marginal SBP during periods of demand control when the System is short, the Modification Proposal would provide more appropriate price signals to incentivise market participants to contract forward in order to mitigate the risk of not being able to balance at Gate Closure[5]. The Proposer considered that it is particularly important that Energy Imbalance Prices provide appropriate signals in times of energy shortage, as weakened signals could threaten the security of electricity supplies. It was the view of the Proposer that the risk of exposure to a marginal Energy Imbalance Price during periods of demand control should improve incentives upon market participants to contract sufficiently so as to reduce the risk of such demand control measures becoming necessary.

The Proposer therefore considered that Modification Proposal P135 would better facilitate achievement of the Applicable BSC Objective C3(b) for the efficient, economic and co-ordinated operation by NGC of the Transmission System.

Pricing Issues Standing Modification Group considerations

The Pricing Issues Standing Modification Group ("PSMG") considered Proposed Modification P135 under an urgent timetable over the course of three meetings (6 August 2003, 13 August 2003 and 2 September 2003). During these meetings a majority of the PSMG concluded that the detrimental effects of the Proposed Modification would outweigh any benefits and therefore that the Proposed Modification would not better facilitate achievement of the Applicable BSC Objectives as compared to the current position. It was therefore the view of the PSMG that Proposed Modification P135 should not be made.

A majority of PSMG members considered that since, in their view, the probability of demand control being instructed was extremely low and any such an event is likely to be of short duration, the use of a marginal methodology to calculate SBP only during a period of demand control would provide a weak signal (or no signal at all) to the forward markets of the cost associated with balancing the System. These members therefore considered that the Proposed Modification would be unlikely to reduce the risk of demand control occurring since it would not improve incentives on Parties to contract ahead, which would increase generation availability.

In contrast it was the view of a minority of PSMG members that Parties should forward contract in sufficient volumes to cover themselves at times of peak demand, thereby leading to more generation being made available, and that introducing a marginal SBP during times of demand

[5] Gate Closure is the last point at which Parties can notify their contract position to NETA Central Systems and at which Parties can resubmit their Physical Notifications to NGC.

control would provide the appropriate signal to enhance incentives on Parties to balance their positions, in particular not go short and be exposed to SBP. However, a majority of PSMG members considered a marginal Energy Imbalance Price in only one direction would simply provide enhanced incentives on Parties to take up a long position at Gate Closure rather balance their own positions, and that this would be a detrimental effect.

A majority of PSMG members considered that there were other methods within the existing trading arrangements to ensure that generation meets demand, e.g. NGC contracting outside of the Balancing Mechanism for the required additional generation. However, the Proposer was of the view that NGC's role is as the residual balancer of the System, and therefore that it is not its role or responsibility to buy reserve to cover the (long term) imbalance position of Parties. The Proposer considered that the most appropriate instrument to ensure that generation meets demand this winter (particularly during periods of peak demand), and thus to assist in securing supply with respect to Electricity Balancing, is to put in place appropriate pricing signals, thereby encouraging Parties to respond and cover their own positions.

A majority of PSMG members considered that exposure to a marginal SBP only at times of demand control would not provide timely pricing signals given that demand control would be expected to occur post Gate Closure, when Parties cannot trade in the market. These PSMG members considered that Proposed Modification P135 would therefore place an unmanageable risk on Parties.

The PSMG also discussed what effect the Proposed Modification might have through its impact on the Residual Cashflow Reallocation Cashflow ("RCRC") mechanism. The PSMG considered whether this effect could weaken the signal to Parties to balance their positions. The view was put forward that Parties may consider that the risk of exposure to a marginal price at times of demand control could be offset by any return via RCRC. The assumption is that where there is a high marginal SBP (and Parties are, in general, short), the Balancing Mechanism cashflows created by applying such a SBP to all short imbalance volumes would be significantly in excess of the costs NGC had incurred in balancing the System. This would lead to a large surplus of funds and the residual cashflow would be high. Under the rules, this surplus would be returned to all Parties on a pro rata basis according to their metered volumes. This could mean that Parties may recover a considerable portion of the exposure to imbalance paid at SBP back via RCRC, reducing the overall cost of imbalance to certain Parties.

However, some members of the PSMG noted that RCRC could be considered to be a side effect of the Settlement calculations and that this side effect is one which is unpredictable as, even when the market is generally short, the relative sizes of SSP and SBP could lead to the RCRC being a debit, rather than a credit. Therefore, the inability to predict the RCRC may mean that it has little influence on Parties' incentives.

It was the view of a majority of members of the PSMG that Proposed Modification P135 could additionally place a perverse incentive on generators to withhold generation or to run generating plant part loaded. This was considered to be a likely effect of the Proposed Modification as a generator would be exposed to a marginal SBP for the full extent of lost load should its generating plant trip during a demand control period and that plant trip would be more likely at times of system stress. These PSMG members considered that this would have the opposite

effect to the aim of Proposed Modification P135 which, in their view, seeks to provide stronger incentives to make more generation available.

However, a number of PSMG members indicated that if marginal pricing led to a high SBP during a period of demand control, generators could submit Offers at a correspondingly high price in order to offset the potential exposure to imbalance if they tripped whilst delivering the Offer.

It was the view of the majority of PSMG members that Proposed Modification P135 could result in an "extreme" SBP. In any Settlement Period during which demand control occurs, the SO will have accepted all feasible Offers, which potentially may be at very high prices, before a period of demand control is instructed. The majority of the PSMG considered that a marginal SBP in the region of £99,999 could be feasible. These members considered that such an extreme marginal SBP could mean that Parties that are short are exposed to imbalance charges that exceed their Credit Cover, and in extreme cases could lead to the bankruptcy of the Party in question. Where the settlement liabilities exceed the Credit Cover lodged, this would place consequential risk on other Parties who will incur the cost associated with the failing Party.

Furthermore, it was the view of a majority of members of the PSMG that where a Party is in a short position, e.g. following a plant trip, and tries to trade out the potential imbalance by contracting for subsequent Settlement Periods, i.e. as a distressed buyer, it is unlikely that other Parties will take the risk of trading with them, given the distressed buyer's potential credit position, as these Parties will not be certain whether the distressed buyer is in a position to meet the contract price, due to the potential for exposure to a "catastrophic" marginal SBP.

ELEXON published a draft Urgent Modification Report on Tuesday 19 August 2003, which invited respondents' views by Monday 1 September 2003.

Respondents' views

ELEXON received twenty five responses to the consultation on Proposed Modification P135. Three respondents (representing 3 Parties) supported the Proposed Modification; twenty one respondents (representing 53 Parties, 5 non-Parties) did not support the Proposed Modification; and the remaining respondent (representing 1 Party) provided a "no comment" response. The original Proposer was amongst the respondents that considered that the Proposed Modification should be made.

Several respondents considered that an ex-post determination to apply a marginal SBP would not provide timely signals to prevent a demand control period from being instructed and would in fact only provide a signal after the event it was designed to prevent. A number of respondents expressed the view that a demand control signal would be made too late for Parties to react, although another respondent considered there was a counter-argument to this as ex-ante signals of system stress exist in the form of NGC's system warnings. This respondent was of the view that it would be in NGC's best interests to provide early signals of potential demand control conditions such that the SO could take the most economic balancing actions possible and that Parties would have sufficient time to respond.

A number of respondents were of the view that the Proposed Modification would not remedy the defect it was raised to address and could, in fact, place perverse incentives upon Parties. A number of respondents considered that a marginal SBP would tend towards £99,999/MWh. One respondent with this view stated that generators would consider that potential exposure to marginal SBP for un-contracted off-take to be sufficient incentive to generation plant to price Offers at the maximum possible level of £99,999/MWh. Another respondent supported this view, suggesting that marginal determination of SBP, based on market participants' attempts to hedge against other participants' actions would not lead to cost-reflective pricing, but would only bring about an artificial inflation of the prevailing Energy Imbalance Price.

Several respondents suggested that a marginal SBP of great magnitude would place a large financial incentive on generators to avoid exposure to the risk of being cashed out at this level, and to instead withhold generation from the market in case of plant failure. Furthermore, respondents noted that at a time when generation plant is expected to be running close to maximum capability, the likelihood of plant breaking down due to technical faults increases greatly. The risk to generators running at these higher load factors would not be mitigated by the Proposed Modification, and would, in fact, be exacerbated by a high marginal SBP. Further support for this view was expressed by respondents who considered that the Proposed Modification would have an anti-competitive effect as a high SBP could be a substantial barrier to new entry as well as hastening the market exit of smaller and/or unpredictable generators that could not manage the risk associated with being out of balance. However, one respondent suggested that for some portfolio generators, there could be an incentive to game by tipping the System into demand control in order to benefit from high SBP on spill volume.

Several respondents considered that marginal pricing during a period of demand control would provide strong incentives on market participants to be fully contracted, which these respondents also considered could have a beneficial effect on the security of supply. However, it was stated that uncertainty over the expected costs associated with exposure to a high SBP, and whether a period of demand control would occur at all, may lead to uneconomic over-contracting by Parties. A number of respondents considered that this would place the incentive on the market to contract for reserve when, as one respondent noted, NGC, with its ability to accurately forecast supply and demand, would be in a better position to efficiently procure such services.

Several respondents considered that the Proposed Modification would impact on the current credit arrangements in the BSC. With the potential for un-contracted off-take to be charged at £99,999/MWh, market participants would bear the risk of being unable to pay imbalance charges and could face bankruptcy. One respondent considered that the Proposed Modification could increase the potential for market participants to go into Credit Default, which could bring about a phased disapplication of energy contracts.

Some respondents noted that the Proposed Modification would have an effect on the extent to which market participants will incur costs or generate profit via the allocation of RCRC. These respondents considered that as marginal SBP would likely be higher than one calculated using the current weighted average approach, market participants would incur larger gains or losses from the ex-post distribution of cash created in RCRC. One respondent suggested that there would be a substantial over-recovery as cash-out for spill would be based on a high marginal SBP, whereas the price for accepted Offers would remain pay as bid.

Panel's recommendation

The draft Urgent Modification Report in respect of Proposed Modification P135 was provided to the Panel for consideration at its meeting of 11 September 2003. The Panel recommended that Proposed Modification P135 should not be made, but in the event that the Authority determines that the Proposed Modification should be made, the Implementation Date should be 45 Working Days after such an Authority determination.

Ofgem's view

Having carefully considered the Modification Report, the respondents' views and the Panel's recommendation, Ofgem, having regard to the Applicable BSC Objectives, agrees with the majority of respondents, the PSMG and the Panel that Proposed Modification P135 would not better facilitate achievement of the Applicable BSC Objectives. In addition, Ofgem considers that this decision is consistent with its wider statutory duties[6].

Since NETA Go-Live[7] a number of modifications[8] have been made to the calculation of Energy Imbalance Prices. Most recently, Approved Modification P78 was introduced to address a potential defect in the methodology for calculating Energy Imbalance Prices used at that time which resulted in high levels of SBP that were considered to be driving the market long, as discussed above.

Ofgem welcomes the close scrutiny that the industry gives to the calculation of Energy Imbalance Prices and considers that it is timely that the industry is now re-considering whether Energy Imbalance Prices provide appropriate signals and incentives on Parties. It is Ofgem's view that this is especially important as NGC is indicating that it, as SO, considers that enhancements can be made.

NGC considered that Proposed Modification P135 would better facilitate achievement of Applicable BSC Objective (b) for the efficient, economic and co-ordinated operation by the licensee of the licensee's transmission system. NGC considered that it is particularly important that Energy Imbalance Prices provide appropriate signals in times of energy shortage, as weakened signals could threaten the security of electricity supplies. In this respect, it was the view of NGC that the Proposed Modification would better facilitate achievement of this Applicable BSC Objective.

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[6] Ofgem's statutory duties are wider than the matters 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.

[7] NETA Go-Live occurred on 27 March 2001.

[8] Approved Modification P10 "Eliminating Imbalance Price Spikes Caused By Truncating Effects" was implemented in May 2001 to remove spurious Bid-Offer Acceptances ("BOAs") for small volumes that resulted in price spikes that did not reflect the costs incurred by NGC in achieving energy balance. Approved Modification P18A "Removing / Mitigating The Effect Of System Balancing Actions In The Imbalance Price" was made in September 2001 to remove actions taken for System Balancing rather than Electricity Balancing reasons from the calculation of Energy Imbalance Prices and to remove Bids and Offers with a duration of less than 15 minutes. Approved Modification P8 "Introduction Of A Price Adjuster To Reflect Option Fees For Balancing Services Contracts In Setting System Buy Price And System Sell Price" introduced an adjustment mechanism to reflect option fees for balancing services contracts in the calculation of Energy Imbalance Prices. Approved Modification P78 "Revised Definitions of System Buy Price and System Sell Price" removed further System Balancing actions from the calculation of Energy Imbalance Prices and introduced a 'main' and a 'reverse' price.

Ofgem agrees with NGC's view that it is essential that Energy Imbalance Prices provide the appropriate signals to Parties by reflecting the costs that NGC incurs in undertaking Electricity Balancing actions. Ofgem shares NGC's view of the importance of this for security of supply. During the design of NETA, Ofgem/DTI considered that it was imperative to establish well-functioning markets that would provide appropriate signals and incentives for both generators and suppliers to maintain sufficient margin to preserve the security of electricity supplies. In designing the Balancing Mechanism, Ofgem considered that market participants should be encouraged to balance their positions through the incentives provided by the cash-out regime. The signals provided by Energy Imbalance Prices ensure that Parties in a position of imbalance have a strong incentive to trade out their exposure in advance of Gate Closure. Ofgem continues to be of the view that the price signals that emerge when the supply-demand gap is tight encourage generators that have spare capacity to make it available either in the short-term forwards markets or to the SO via the Balancing Mechanism, thus facilitating the security of electricity supplies in the short-to-medium term.

Prior to the introduction of NETA, Ofgem outlined its rationale for the adoption of volume weighted average prices for the imbalance cash-out rules. Ofgem shared the view of many market participants that cash-out prices should be calculated from a volume weighted average of accepted Offer and Bid prices in the Balancing Mechanism as this would best reflect the costs incurred by the SO in balancing the System and ensure that appropriate signals and incentives were created, for example, by allowing short-term price signals to emerge at times of system stress. Ofgem was concerned that marginal Energy Imbalance Prices could potentially be distortionary as they could be set based on a very small volume of energy accepted by the SO or alternatively based on a System Balancing action. Ofgem was also concerned, in the light of experience in the gas market, that a marginal cash-out regime could increase the risk of manipulation to drive up Energy Imbalance Prices and market prices to levels that would not reflect underlying market fundamentals. Ofgem had additional concerns surrounding the potentially distortionary effects that marginal cash-out could have on the market through the RCRC mechanism.

Ofgem notes that there are currently other live modifications[9] that are concerned with the issue of whether the current rules to determine Energy Imbalance Prices should be altered and in particular whether they should be calculated on a marginal basis for all Settlement Periods. Without prejudice to these discussions, Ofgem continues to have concerns that setting Energy Imbalance Prices based on a single action has the potential to distort these prices. Nonetheless, Ofgem considers that it may be appropriate to give careful consideration and analysis to whether Energy Imbalance Prices for all Settlement Periods should move away from a volume weighted average calculation. Indeed, Ofgem considers that there are issues with the current calculations of Energy Imbalances Prices that market participants should investigate closely – which obviously might result in modifications being brought forward in the future. These issues are discussed in greater detail below. It is Ofgem's view that the Authority's decision in respect of Proposed Modification P135 in no way prejudices the consideration of Proposed Modifications P136, P137 and P138 by the PSMG or the Panel and does not fetter the Authority's discretion in

[9] Proposed Modifications P136 ("Marginal Definition of the 'main' Energy Imbalance Price"), P137 ("Revised Calculation of System Buy Price and System Sell Price") and P138 ("Contingency arrangements in relation to the implementation of Demand Control measures pursuant to Grid Code OC6") are currently subject to the Assessment Procedure pursuant to Section F2.6 of the BSC.

regard to these proposals, as each proposal will be considered on its own merits in accordance with the proper procedures.

Proposed Modification P135 does not seek to introduce a marginal calculation for Energy Imbalance Prices in all Settlement Periods but rather seeks to introduce two different regimes for the calculation of Energy Imbalance Prices. In instances where a demand control period is instructed, rather than pricing on a volume weighted average basis, Energy Imbalance Prices would be calculated on a marginal basis.

Ofgem agrees with the view of the majority of the PSMG, the Panel and a significant number of respondents that the Proposed Modification could place a perverse incentive on generators to withhold generation or to run generating plant part loaded to reduce their exposure to a marginal SBP in the event of plant failure during a demand control period. Ofgem continues to consider that costs imposed upon the System by Parties (for instance through non-delivery of energy due to a plant failure) should be appropriately targeted back to those Parties such that they have the right incentives to balance their contract positions regardless of the methodology used to calculate Energy Imbalance Prices. Further, it is Ofgem's view that Parties have the opportunity to mitigate their exposure to Energy Imbalance Prices in the event of a plant failure through contracting in the forwards markets and or Bid/Offer pricing.

Ofgem is therefore not persuaded that the Proposer has demonstrated that the Proposed Modification would have the intended effect. Ofgem is concerned that through having two regimes in place for the calculation of Energy Imbalance Prices there is the scope for perverse incentives to exist. Ofgem is also concerned that the Proposed Modification could increase the risk that cash-out prices are set at levels that do not reflect NGC's costs on the basis of a very small volume Offer. In addition, Ofgem considers that the incentives created by the RCRC mechanism could also undermine the intended effect of the Proposed Modification. Consequently, it is Ofgem's view that there is a significant risk that the Proposed Modification could increase the risk of generators inefficiently part-loading or withholding capacity in the event that demand control is likely. Ofgem therefore does not consider that the Proposed Modification would better facilitate achievement of Applicable BSC Objective (b) for the efficient, economic and co-ordinated operation by the licensee of the licensee's transmission system and Applicable BSC Objective (c) promoting effective competition in the generation and supply of electricity, and (so far as consistent therewith) promoting such competition in the sale and purchase of electricity.

It is Ofgem's view that it is important for Energy Imbalance Prices to create appropriate commercial incentives for market participants to balance their own positions in all circumstances and for these signals to apply to all market participants. Ofgem considers that as demand control is uncertain (although there are a range of tools to enable market participants to assess the likelihood that demand control will be instigated in the short term[10]) the Proposed Modification could result in a further perverse incentive for Parties to lengthen their positions at Gate Closure over many Settlement Periods (not just those in which demand control would have been instructed had this lengthening of positions not taken place) in order to avoid being cashed

[10] The Balancing Mechanism Reporting System website provides near-real time information on forecast demand and margin as well as information on all NGC System Warnings.

out at a marginal SBP (particularly given that SSP will not be calculated on a marginal basis). Ofgem considers that this may lead to increased costs through inefficient over-contracting. Customers would, ultimately, pay these costs, and for this reason Ofgem considers that rejection of this proposal is consistent with its principal objective of protecting the interests of consumers.

Ofgem considers that if it is NGC's view that there is a requirement to secure additional operating margin, then the regulatory framework is sufficiently flexible to accommodate this. It is Ofgem's view that rather than changing the rules of the cash-out regime in order to increase the operating margin it would more appropriate for NGC to consider tendering for additional reserve should it consider it necessary.

Ofgem also agrees with the view of the majority of the PSMG and a number of respondents that where there is a high marginal SBP in conjunction with contractual shortness, Balancing Mechanism cashflows could be substantially over-recovered. Ofgem considers that there is scope for this issue to be examined further by Parties, including NGC, since it could potentially create further perverse incentives and could distort competition.

Future developments

As highlighted above, Ofgem shares NGC's opinion that it is important to ensure that Energy Imbalance Prices provide appropriate cost-reflective signals to market participants. Ofgem also considers that, where there are potential improvements to be made in respect of the Energy Imbalance Price calculations, it is important for the industry to address these issues in a timely manner and, if any serious defects are identified, for resolution of these defects to be progressed as quickly as possible.

Ofgem notes that during the progression of Modification Proposals P135, P136 and P137[11], members of the PSMG and respondents to the consultations have suggested potential defects in relation to the current calculation of Energy Imbalance Prices. In addition, Ofgem has received separately a number of representations from market participants concerning potential defects with the existing calculations. Ofgem considers it appropriate to highlight, at this stage, those areas of the current calculations upon which the majority of such comments have focused and that appear to merit further review and consideration. The inclusion of this information in no way fetters Ofgem's discretion in relation to any existing or future Modification Proposals concerning Energy Imbalance Prices and the comments are presented below with the intention of providing information to the industry in order to allow further consideration of the issues raised.

The main areas of the current calculation of Energy Imbalance Prices which have been commented on include:

[11] Ofgem would like to note that Proposed Modifications P136 ("Marginal Definition of the 'main' Energy Imbalance Price"), P137 ("Revised Calculation of System Buy Price and System Sell Price") and P138 ("Contingency arrangements in relation to the implementation of Demand Control measures pursuant to Grid Code OC6") are currently subject to the Assessment Procedure pursuant to Section F2.6 of the BSC. Ofgem acknowledges that one of the issues for consideration in each of these Proposed Modifications is whether the use of a marginal methodology for the calculation of Energy Imbalance Prices is appropriate. It is Ofgem's view that the Authority's decision in respect of Proposed Modification P135 in no way prejudices the consideration of Proposed Modifications P136, P137 and P138 by the PSMG or the Panel and does not fetter the Authority's discretion in regard to these proposals.

- Continuous Acceptance Duration Limit ("CADL") tagging
- NIV tagging
- NIV volume
- +/-£99,999/MWh Bid and Offer price constraint
- Ensuring that correct incentives are in place on suppliers if demand control is instructed

Continuous Acceptance Duration Limit tagging

CADL tagging is used to remove short duration Bid-Offer Acceptances ("BOAs"), which are assumed to be associated with System Balancing actions, from the calculation of Energy Imbalance Prices. BOAs are excluded from the calculation if they have a Continuous Acceptance Duration ("CAD") of less than the value of CADL, which is currently set at 15 minutes. Some market participants have questioned whether CADL tagging continues to be appropriate and if so whether a CADL of 15 minutes remains suitable. Ofgem considers that it is appropriate for the industry to reassess whether CADL tagging remains appropriate and to take appropriate action based on this assessment. If, after review, it is considered appropriate to retain CADL tagging then it may be appropriate to revise the value of CADL. Ofgem notes that the BSC Panel has the ability to review and propose a revision to this value[12].

NIV tagging

Under the current methodology the main Energy Imbalance Price is calculated as a weighted average of all those balancing actions associated with the NIV. The NIV is determined by a two-stage process. First, separate purchase and sale stacks[13] are created. Second, the volume of the smaller stack is netted off from the larger stack by tagging, beginning with the most extremely priced actions (the highest positively priced purchases when the purchase stack is the largest or the highest negatively/lowest positively priced sales when the sale stack is the largest). The NIV tagged actions are deemed to have been taken for System Balancing purposes. The actions left in the main stack following NIV tagging are considered to have been taken to alleviate the NIV and are used to determine the main Energy Imbalance Price. Several market participants have raised concerns in relation to the mechanics of the NIV tagging process, specifically in relation to those actions in the main stack which are tagged out. Ofgem notes that Modification Proposal P137 proposes specific changes in relation to this issue. As with CADL tagging, Ofgem considers that it is appropriate for market participants to reassess the way in which the NIV tagging process works with respect to its impact on the calculation of Energy Imbalance Prices and to act in accordance with this assessment.

NIV volume

An important part of the NIV tagging process is the creation of separate stacks for NGC's purchases and its sales, as detailed above. The relative size of the two stacks impacts on the calculation of Energy Imbalance Prices in several respects. First, the relative size of the stacks

[12] In accordance with Section T 3.1B of the BSC, the Panel may, with the approval of the Authority and following consultation with BSC Parties, revise the value of CADL.
[13] The purchase stack includes the volumes of all Offers accepted by NGC and NGC's forward purchases for that Settlement Period while the sale stack includes accepted Bid volumes and NGC's forward sales.

determines the direction of the System imbalance and, when the stacks are of different size, whether SBP or SSP will be the main price for the relevant half hour. Second, the difference between the relative sizes of the stacks determines the volume of actions that contribute to NIV and so are used in the calculation of the main price. Consequently, it is important for the stacks to include all balancing actions conducted by NGC which are considered to be appropriate for inclusion. However, several market participants consider that certain balancing action volumes which do not currently feed into the calculation of NIV should potentially be included in this calculation. The discussions associated with Modification Proposals P136 and P137 have highlighted this issue, particularly in relation to non-Balancing Mechanism Unit volumes and Applicable Balancing Volume Services Data ("ABSVD") volumes. Parties have suggested that, by excluding these types of balancing actions, the derivation of NIV and the calculation of Energy Imbalance Prices are potentially being distorted. Ofgem considers that it is appropriate for market participants to examine the process for deriving the purchase and sale stacks and to assess whether any changes to this existing process are required, taking subsequent action, as appropriate, on the basis of this assessment.

+/-£99,999/MWh Bid and Offer price constraint

Another issue which has been highlighted by market participants relates to the requirement for all Bid and Offer prices to be greater than or equal to -£99,999/MWh and less than or equal to £99,999/MWh in order to be classified as Valid Bid-Offer Data[14]. This requirement places an artificial constraint upon the Bid and Offer prices that market participants can submit. Ofgem considers that market participants should assess whether it is appropriate for such a constraint to exist (and if so at what level) or whether it can and should be removed.

Suppliers' imbalance exposure in the event of demand control

Under the current rules of the BSC, in the event that demand control is instructed, suppliers' metered volumes are reduced. This means that if a supplier was short of electricity to meet the demands of its customers then, through demand control, such a supplier may be brought into balance or be made long for the Settlement Period. Ofgem is concerned that the current rules might not offer appropriate commercial incentives to balance in such situations and considers that this is an issue that warrants the attention of industry.

Ofgem would like to reiterate that it has taken this opportunity to highlight issues concerning the calculation of Energy Imbalance Prices which have been brought to its attention in order to create industry wide awareness of these issues. Ofgem envisages that these issues will be the subject of discussion and assessment by market participants, who will, where considered necessary, take appropriate action to seek to address these issues in a timely manner.

As set out previously, at this time Ofgem does not consider that it is appropriate to modify the wholesale trading arrangements by approving Proposed Modification P135. NGC, in raising this the Proposed Modification, highlighted a concern that the existing rules may not provide appropriate incentives on Parties to contract ahead to achieve a balanced position in all

[14] The numerical specification of Bid and Offer prices is outlined in the 'Data Validation, Consistency & Defaulting Rules' document, an associated document of the Grid Code, in conjunction with ELEXON/Logica's 'Interface Definition and Design' documents developed in the design phase of NETA.

scenarios. NGC was concerned that this could pose a threat to the security of electricity supplies this winter.

Ofgem continues to consider that, in its role as the residual balancer, NGC should ensure that there is sufficient operating reserve margin to deal with events within day, particularly after Gate Closure, and also to correct any potential short term imbalances that the market does not fully resolve. It is Ofgem's view that it is NGC's responsibility to assess the risks that it faces this winter and to determine whether, given the level of expected plant margin, there is a need to hold additional reserve to mitigate these risks. Should it perceive that additional reserves are required, NGC may procure reserve directly (in a non-discriminatory manner) and the risk of introducing distortions on the operation of the market will be reduced.

The Authority's decision

The Authority has therefore decided not to direct that the Proposed Modification P135, as set out in the Modification Report, should be made and implemented.

Having regard to the above, the Authority, in accordance with Section F1.1.4 of the BSC, hereby notifies NGC that it does not intend to direct NGC to modify the BSC as set out in the Modification Report.

Please contact me on the above number if you have any queries in relation to the issues raised in this letter. Alternatively, contact Matthew Buffey on 020 7901 7088.

Yours sincerely

Sonia Brown
Director, Electricity Trading Arrangements
Signed on behalf of the Authority and authorised for that purpose by the Authority