CODE MODIFICATION PROPOSAL No. 0061

"Facilitating further demand-side response in the event that a Gas Balancing Alert is triggered"
Version 2.0

Date: 07/11/2005

Proposed Implementation Date:

Urgency: Urgent

Proposer's preferred route through modification procedures and if applicable, justification for Urgency

(see the criteria at http://www.ofgem.gov.uk/temp/ofgem/cache/cmsattach/2752_Urgency_Criteria.pdf)

Defined Terms. Where UNC defined terms are included within this Proposal the terms shall take the meaning as defined within the UNC. Key UNC defined terms are highlighted by an asterisk (*). This Proposal, as with all Proposals, should be read in conjunction with the prevailing UNC.

Commencing in 2004 (Quarter 4) and throughout 2005, Ofgem chaired the Demand Side Working Group (DSWG) that considered how further demand side response could be facilitated. National Grid NTS requests urgent status in respect of this Proposal on the basis that it believes that the consensus of these DSWG discussions is that, National Grid NTS, in its role as the residual system balancer, should be able to supplement its current use of the On-the-Day Commodity Market (OCM) with other non-OCM *Eligible Balancing Actions and be allowed to take balancing actions with a duration of more than one Gas Day (i.e. multi-day trades) both through the OCM and OTC contracts with non *Trading Participants.

National Grid NTS has also undertaken as part of the DSWG discussions to provide further information to Users in the form of a Gas Balancing Alert (GBA). The GBA aims to provide an early indication of a greater likelihood that demand side response might be required.

National Grid NTS believes that the consensus of the DSWG discussions is that the use of non-OCM trades and initiation of multi-day trades should only be facilitated for a Gas Day for which a Gas Balancing Alert (GBA) has been triggered. Further, the consensus of the DSWG discussions is that these changes should be enabled prior to the Winter 2005/06 peak demand periods.

The objective of this Proposal is to ensure that further potentially efficient and economic balancing actions might be considered following the triggering of a Gas Balancing Alert (as defined in this Proposal) but, prior to the declaration of a *Network Gas Supply Emergency (NGSE).

Nature and Purpose of Proposal (including consequence of non implementation)

Summary of key elements of the Proposal:

- Gas Balancing Alert: This proposal seeks to define a GBA and the ability for National Grid NTS to inform Users of such a GBA. This proposal would trigger a GBA, when on D-1; the demand forecast is greater than, or equal to, the anticipated available supplies (as adjusted to take account of the proximity of available stored gas to the relevant *Safety Monitor).

and, subsequent to a GBA being triggered and notified to the market:

- Facilitating further Demand side offers - National Grid NTS shall be able to take Eligible Balancing Actions utilising not only the OCM but also "over the counter (OTC)" contracts where National Grid NTS considers it to be economic and efficient to do so. These OTC contracts will be only be facilitated with those Users who are not Trading Participants i.e. this will mean they are not registered participants of the OCM.
- National Grid NTS shall be able to take Eligible Balancing Actions for a specific Gas Day and, any bid/offers that might be placed by a market participant for a number of multiple (consecutive) days following that specific Gas Day for which the action is being taken up to, and including, seven consecutive days.
- The derivation of *System Average Price (SAP), whilst continuing to include all trades that are undertaken on the OCM (except those relating to Locational actions) for a given Gas Day, shall also include those Eligible Balancing Actions undertaken by National Grid NTS through the utilisation of OTC contracts.
- In addition, the *System Marginal Buy Price (SMBP) and *System Marginal Sell Price (SMSP) will be set by Eligible Balancing Actions taken in either the OCM or the OTC, including trades taken for more than one Gas Day.

National Grid NTS has, in conjunction with other interested industry parties, participated in the Ofgem chaired Demand Side Working Group (DSWG), which was initiated during 2004. The view of National Grid NTS is that the primary objective of the DSWG was to assess how demand-side response could be further facilitated, utilising existing market mechanisms, in the event of an impending NGSE.

Recently, the Winter (2005-2006) Outlook Report published by National Grid NTS has highlighted the importance of demand side response in maintaining the balance of the *Total System during periods of high demand.

Through the discussions within the DSWG, the industry has expressed the view that in order to facilitate the maximum opportunity for demand-side response offers (turn-down) to be made available to the National Grid NTS, in its role as the residual system balancer of the Total System, it should have the ability to accept and place bids/offers through OTC contracts and be able to accept multi-day offers through either the OCM or OTC contracts. The rationale is that by permitting National Grid NTS to undertake *Eligible Balancing Actions for multiple days and through OTC contracts, this might lead to more efficient and economic actions with the system clearing prices becoming more reflective of system requirements and other gas traded markets.

National Grid NTS believes that the consensus of the DSWG discussions is that by enabling the residual system balancer to source Eligible Balancing Actions through contracts in addition to the OCM, this might mitigate the risk of, and thus assist the market from entering into an NGSE. It should however, be noted that under this Proposal, National Grid NTS would only be permitted to trade through OTC contracts and take multi-day bids/offers when a potential supply-demand deficit has been identified i.e. a GBA has been triggered and notified to Users.

National Grid NTS believes that a full review of the System Operator balancing role should be undertaken in the fullness of time but for this Winter, the potential for this limited extension to

the activities of the residual balancer should be assessed against the relevant objectives set out in Standard Special Condition A11 of the Gas Transporter Licence.

Key Elements of the Proposal:

1. Introduction of a Gas Balancing Alert

National Grid NTS will issue a GBA during D-1 when the System demand forecasted at 14:00 hours or 02.00 hours for Gas Day D, that identifies *Forecast Total System Demand is greater than or equal to the anticipated available supplies. The anticipated available supplies shall be adjusted to remove the contribution from the various types of storage as the storage stock levels reduce to within two days (at maximum withdrawal rates) of the applicable Safety Monitor for each *Storage Facility Type. Once issued, the GBA would remain in place for the duration of the Gas Day regardless of any subsequent notification of available supplies or change in forecasted demands.

There is an additional option that National Grid NTS believes could be considered during the consultation period for this Proposal. This option that might provide for a GBA to be triggered 'within-day' if;

a. there is an incident or an event notified to National Grid NTS that in its reasonable opinion, was anticipated to result in an end-of-day loss of available supplies of 25 mcm or greater and;

b. this end-of-day loss subsequently results in the remaining anticipated available supplies being less than, or equal to, the Forecast Total System Demand.

This option might be included in the implementation of this Proposal and to this end, National Grid NTS would seek to discuss the option in a UNC Transmission Workstream during the consultation period.

National Grid NTS would also appreciate respondent's views on this additional option in their representations to this Proposal.

2. Enable National Grid NTS to undertake non-OCM Eligible Balancing Actions

Once Users have been notified that a GBA has been triggered, in addition to the OCM, and where it is considered economic and efficient to do so, National Grid NTS shall be able to take Eligible Balancing Actions utilising "over the counter" (OTC) contracts. Any OTC (bilateral) trades conducted by National Grid NTS in this event would be classified as an Eligible Balancing Action and therefore, included in the derivation of SAP, SMBP, SMSP and *Balancing Neutrality Charges.

National Grid NTS will utilise the *Energy Balancing Invoice to pay Users for any OTC bilateral trade that it has bought or sold. Any broker fees and transaction charges for these non-OCM trades will be treated on the same basis as those incurred on the OCM. Any differences in settlement periods between the existing OCM/EBI arrangements and potential new OTC contracts might result in an interest payment charge being incurred by the Balancing Neutrality account.

Where it is considered by National Grid NTS to be economic and efficient to do so, it will take Eligible Balancing Actions through OTC contracts with those Users who are not Trading Participants i.e. this will mean they are not registered participants of the OCM. The generic

contractual terms for such OTC contracts will be published and made publicly available by National Grid NTS on its website. Post GBA notification, those Users that wish to conduct OTC trades with the residual system balancer, will be deemed to have accepted those published contractual terms and conditions.

3. Enable National Grid NTS to accept multiple-day offers on the OCM and/or OTC as an Eligible Balancing Action(s) for a Gas Day and subsequent Gas Days

Once Users have been notified that a GBA has been triggered, and where it is considered to be economic and efficient to do so, National Grid NTS shall be able to take an Eligible Balancing Action for a specific Gas Day, including the consideration of 'multi-day' bids/offers that have been placed by participants on the OCM and/or OTC. For example, where that includes bid/offers that are placed for a number of consecutive days adjacent to the Gas Day that is being assessed and, where the action is being taken as the first of the multi-day bid/offer. However, it should be noted that any such multi-day bids /offers should be for consecutive days but, due to the Financial Services Market Act, this would be restricted up to a maximum of seven consecutive days.

Where a multi-day trade is accepted by National Grid NTS, for each component Day of the multi-day trade, the traded volume and price might contribute to the derivation of SAP and Balancing Neutrality for the Day relevant to that component. The effect on the derivation of SMPB and SMPS is described in the following section.

4. Change the derivation of SAP, SMSP and SMBP

Once the Users have been notified that a GBA has been triggered, in addition to the OCM, and where it is considered economic and efficient to do so, National Grid NTS shall be able to take Eligible Balancing Actions utilising OTC contracts.

Any OTC trades that are accepted by National Grid NTS will be treated the same as OCM Market Balancing Actions i.e. classified as an Eligible Balancing Action and as such, will be included in the calculation of SAP, SMBP and SMSP (where appropriate) and Balancing Neutrality Charges.

In determining what proportion of a multi-day trade (price and cost) should contribute into SAP, SMP and Balancing Neutrality for each of the Days associated with the multi-day trade, National Grid NTS will use its reasonable endeavours to determine the probability of demand exceeding supply based on available notified supply/demand data and forecast weather data it has at that time. This probability will then be used to determine the SMPB (assuming 'buy' trades only), the volume and price to be used in the calculation of SAP and Balancing Neutrality charges.

National Grid NTS is not proposing to use the 'buy' trade price in the calculation of the SMP **Sell** Price, even if that 'buy' trade price is the lowest on that day.

Please note: the formula will be applied separately to each multi-day trade since the volume and number of days and / or timing will be different for each multi-day trade. The probability could therefore be different for each multi-day trade taken on and for the same Gas Day. If multi-day trades are taken in future days, within an existing accepted multi-day trade period then a new probability will be calculated for the second set of multi day trades and used in the calculations for the second set of multi-day trades.

The calculations in the examples (below) are based on the following formula:

% of price applied = Probability of requirement / Sum of all Probability of requirements

Effective Price (Used in SMPB) = % of price applied * (p/kWh * Number of days trade applies for)

Examples:

National Grid NTS accepts a six day, multi-day offer (buy) for 200 kWh per day at 10p kWh per day, Total Cost = 12000p.

Example 1

	D1	**D2**	**D3**	**D4**	**D5**	**D6**
Probability of Requirement	100%	20%	5%	0%	0%	0%
% of price applied	80%	16%	4%	0	0	0
Effective Price (used in greater of SMPB calculation)	48p	10p	2p	0	0	0
Effective Volume (used in SAP, volume defined in this row * original trade price (10p)	960 kWh	192 kWh	48 kWh	0	0	0
Balancing Neutrality Charge	9600 p	1920 p	480p	0	0	0

Example 2

	D1	**D2**	**D3**	**D4**	**D5**	**D6**
Probability of Requirement	100%	100%	50%	10%	0%	0%
% of price applied	38.46 %	38.46 %	19.23 %	3.84%	0	0
Effective Price (used in greater of SMPB calculation)	23p	23p	12p	2p	0	0
Effective Volume (used in SAP, volume defined in this row * original trade price (10p)	462 kWh	462 kWh	231 kWh	46 kWh	0	0
Balancing Neutrality Charge	4615p	4615p	2308p	461p	0	0

Second GBA multi-day trade 2 taken for 3 days 500 units per day, 10p per day. Effective on day 4

Probability of Requirement	**NA**	**NA**	**NA**	100%	75 %	25%
% of price applied	**NA**	**NA**	**NA**	50%	37.5 %	12.5 %
Effective Price (used in greater of SMPB calculation)	**NA**	**NA**	**NA**	15p	11.25p	3.75p
Effective Volume (used in SAP, volume defined in this row * original trade price (10p)	**NA**	**NA**	**NA**	750 kWh	563 kWh	188 kWh

Balancing Neutrality Charge	**NA**	**NA**	**NA**	7500p	5625p	1875p

Advantages

- SMPs, SAP and Balancing Neutrality apportionment is reflective of forecast requirements in future days; targeting costs and incentives appropriately.
- Based on latest information and a National Grid NTS forecast (NTS supply and demand).

Disadvantages

- All calculations are dependant upon a forecast that might not reflect the physical system and market conditions on that actual day.

Basis upon which the Proposer considers that it will better facilitate the achievement of the Relevant Objectives, specified in Standard Special Condition A11.1 & 2 of the Gas Transporters Licence

National Grid NTS understands that the consensus of attendees of the DSWG considered that should this Proposal be implemented, it would further the relevant objectives as set out in the Gas Transporter Licence, Standard Special Condition A11.

1. In respect of paragraph 1.a):
   a) The Proposal would improve *"the efficient and economic operation of the pipe-line system"* by facilitating co-operation between consumers and Users that might provide further demand-side response to the market at the time when the Total System most requires it.
   b) The Proposal would ensure that National Grid NTS is able to utilise all available trading actions to minimise the risk of entering an NGSE.
   c) The use and inclusion of OTC contracts in the derivation of SAP, and where relevant SMBP and SMSP, would further facilitate competition and reflect the value of all the gas that has been traded to meet residual balancing requirements during times of system stress.
2. In respect of paragraph 1.e):
   a) The introduction of the Proposal might improve *"the provision of reasonable economic incentives for relevant suppliers to secure that the domestic customer supply security standards are satisfied as respects the availability of gas to their domestic customers"*.
   b) The Proposal would increase the information available to industry parties thereby enabling a timely response to secure sufficient demand-side response in order to match supplies.

Any further information (Optional), likely impact on systems, processes or procedures, Proposer's view on implementation timescales and suggested text

a. Proposed implementation timetable

National Grid NTS requests that the Authority considers approval of the following proposed timetable:

Sent to Ofgem requesting Urgency	01/11/2005
Ofgem grant Urgent status	02/11/2005
Proposal issued for consultation	07/11/2005
Closeout for representations	21/11/2005
FMR issued to Joint Office	24/11/2005
Modification Panel Recommendation (postal vote)	01/12/2005
Ofgem decision expected	05/12/2005

b. Proposed legal text

To be advised shortly.

c. Advantages of the Proposal

National Grid NTS believes that the consensus of the attendees of the DSWG considered the primary advantages of this Proposal as:

- It would provide a timely and important signal to the market that demand-side response is more likely to be required in order to maintain the balance of the Total System. If implemented the GBA would provide an additional trigger for Users and major gas consumers to initiate appropriate demand-side reductions.
- Provide National Grid NTS with the ability to consider other trading actions, which, it deems to be economic and efficient in order to mitigate the risk of an NGSE being declared.
- Could create additional price signals that might encourage Users to resolve their own supply-demand deficit prior to an NGSE being declared.
- Provides a facility for non Trading Participants to offer demand-side response to the residual system balancer during the period of a GBA.
- It would further facilitate competition in those gas markets associated to the pipeline system and appropriately reflect the value of gas that the residual system balancer had traded in other markets during times of system stress.
- The Proposal is restricted to the duration of a GBA and might therefore, be considered to have a negligible effect on the majority of Gas Days.

d. Disadvantages of the Proposal.

- Lack of anonymity with OTC contracts; by taking an Eligible Balancing Action in uncleared Markets this might have an impact on SAP and SMP as the Users making OTC offers will be aware that they are trading with National Grid NTS and thus, they might be aware of pending changes in system clearing prices before other Users. This might lead to some Users in those markets effectively having an information market advantage over other Users in that they might effectively have asymmetrical access to price data until the revised SAP and SMP prices are published to the market.
- Additional complexity: Daily operation of the Network, associated commercial actions, processes and procedures to manage the OTC process. Invoicing and

Settlement; additional processes and procedures to manage the billing payment of OTC trades and the credit management of the OTC trades.

- In the event that a GBA is triggered and National Grid NTS takes non-OCM Eligible Balancing Actions, there will be a delay in the provision of cashout price information to the market. Currently, cashout prices (SAP & SMP) are published by APX on a near real-time basis as they are derived from those trades undertaken exclusively on the OCM. In this event, there will be times when the published OCM SAP (and SMP) will not reflect those actions undertaken by National Grid NTS though OTC contracts. National Grid NTS will endeavour to minimise any timing delay to the publication of SAP and SMP price information to the market.
- It should be noted that these disadvantages are dependent on the proportion of activity undertaken on the OTC rather than the OCM. National Grid NTS however believes that the value of the OTC should be relatively low given that a large number of Users are active participants within the OCM.

e. The implications of implementing the Modification Proposal on security of supply, operation of the Total System and industry fragmentation

National Grid NTS believes that the consensus of the attendees of the DSWG considered that Security of Supply would be enhanced by the implementation of this Proposal by:

- Encouraging demand-side response and providing signals to the market in advance (D-1) would allow consumers to prepare for, and plan, a reduction in their gas consumption on the Total System.
- In addition to undertaking Eligible Balancing Actions on the OCM, it would afford National Grid NTS with the ability to utilise OTC contracts.
- Multi-day bids/offers would provide Users and National Grid NTS with the ability to post and accept multi-day trades that might be considered economic and efficient.

f. The implication for Transporters and each Transporter of implementing the Modification Proposal, including

i. Implications for operation of the System

By affording the opportunity to participate in OTC trading, and accepting multi-day trades it is anticipated that the residual system balancer will be able to maximise its commercial tools in an attempt to mitigate the risk of an NGSE being declared.

National Grid NTS will be required to make changes to its System Management Principle Statement (SMPS) and Procurement Guidelines in order to facilitate certain elements of this Proposal, for example, the introduction of the GBA and multi-day trades.

National Grid NTS currently believes that this Proposal, as outlined, would not require a material change to its Safety Case (Procedure for Network Gas Supply Emergency T/PM/E/1).

ii. Development and capital cost and operating cost implications

a) National Grid NTS might be required to establish additional contracts, credit and off-line processes in order to manage OTC contracts and multi-day trades.

b) This Proposal will require xoserve to put additional processes in place to ensure timely and accurate billing/payment, credit/interest calculations and additional operational requirements.

c) National Grid NTS has already commenced improvements to its information provision web pages. The GBA will be included within this programme at no additional cost.

iii. Extent to which it is appropriate to recover the costs, and proposal for the most appropriate way to recover the costs

a) Where National Grid NTS incurs costs, for example, changes to IT systems, recovery would be achieved through the appropriate SO incentive**.**

b) The introduction of multi-day trading on the OCM will require the Trading System Operator to implement IT system changes and modifications to the OCM Market Balancing Rules. It is anticipated that at the discretion of the Trading System Operator, any recovery of OCM-related system changes will be funded through trading charges on this market.

iv. Analysis of the consequences (if any) this proposal would have on price regulation

National Grid NTS does not anticipate any such consequences.

g. The consequence of implementing the Modification Proposal on the level of contractual risk of each Transporter under the Code as modified by the Modification Proposal

National Grid NTS believes that the Proposal will have no impact on the contractual risk between Transporters.

There might be additional contractual risk between National Grid NTS, acting as the residual system balancer, and those Users submitting OTC offers.

There is a potential risk to the cash flow of Balancing Neutrality as OTC trade counter-parties will be invoiced and settled at different times to the OCM/EBI. It is anticipated that any costs resulting from the difference between OTC and EBI invoice settlement periods will be funded through Balancing Neutrality.

h. The high level indication of the areas of the UK Link System likely to be affected, together with the development implications and other implications for the UK Link Systems and related computer systems of each Transporter and Users

To be assessed and confirmed. In the short term, new processes can by managed by National Grid NTS and xoserve through manual processes and procedures in the anticipation of IT systems being developed to support the implementation of this Proposal.

In relation to the timely publication of 'within-day' cashout prices, National Grid NTS will, in conjunction with APX, assess the technical and practical issues that will need to be addressed. Should the Proposal be implemented, there will also be a requirement to increase the size (format) of the cashout price (pence/kWh) from two to three (or more)

significant figures to facilitate the potential effect of multi-day offers on the SMP calculation.

i. The implications of implementing the Modification Proposal for Users, including administrative and operational costs and level of contractual risk

- The Proposal, if implemented, should assist the Users' processes, for accessing demand-side response and communicating with their customers in a more timely and efficient manner.
- Credit Risk; although this is unlikely to be a material change. For example, if a GBA is triggered for a Gas Day, it is likely that any Eligible Balancing Actions undertaken by National Grid NTS will be executed as acquiring trades actions rather than disposing trades.
- Any interest payments incurred because of any difference between OCM and OTC clearing/invoicing settlement periods will be funded through the Balancing Neutrality account.

Code Concerned, sections and paragraphs

UNC TPD
D, E, F, S, V and Annex D-1 (to be confirmed)

Proposer's Representative

Richard Hewitt (National Grid NTS)

Proposer

Richard Court (National Grid NTS)

Signature

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