

# **CONCLUSIONS REPORT TO THE AUTHORITY**

**Modification Proposals to the Gas Transmission  
Transportation Charging Methodology**

**NTS GCM 06:**

**Further Revision to Obligated NTS Entry Capacity  
Reserve Price Determination**

**13th June 2007**

## Table of Contents

<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
<b>1 INTRODUCTION.....</b>	<b>3</b>
<b>2 BACKGROUND.....</b>	<b>4</b>
Obligated NTS Entry Capacity Reserve Price Methodology .....	4
<b>3 KEY ISSUES.....</b>	<b>6</b>
Ofgem Decision Letter on GCM01 .....	6
Treatment of Spare Capacity .....	6
Impact of Capacity Substitution .....	6
<b>4 TERMS OF THE ORIGINAL PROPOSAL .....</b>	<b>7</b>
<b>5 RESPONSES.....</b>	<b>9</b>
Support for the Proposal .....	9
Summary of Responses by Consultation Question .....	9
<b>6 FINAL PROPOSAL .....</b>	<b>15</b>
<b>7 CHANGES TO THE ORIGINAL PROPOSAL IN LIGHT OF REPRESENTATIONS MADE ...</b>	<b>15</b>
<b>8 HOW THE PROPOSED MODIFICATION BETTER MEETS THE RELEVANT OBJECTIVES .....</b>	<b>16</b>
Promoting Efficiency and Avoiding Undue Preference.....	16
Promoting Competition .....	17
Cost Reflectivity.....	17
<b>9 TIMETABLE FOR IMPLEMENTATION .....</b>	<b>17</b>
Appendix A - Licence Relevant Objectives and EU Gas Regulations .....	18
Appendix B – Indicative Obligated NTS Entry Reserve Prices.....	19

## Executive Summary

This document sets out National Grid NTS's final proposal for revising the Gas Transmission Transportation Charging Methodology (the "Charging Methodology") in respect of the setting of Obligated NTS Entry Capacity<sup>1</sup> reserve prices for all capacity released from 1<sup>st</sup> October 2007. This covers all NTS Entry Capacity auctions starting from the September 2007 QSEC auction. This follows the completion of a 28 day consultation on Consultation Paper NTS GCM 06.

The final proposal within this document includes changes to Obligated NTS Entry Capacity Reserve Prices, but does not cover NTS Entry Capacity Incremental Step Prices which are being considered as part of the annual review of the Incremental Entry Capacity Release (IECR) Methodology Statement.

National Grid NTS raised Pricing Consultation NTS GCM 01 on 2<sup>nd</sup> November 2006 leading to the consultation conclusions report published on 25<sup>th</sup> January 2007 which proposed the introduction of the Transportation Model for the purposes of setting Obligated NTS Entry reserve prices. The final proposal was "option 2b" which involved the calculation of NTS entry reserve prices by modelling entry flows at the obligated level within the Transportation model.

### Ofgem Decision

Ofgem's decision document, issued after an Impact Assessment had been carried out, stated; *"In summary, Ofgem considers that the Proposal better facilitates the achievement of the relevant charging methodology objectives than the current methodology, however we consider that it would be in the interests of consumers to include spare capacity in the model, as described by option 2a of NGG's consultation document. This would improve cost reflectiveness and better ensure the economic and efficient use of network assets. It would reduce the risk of underutilised assets and inefficient investment elsewhere on the network. This is a significant issue that Ofgem would urge NGG to consider in the immediate future through further modification proposals to the charging methodology. It may be that there are better solutions available which NGG can consider over the longer term, through its duty to review the suitability of the Methodology for achieving the relevant objectives."*

The revised arrangements under GCM01 (Option 2b) are as follows;

- Obligated NTS Entry Capacity reserve prices are generated from separate entry point specific analysis where the obligated level is different to the Base Case flow modelled
- The Base Case scenario involves adjusting some supplies down in order to match the 1 in 20 forecast demand where there is a supply surplus.
- The entry point specific analysis involves adjusting the modelled entry point flow to the obligated level and adjusting the least beneficial entry point or points relative to the entry point being considered in order to maintain the supply and demand balance.
- All entry points are expected to be analysed separately.

Consultation Paper (GCM06) sought views on a modification (Option 2a from the original GCM01 consultation paper) to the NTS Capacity Price setting methodology, as summarised below:-

- Obligated NTS Entry Capacity reserve prices are generated from separate entry point specific analysis where the maximum forecast Base Case level (capped at the Obligated NTS Entry Capacity level) is different to the Base Case flow modelled
- The Base Case scenario involves adjusting some supplies down in order to match the 1 in 20 forecast demand when there is a supply surplus.

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<sup>1</sup> Obligated NTS Entry Capacity has previously been referred to as Baseline NTS Entry Capacity within the Charging Methodology.

- The entry point specific analysis involves adjusting the modelled entry point flow to the maximum forecast Base Case level (capped at the Obligated NTS Entry Capacity level) and adjusting the least beneficial entry point or points relative to the entry point being considered in order to maintain the supply and demand balance.
- The entry point specific analysis will only apply to those entry points that have been scaled back to achieve a supply and demand balance or where Base Case flows are in excess of the obligated capacity level. The entry points analysed separately are expected to be storage points, interconnectors and LNG importation facilities where the maximum flow for the purposes of charging would be based on the facility maximum deliverability capped at the obligated capacity level.

One of the key considerations in the determination of Long Run Marginal Costs (LRMCs) for the setting of entry capacity reserve prices is the treatment of spare capacity. While the Transportation model does not explicitly include spare transmission capacity, under this proposal (GCM06 ~ GCM01 Option 2a) spare capacity due to declining terminals is catered for by using flow forecasts, capped at the obligated firm capacity level. This will produce lower prices compared to the GCM01 approach where forecast maximum flows are less than the obligated capacity levels and hence when spare capacity could be said to be available.

Pricing based on forecast Base Case flows will ensure that where entry terminal flows are forecast to decline, the resulting prices will also decline hence creating an incentive to utilise any spare capacity released as a result of declining flows.

If spare capacity is not appropriately accommodated in prices, resulting in higher capacity charges, than would otherwise be the case, it could discourage the use of currently unutilised NTS investments and, in the extreme, lead to asset stranding. Conversely, if LRMCs are excessively discounted at certain entry/exit points to recognise such unutilised assets, Users of other entry/exit points would be required to fund a proportion of such discounts, thereby creating a cross-subsidy. In addition, the locational targeting of the costs of spare capacity results in Users paying for the capacity that happens to be available in the vicinity, rather than the capacity they utilise.

This proposal did not gain majority support but represents the final proposal for consideration by the Authority. National Grid NTS has clarified the input data that will be used to calculate prices and believes that this will address the concerns regarding stability and predictability of the prices which were the main concerns of those objecting to the proposal.

In summary, National Grid NTS considers that implementation of this proposal (option 2a) would better achieve the relevant methodology objectives (under National Grid NTS's GT Licence obligation Standard Special Conditions A5) as explained below: -

- "Reserve prices are calculated at a level that promotes efficiency, avoids undue preference in the supply of transportation services and promotes competition between gas shippers and between gas suppliers."
  - Pricing based on forecast Base Case flows will ensure that where entry terminal flows are forecast to decline, the resulting prices will also decline hence creating an incentive to utilise any spare capacity released as a result of declining flows.
  - This could better ensure the economic and efficient use of network assets, and hence the promotion of efficiency, through reducing the risk of underutilised assets and inefficient investment.

National Grid NTS's has obligations in regard to developing an efficient and economic pipeline system and continually reviewing the charging methodology and hence will use the Gas TCMF process to investigate potential improvements to the Charging Methodology and the impact of spare capacity.

## 1 Introduction

- 1.1 In January 2006 National Grid NTS instigated a review of the gas transmission transportation charging arrangements with the industry via the launch of the Gas Transmission Charging Methodology Forum (Gas TCMF).
- 1.2 One of the key areas of the review was the methodology by which entry and exit capacity prices are determined, and the information made available to the industry to understand and replicate the price setting process. At present the methodology for determining NTS Exit Capacity and NTS Obligated NTS Entry Capacity<sup>2</sup> prices is contained within the Gas Transmission Transportation Charging Methodology (the "Charging Methodology"). The methodology for determining NTS Incremental Entry Capacity price schedules is contained within the Incremental Entry Capacity Release (IECR) methodology statement.
- 1.3 The review of the capacity charging arrangements was instigated by Ofgem's open letter of 2 December 2005 which proposed that, as part of the Transmission Price Control Review (TPCR), NTS Obligated NTS Entry Capacity reserve prices are decoupled from Entry UCAs and set on a dynamic basis from 1 April 2007. Ofgem suggested that National Grid NTS therefore develop a charging model which is made available to the industry such that users can repeat the price setting process. Ofgem also stated that a single model for determination of all entry and exit capacity prices was desirable.
- 1.4 In conjunction with the industry through the Gas TCMF, National Grid NTS developed a range of options for determination of Long Run Marginal Costs (LRMCs) for the purpose of determining NTS Capacity Prices.

### NTS GCM01

- 1.5 This work led to National Grid NTS raising Pricing Consultation NTS GCM 01 on 2<sup>nd</sup> November 2006 with the consultation period ending on 30<sup>th</sup> November 2006. The consultation led to the consultation conclusions report published on 25<sup>th</sup> January 2007 which proposed the introduction of the Transportation model for the purposes of setting NTS Exit prices and NTS Obligated NTS Entry reserve prices. The final proposal for Entry was "option 2b" which involved the calculation of NTS entry reserve prices by modelling entry flows at the obligated level within the Transportation model. The calculation of NTS incremental entry reserve prices from the Transportation model will be proposed as part of the IECR consultation.

### Ofgem Decision

- 1.6 Ofgem's decision document, issued after an Impact Assessment had been carried out, stated; *"In summary, Ofgem considers that the Proposal better facilitates the achievement of the relevant charging methodology objectives than the current methodology, however we consider that it would be in the interests of consumers to include spare capacity in the model, as described by option 2a of NGG's consultation document. This would improve cost reflectiveness and better ensure the economic and efficient use of network assets. It would reduce the risk of underutilised assets and inefficient investment elsewhere on the network. This is a significant issue that Ofgem would urge NGG to consider in the immediate future through further modification proposals to the charging methodology. It may be that there are better solutions available which NGG can consider over the longer term, through its duty to review the suitability of the Methodology for achieving the relevant objectives."*

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<sup>2</sup> Obligated NTS Entry Capacity has previously been referred to as Baseline NTS Entry Capacity within the Charging Methodology.

- 1.7 This led to National Grid NTS raising Consultation Paper NTS GCM 06 which covered the introduction of proposal 2a, as contained within charging methodology consultation paper GCM01, for the purposes of setting Obligated NTS Entry Capacity reserve prices applicable to all auctioned capacity from 1 October 2007 starting from the September 2007 QSEC auction. Option 2a involves the calculation of NTS entry reserve prices by modelling entry flows at the forecast maximum Base Case (capped at the obligated capacity level), rather than at the obligated capacity level introduced through GCM01, within the Transportation model.
- 1.8 Consultation Paper NTS GCM 06 was raised on the following grounds;
- The final decision on GCM01 2a/2b was finely balanced and there were more respondents to the Ofgem IA than the original GCM01 process
  - Proposed new obligations on National Grid NTS in regard to entry capacity substitution may make the use of forecast maximum flow, rather than obligated capacity level, in the charging methodology the more cost reflective and stable way forward.
  - National Grid NTS's obligations in regard to developing an efficient and economic pipeline system and continually reviewing the charging methodology
- 1.9 It should be noted that the proposal outlined in this consultation paper does not impact the calculation of NTS Exit Capacity prices in any way.
- 1.10 National Grid NTS raised Pricing Consultation NTS GCM 06 on 8<sup>th</sup> May 2007 with the consultation period ending on 5<sup>th</sup> June 2007. This report covers the terms of the original proposal, the representations made by relevant parties and changes in the terms of the proposal made by National Grid NTS as a consequence of representations received.

## 2 Background

- 2.1 This section sets out the prevailing entry capacity charging methodology as introduced by charging methodology proposal GCM01.

### **Obligated NTS Entry Capacity Reserve Price Methodology**

#### Transport Model

- 2.2 NTS Exit Capacity Prices are determined from a Transportation Model that calculates the Long Run Marginal Costs (LRMCs) of transporting gas from each entry point to a “reference node” and from the “reference node” to each relevant offtake point.
- The transportation model minimises the flow distance of gas around the network given the assumed pattern of supplies and demands and the constraint that at any node, demand plus flow to other nodes must equal supply and flow from other nodes.
  - Any incremental flow down a line results in a reinforcement requirement, with a standard reinforcement cost. It does not consider the way in which pressure, pipeline diameter / length and flow interact – it simply assumes that, for the standard reinforcement cost, incremental flow can be routed down each existing pipeline route.
  - The transportation model calculates the marginal costs of investment in the transmission system that would be required as a consequence of an increase in demand or supply at each connection point or node on the

transmission system. The measure of the marginal investment costs is in terms of £/GWhkm, hence marginal changes in flow distances based on increases at entry and exit points are estimated initially in terms of increases or decreases in units of kilometres of the transmission system for a small energy injection to the system.

- 2.3 The Expansion Constant is determined from the average cost of incremental capacity for 900mm, 1050mm and 1200mm pipeline of 100km length and recompression to 85 bar(g), calculated according to the methodology set out in Appendix B of the GCM01 consultation document. Based on this methodology, an expansion constant of £2223/GWhkm would be applied for prices effective from 1<sup>st</sup> October 2007.

#### NTS Entry Capacity Reserve Prices

- 2.4 LRMCs for determination of Obligated NTS Entry Capacity reserve prices for use in entry capacity auctions (prior to any discount that may be applied)<sup>3</sup> are based on the prevailing charging methodology as introduced by charging proposal NTS GCM01.

In respect of the supply and demand data input into the Transport Model:

- 2.5 Prices for each Gas Year are set on the basis of the relevant year's Base Case data<sup>4</sup> and network model (e.g. if setting Exit Capacity prices for Gas Year 2007/8, the Base Case supply/demand forecast for 2007/8 and the base network model are used), but with adjustments to the supply flows (see paragraph 2.7) to reflect the capacity level in question (see paragraph 2.6) to maintain a balanced network for charging purposes. For the avoidance of doubt, 1-in-20 peak demand flows will remain unadjusted.
- 2.6 Obligated NTS Entry Capacity reserve prices are set by adjusting supply flows in the Base Case data to reflect the obligated capacity level at each NTS Entry Point as defined by National Grid's NTS Licence.;
- 2.7 The supply flow at each NTS Entry Point is adjusted to reflect the required capacity level as follows:
- The supply flow is set at the capacity level to be provided for the entry point in question
  - All other supply flows are adjusted up or down to balance the network back to the peak 1 in 20 demand level in the Base Case data
- 2.8 The supply adjustment for other NTS Entry Points reflects the least beneficial alternate supply flows, in terms of enabling capacity provision at the entry point in question.
- 2.9 The least beneficial alternate supply flows are determined by use of the Transportation Model with the Base Case scenario to calculate pipeline distances from each NTS Entry Point to every other NTS Entry Point.
- 2.10 For NTS Entry Points where flow needs to be added to the Base Case flow to align with the required capacity level, the remaining entry point flows are reduced in order of pipeline distance merit, starting with the furthest entry point ending with the entry point with the nearest entry point.

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<sup>3</sup> Proposals to amend the current discounts applied to the NTS Entry Capacity reserve prices will be put forward in a separate Consultation Paper GCD04

<sup>4</sup> The Base Case data is consulted on through the Transporting Britain's Energy (TBE) process and is published in the Ten Year Statement.

- 2.11 For NTS Entry Points where flow needs to be reduced from the Base Case flow to align with the required capacity level, the remaining entry point flows are increased in order of pipeline distance merit, starting with the nearest entry point and ending with the furthest entry point.

### 3 Key Issues

#### Ofgem Decision Letter on GCM01

- 3.1 The Ofgem decision letter on the GCM01 final proposal noted; *“In summary, Ofgem considers that the Proposal better facilitates the achievement of the relevant charging methodology objectives than the current methodology, however we consider that it would be in the interests of consumers to include spare capacity in the model, as described by option 2a of NGG’s consultation document. This would improve cost reflectiveness and better ensure the economic and efficient use of network assets. It would reduce the risk of underutilised assets and inefficient investment elsewhere on the network. This is a significant issue that Ofgem would urge NGG to consider in the immediate future through further modification proposals to the charging methodology. It may be that there are better solutions available which NGG can consider over the longer term, through its duty to review the suitability of the Methodology for achieving the relevant objectives.”*

#### Treatment of Spare Capacity

- 3.2 One of the key considerations when setting the capacity charging methodology is the treatment of spare capacity in the determination of Long Run Marginal Costs (LRMCs). Under GCM01 option 2a, spare capacity due to declining terminals is catered for by using flow forecasts to set the supply level within the Transportation model such that prices decrease as the flow forecast decreases below the obligated capacity level.
- 3.3 If spare capacity is not appropriately accommodated in prices, resulting in higher capacity charges, than would otherwise be the case, it could discourage the use of currently unutilised NTS investments and, in the extreme, lead to asset stranding.
- 3.4 Conversely, if LRMCs are excessively discounted at certain entry/exit points to recognise such unutilised assets, Users of other entry/exit points would be required to fund a proportion of such discounts through the application of the TO Entry Commodity charge, thereby creating a cross-subsidy.
- 3.5 The issue of whether it is appropriate, and if so, how, to include spare capacity within the capacity charging methodology is extremely challenging, ensuring that there is an appropriate balance between the charging methodology objectives in respect of cost reflectivity, promoting competition and avoiding undue discrimination, while ensuring efficient and economic operation and development of the NTS.
- 3.6 Above all, capacity charges should be set to provide forward looking Long Run Marginal Costs to provide stable and predictable locational signals to Users to inform their decisions over where and when to bring gas into, or offtake gas from, the NTS.

#### Impact of Capacity Substitution

- 3.7 Specific obligations in respect of the substitution of NTS Entry Capacity are proposed to be included in National Grid’s GT Licence (Special Condition C8D);



- 
- to use reasonable endeavours to undertake capacity substitution where proposing to release capacity incremental to the prevailing level of obligated entry capacity, and;
  - to prepare and submit for approval by the Authority a capacity substitution methodology statement setting out the methodology National Grid will use to carry out capacity substitution
- 3.8 This process is intended to promote the economic and efficient sizing of the NTS and is achieved by seeking to minimise the amount of investment that is required to satisfy incremental demand. Unsold capacity could be identified as suitable for substitution from locations where it is not apparently required to other locations where incremental capacity has been signalled through the long term (QSEC) auctions.
- 3.9 This may result in reduced levels of obligated capacity being released at some entry points and hence may make the Base Case forecast flow at those entry points more representative of the level of capacity released when compared to the prevailing obligated firm capacity level at the time that prices were determined.
- 3.10 For the avoidance of doubt it is proposed that NTS Entry Capacity substitution will result in unsold NTS Entry Capacity being transferred away from some Entry points. This will reduce the capacity that is offered for sale in the entry capacity auctions at those Entry Points but the NTS SO Baseline Entry Capacity level will not change.

## 4 Terms of the Original Proposal

- 4.1 This section sets out the proposal for consultation in respect of the most appropriate methodology for Obligated NTS Entry Capacity price determination in relation to all entry capacity released from 1st October 2007 starting from the September 2007 QSEC auction.
- 4.2 This proposal represents option 2a included within the original NTS GCM01 consultation document. In the event that this proposal is implemented, Appendix B presents indicative Obligated NTS Entry Capacity Prices that would be in place from 1st October 2007. These prices have been updated from GCM01 to take into account the revised annuitisation factor and changes to the obligated entry capacity levels.

### Proposal

- 4.3 LRMCs for determination of Obligated NTS Entry Capacity reserve prices for use in entry capacity auctions (prior to any discount that may be applied)<sup>5</sup> would be based on the Transportation Model as introduced by charging proposal NTS GCM01.

In respect of the supply and demand data input into the Transport Model, it is proposed that:

- 4.4 Prices for each Gas Year are set on the basis of the relevant year's Base Case data and network model.

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<sup>5</sup> Proposals to amend the current discounts applied to the NTS Entry Capacity reserve prices will be put forward in NTS Charging Methodology Discussion Paper NTS GCD04.

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- 4.5 Where supplies have been adjusted to attain a supply and demand balance, separate supply point specific analysis is carried out with adjustments to the supply flows (see paragraph 2.7) to reflect the maximum forecast Base Case level capped at the Obligated NTS Entry Capacity level for the entry point in question (see paragraph 2.6) and to other entry point flows to maintain a balanced network for charging purposes. For the avoidance of doubt, 1-in-20 peak demand flows will remain unadjusted.
  - 4.6 The maximum forecast Base Case supply will be capped at the Obligated NTS Entry Capacity level at each NTS Entry Point and will therefore be equal to or less than the Obligated NTS Entry Capacity level.
  - 4.7 For the avoidance of doubt the forecast maximum Base Case supply level for charge determination purposes at Aggregate System Entry Points (ASEPs) that incorporate Interconnectors, LNG importation facilities or storage Entry Points will be the lower of the forecast maximum capability of the facility and the Obligated NTS Entry Capacity level;
  - 4.8 The supply flow at each NTS Entry Point is adjusted to reflect the maximum forecast Base Case level as follows:
    - The supply level is adjusted to the maximum forecast Base Case level for the entry point in question
    - All other supply flows are adjusted up or down to balance the network back to the peak 1 in 20 demand level in the Base Case data
  - 4.9 The supply adjustments for other NTS Entry Points reflect the least beneficial alternate supply flows, in terms of enabling capacity provision at that entry point.
  - 4.10 The least beneficial alternate supply flows are determined by use of the Transportation Model with the Base Case scenario to calculate pipeline distances from each NTS Entry Point to every other entry point.
  - 4.11 For NTS Entry Points where flow needs to be added to the Base Case flow to align with the required capacity level, the remaining entry point flows are reduced in order of pipeline distance merit, starting with the furthest entry point ending with the entry point with the nearest entry point.
  - 4.12 For NTS Entry Points where flow needs to be reduced from the Base Case flow to align with the required capacity level, the remaining entry point flows are increased in order of pipeline distance merit, starting with the nearest entry point and ending with the furthest entry point.

## 5 Responses

National Grid NTS received 9 responses to its consultation on NTS GCM 06. None of the responses were marked as confidential, and copies of the responses have been posted on the Gas Charging section of the National Grid information website.

### Support for the Proposal

Respondent	Abbr.	View
EDF Energy plc.	EDF	Against
Scottish and Southern Energy plc	SSE	Against
E.ON UK plc	EON	Against
The Association of Electricity Producers	AEP	Against
British Gas Trading	BGT	Against
RWE npower	RWE	Against
Total E&P Ltd.	TOTAL	For
Statoil UK	STUK	For
Canatxx Gas Storage Limited.	CGSL	Against

### Summary of Responses by Consultation Question

**Q1. Obligated NTS Entry Capacity prices are determined from the maximum forecast Base Case scenario, with Entry point specific analysis, such that each NTS Entry Point is at the relevant supply level and a supply/demand balance achieved via supply substitution. The relevant supply level should be the maximum forecast Base Case supply, capped at the Obligated NTS Entry Capacity level, at each NTS Entry Point (this will therefore be equal to or less than the Obligated NTS Entry Capacity level).**

#### Respondents' Views

TOTAL comments that "National Grid's revised model is a step in the right direction, as it would result in lower prices at entry points where flows are decreasing, which would promote an efficient use of the National Transmission system."

EON comments that "The Transportation model does not reflect the actual investment which is likely to be incurred on the system to meet the change in flows, but to reflect the fair share of the cost of the transmission system usage. If our understanding is correct, including spare capacity in the transportation model in the method described by GCM 06 will lead to more variable charging levels (due to the constantly changing amount of "spare" capacity in the system".

#### *Stability and Predictability*

EDF comments; "When setting reserve prices for entry and exit, of vital importance to the industry is their ability to predict what these future charges will be. The main benefit of the Transportation model was that it could be replicated by Users and would

provide them with transparency and predictability for these prices, as they would be based on reasonably stable and transparent assumptions. In the past we rejected the inclusion of spare capacity within the model as in order to include this parameter we would be reliant on NGG's assumptions as to likely future flows. These would not be transparent, could potentially be open to manipulation and would lead to unstable prices."

SSE comments that "Including spare capacity will lead to greater instability in charges year on year. This will add uncertainty and have negative consequences for investment in the NTS" A view supported by CGSL

EON believe the proposal "would make it more difficult for Users to replicate the charge setting process, thereby reducing some of the benefits of introducing the simpler and more transparent transportation model."

BGT comments that "the effect of this proposal would be to add to the risks and uncertainties for upstream investment decisions and planning downstream business activity. Annual moves in prices may lead to short term gaming with attempts to book capacity at times of lowest prices. Including spare capacity makes the model less user friendly, as it will rely on subjective forecasts of supply."

BGT comments; "The advantage of the status quo (i.e. not including spare capacity) is that charges only need re-calculation within a price control period if substitution takes place as an outcome of LTSEC auctions. A better solution is for capacity transfer between terminals in line with long term demand."

RWE considered "spare capacity to be transient and believed that its inclusion would introduce significant volatility and instability in reserve prices and that the reserve prices themselves would not reflect underlying long-run costs nor the actual assets being used." RWE "supported using peak flows and obligated base line capacity as the model inputs as these reflect investment drivers, reduce the potential for under-recovery of allowed revenue and therefore the extent to which capacity charges are commoditised." RWE comments; "The Option 2b methodology gives more stability and we believe it results in more cost-reflective reserve prices. "

#### *Forecasting and the TBE Process*

EDF notes "it would appear that this scenario is open for manipulation from Users who provide these forecasts in order to secure lower entry prices at the ASEPs that they wish to utilise. Further this would lead to a larger under recovery of revenues leading to a higher TO Commodity charge than that predicted under the current transportation resulting in the commoditisation of a capacity charge." EDF continue; " This would lead to a cross subsidisation between ASEPs with those with forecast flows close to, or at their obligated levels, subsidising those with lower forecasts."

SSE comments; "The use of forecast flow numbers introduces subjectivity into the setting of charges; this was one of the main reasons for rejecting the Transcost model and implementing the Transportation model."

#### *Impact on TO Commodity Charge*

EDF comments; "the impact of reducing prices at certain ASEPs would lead to a larger under recovery of revenues than would have been experienced under the Transportation model as it stands. This will lead to a higher TO Commodity charge and will further commoditise a capacity charge, which under this proposal would also be based on expected commodity flows rather than delivered capacity "; a view supported by CGSL.

SSE comments; "The inclusion of spare capacity will result in lower capacity charges and result in an under recovery of revenue. This under recovery will be recovered via a commodity charge. SSE considers the recovery of a capacity fee by imposing a commodity charge not to be cost reflective and an unwarranted cross-subsidy. In the

response to GCM01 the industry was nearly unanimous in its support for recovering capacity revenue from capacity charging by adjusting charges to meet allowed revenue, thereby avoiding the use of commodity charges.”

SSE Comments; “As the flow of gas from the UCKS declines, more spare capacity will become available. If spare capacity is factored into setting charges this will lead to even greater commoditisation of capacity charges and as such become even less cost reflective. “

SSE “believes that this proposal has a detrimental impact on new entrants. New entrants will have to underwrite investment signals for incremental capacity and then have to pay an ever-increasing commodity charge. This is not a regime that is designed to encourage new investment and increase security of supply.”

EON are “concerned that inclusion of spare capacity would cause a cross-subsidy, as Users at declining terminals enjoying the reserve price discount are effectively funded by Users at other entry points.”

#### *Consistency of the Proposal with the Transportation Model*

AEP considers the proposal “is inconsistent with the principles of the transportation model and will give rise to more volatile charges. We consider that stable and predictable charges are more consistent with the promotion of competition“, a view shared by EON.

AEP comments “The use of forecast flow numbers would also introduce a degree of subjectivity into the price setting process which is contrary to the move from TRANSCOST to a transportation model. “

#### National Grid NTS' View

##### *TBE Process*

National Grid NTS believes that it has sufficiently diverse information to allow it to identify any attempt to manipulate prices through Shipper submissions to the TBE process and notes that any attempt to provide misleading data would place a Shipper in breach of its Licence. National Grid NTS also notes that prior to 2002, before entry prices were based on Licence Unit Cost Adjusters (UCAs), the same opportunity to influence entry prices through the Base Plan Assumptions consultation process existed.

##### *Stability and Predictability*

National Grid NTS Notes that currently only four of the 22 ASEPs would be affected by the implementation of this proposal and hence the issues of stability and predictability only affect the minority ASEPs. National Grid NTS would also like to clarify the supply data that will be used to generate prices. The supply data used will be from the most recent Ten Year Statement. This will ensure that the supply data used to calculate NTS Entry Capacity Reserve prices will have been in the public domain for at least six months prior to prices being set. This should support transparency and repeatability of NTS Entry Capacity reserve price setting.

The demand data will be the latest published forecast demand data. This will ensure that NTS Entry prices are calculated on the same basis as NTS Exit Capacity prices and that the NTS Exit Capacity prices will be calculated at the correct capacity level such that they collect the appropriate target revenue.

*Consistency of the Proposal with the Transportation Model*

National Grid NTS believes that the proposal is consistent with the Transportation model as the model calculates the long run marginal cost of capacity at the modelled supply and demand levels. The proposal is simply changing the modelled supply at ASEPs where forecast maximum flow is below the Obligated Capacity level. National Grid NTS notes that cost reflectivity is not a Licence relevant objective in regard to the methodology for determining auction reserve prices however the results should reflect the marginal cost of providing capacity at the maximum forecast flow level.

*Commoditisation*

National Grid NTS recognises the concerns regarding the TO Entry commodity charge. The TO commodity charge will however drop to close to zero as a result of the latest AMSEC and the risk of greater commoditisation in the future could be offset by removing the daily discounts in the long run. This is subject to a National Grid NTS Pricing Discussion Paper NTS GCD 04 which closes out on 21<sup>st</sup> June 2007.

**Q2. This approach is an appropriate approach to factoring in spare capacity in that prices will decline if forecast flow declines hence creating an incentive to utilise spare capacity.**

Respondents' Views

EDF “do not believe that this is an appropriate approach as we do not believe that spare capacity should be incorporated into the Transportation model. We would also note that this proposal does not explicitly incorporate spare capacity into the model and is reliant on accurate forecasts, which could be prone to manipulation. Further this proposal also incentivises the maintenance of the current configuration of the NTS, rather than providing appropriate signals to locate gas supplies closer to the centre of demand. This appears neither economic nor efficient and ensures relatively short term capacity issues interfere with the long term investment signals.”

TOTAL comments “Ofgem’s letter dated April 24th 2007 highlights the importance and benefits of including spare capacity in the model used to determine entry capacity reserve prices, a view that we strongly support.” TOTAL “have made it clear in previous consultations that failing to do so could act as a barrier to the development of marginal fields and import projects; it could lead to underutilisation of some parts of National Grid infrastructure as well as unnecessary investment in other parts of the network.”

“STUK believes that catering for spare capacity by using flow forecasts would reduce the risk of underutilised use of the network, which would be included in the RAV and paid for by shippers, through providing locational signals to encourage Users to utilise spare capacity through a lower price, ultimately avoiding the potential for stranded assets and reducing the risk of inefficient investment elsewhere on the network.”

“STUK sympathises with the argument that inclusion of spare capacity might result in a shortfall of NGG auction revenue, however, we consider that this risk is far outweighed by the greater risk of underutilised use of network assets, which is of increasing concern with the declining production from the North Sea fields.”

SSE “does not agree that including spare capacity will reduce the risk of under-utilised assets. The location of potential gas storage sites, interconnectors and future gas fields are not primary driven by where spare capacity exists. But more by where the (depleted) gas fields, salt layers or export sources are located. Hence, the discounting

of entry capacity price, by including spare capacity, is unlikely to drive a particular choice of ASEP.”

AEP comments “Whilst we agree that in principle reducing charges at declining terminal should create an incentive to flow gas to those terminals we are unconvinced that this would cause gas to flow to a different terminal than that which is most logical. This is because we would expect any new fields or incremental supply to use existing offshore infrastructure which would also develop spare capacity as existing fields decline. Since allowed revenue remains constant this effectively leads to commoditisation of capacity charges and means that these incremental supplies would enjoy a cross subsidy from all other entry capacity holders if forecast flows were used to determine charges. Whereas the use of obligated entry capacity levels more closely matches the network capability and therefore should be more cost reflective of the investment that has taken place reducing the potential for both locational and temporal cross subsidies.”

#### *Accounting for spare capacity*

EDF comments; “NGG’s proposed method for inclusion of spare capacity, does not actually incorporate spare capacity into the model and rather uses forecast flows as a proxy. The existence of spare capacity suggests that the financial indicators provided through the auction process have not had time to work as NGG has provided more capacity than has been signalled. In addition economic theory states that the marginal cost of supplying this spare capacity is zero and so should be released at a zero reserve price. Historically this has been done through the short term auction process when Shippers were able to procure within day firm and interruptible capacity for a zero price. However the revision to baselines will have discouraged this process as Shippers who wish to utilise spare capacity are now open to the risk that the regulator will significantly alter the baselines again at the next TPCR with little or no warning. This can be seen most clearly by the experience of Excelerate Energy at the Teeside terminal. This issue has been further impacted by the licence conditions placed on NGG to facilitate the substitution, trade and transfer of entry capacity, creating a further risk to Users who wish to utilise spare capacity released at the day-ahead stage.”

EDF comments; “It would appear that the intent of the proposal is to encourage Users to book spare capacity long term and therefore artificially maintain the NTS in its current state rather than allowing it to develop in response to supply and demand signals. Given that offshore fields are unable to reallocate as a result of locational entry capacity signals, it is questionable what benefit this proposal will have in attracting additional sources of gas to where there is spare capacity. Even if this mechanism was effective the question should also be posed as to whether the UK should be signalling importers to locate where there is short term capacity available, rather than where the gas is required close to demand. It would appear that this proposed mechanism would encourage the use of short term spare capacity at the expense of ensuring long term locational and development signals are provided.”

EON “disagree fundamentally with the inclusion of spare capacity in the charging model and believe that further revision is simply not required in this regard. The same debate has already run its course in the electricity industry and spare capacity deemed to be unnecessary and incompatible. “

#### National Grid NTS’ View

National Grid NTS recognises with the argument that inclusion of spare capacity might result in a lower level of NGG auction revenue, however, this risk is far outweighed by

the greater risk of underutilised use of network assets, which is of increasing concern with the declining production from the North Sea fields.

National Grid NTS has consistently stated that this proposal does not explicitly model spare capacity but factors in the impact of spare capacity such that prices reduce as the forecast flow falls below the obligated NTS Entry Capacity level. National Grid NTS's has obligations in regard to developing an efficient and economic pipeline system and continually reviewing the charging methodology and hence will use the Gas TCMF process to investigate potential improvements to the Charging Methodology and the impact of spare capacity.

#### *Comparisons with Electricity Charging*

National Grid NTS believes that using forecast flows within the NTS Entry Capacity charging methodology is actually more consistent with the approach taken in the National Grid electricity Charging Methodology as connected generation is used and not the capability of the relevant grid section.

**Q3. This approach is consistent with National Grid NTS's proposed entry capacity substitution obligations as prices would not be influenced by Obligated NTS Entry Capacity level changes resulting from entry capacity being substituted from one entry point to another.**

#### Respondents' Views

EDF "is aware of the impact that the substitution of entry capacity may have on entry capacity reserve prices. However we are concerned that this proposal is attempting to overcome an issue that has not even been incorporated into NGG's licence and with no visibility as to the mechanisms that may accommodate this. An alternative solution could be to move from obligated entry capacity to baseline capacity which is more stable within price control periods."

"STUK agrees with National Grid NTS that the use of forecast maximum flow, rather than obligated capacity level, will ensure a more cost reflective and stable way forward, in the event that new obligations on National Grid NTS in regard to capacity substitution are implemented."

RWE comments; "The presence of an explicit capacity substitution mechanism makes spare capacity even more transient and we are yet to see a meaningful definition of spare capacity in this context. Arguably, using forecast rather than peak flows introduces a degree of subjectivity and uncertainty into the process and this is one area that the change in methodology from Transcost to a Transportation Model was designed to improve. "

#### National Grid NTS' View

National Grid NTS believes that this proposal is consistent with the proposed Licence obligations in regard to capacity substitution. Application of entry point substitution would make the proposal more cost reflective and stable where spare capacity was substituted away from an entry point at which forecast flows were below the obligated level. This is due to the fact that whilst substitution is not expected to change the baselines it would change the obligated levels which, in such a scenario, would tend to approach the forecast maximum base case level.



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## **Implementation**

**Q4. This proposal (NTS GCM 06) is implemented for price determination in relation to all entry capacity released from 1st October 2007 starting from the September 2007 QSEC auction.**

### **Respondents' Views**

EDF “remain concerned with the proposed implementation date. It would appear that in order to meet this deadline NGG will require a shortened veto period from Ofgem. Further this will negate the indicative entry capacity prices that have already been produced for 01 October 2007 and relies on the fact that Ofgem will not require an impact assessment (IA) into this proposal. Whilst we recognise that an IA has already been produced in relation to GCM01, we note that this proposal represents a material change to the original proposal and would question whether an additional IA is required. We feel that this is especially important given that the industry was opposed to the incorporation of spare capacity when originally consulted on, and it remains unclear whether there is any additional gas that will flow as a result of the implementation of this proposal.”

“STUK supports implementation of this proposal in time for price determination in relation to all entry capacity released from 1st October 2007, starting from the September 2007 QSEC auctions.”

RWE “would urge Ofgem to take a timely decision such that the arrangements to apply from October 2007 are implemented well ahead of the September 2007 QSEC auctions so that potential bidders in these auctions have clarity about the rules. “

### **National Grid NTS' View**

National Grid NTS notes the concerns regarding the timing of this proposal and would welcome a timely decision from the authority such that prices can be published with sufficient notice ahead of the 2007 QSEC auction.

## **6 Final Proposal**

6.1 No changes have been made to the terms of the original proposal as a result of representations received and hence the final proposal is that set out in section 4 of this document.

## **7 Changes to the Original Proposal in Light of Representations Made**

7.1 No changes have been made to the final proposal however the following clarification is made in regard to the original proposal by National Grid NTS in consideration of respondents' views received.

7.2 The supply data used will be from the most recent Ten Year Statement. This will ensure that the supply data used to calculate NTS Entry Capacity Reserve prices will have been in the public domain for at least six months prior to prices being set. This should support transparency and repeatability of NTS Entry Capacity reserve price setting.

7.3 The demand data will be the latest published forecast demand data. This will ensure that NTS Entry prices are calculated on the same basis as NTS Exit Capacity prices and that the NTS Exit Capacity prices will be calculated at the correct capacity level such that they collect the appropriate target revenue.

## 8 How the Proposed Modification Better Meets the Relevant Objectives

- 8.1 This section presents National Grid NTS's views in respect of the extent to which the proposal set out under section 4 would achieve the relevant methodology objectives under National Grid NTS's GT Licence and the EU Gas Regulations (as summarised under Appendix A).
- 8.2 The National Grid Gas plc Gas Transporter Licence in respect of the NTS requires that proposed changes to the Charging Methodology shall achieve the relevant methodology objectives. Specifically where prices are established by means of auctions, reserve prices are calculated at a level that promotes efficiency, avoids undue preference in the supply of transportation services and promotes competition between gas shippers and between gas suppliers.

### Promoting Efficiency and Avoiding Undue Preference

#### Spare Transmission Capacity

- 8.3 While the Transportation model does not explicitly include spare transmission capacity, pricing based on forecast Base Case flows, capped at the Obligated NTS Entry Capacity level, will produce lower prices compared to the GCM01 approach where forecast flows are less than obligated capacity levels and hence spare capacity could be said to be available.
- 8.4 Pricing based on forecast Base Case flows will ensure that where entry terminal flows are forecast to decline, the resulting prices will also decline hence creating an incentive to utilise any spare capacity released as a result of declining flows.
- 8.5 This could improve the economic and efficient use of network assets through reducing the risk of underutilised assets and inefficient investment.

#### Supply Data

- 8.6 All network analysis requires a balance between supply and demand and this is equally true of charging models. Under the prevailing Charging Methodology the supply forecasts are adjusted to obtain a supply and demand match given the 1-in-20 demand level. This means that some Entry Points are not explicitly at their Base Case supply levels within the charging model.
- 8.7 This is overcome under this option by carrying out Entry Point specific analysis for those Entry points that were not at their Base Case levels in the initial analysis and obtaining a supply and demand balance by supply substitution.
- 8.8 For example, where an Entry points was not at its Base Case level due to a supply surplus or where a supply was not at its Obligated NTS Entry Capacity level, it could be adjusted up to that level with the entry point furthest from the entry point in question being adjusted in the opposite direction.
- 8.9 This approach ensures that all prices would be generated at a consistent supply level hence avoiding the undue preference that might be conferred by pricing some Entry Points based on reduced flows. For the avoidance of doubt the Base Case supply level at Interconnector, LNG importation and storage Entry Points will be the forecast maximum capability of the facility.

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## Promoting Competition

- 8.10 It is National Grid's view that competition can be promoted in terms of the development of the Gas Transmission Transportation Charging Methodology by making it simple and easy to understand such that prices can be replicated and forecast by Users.
- 8.11 The Transportation charging model should allow both National Grid NTS and Users to easily make quick assessments of the value of incremental capacity, therefore enabling the user to make informed decisions about purchasing capacity.
- 8.12 Basing prices on analysis of the maximum forecast Base Case level could allow greater stability and hence transparency compared to using the Obligated NTS Entry Capacity level due to the potential variability in the obligated capacity level resulting from National Grid NTS's Licence obligation to use reasonable endeavours to undertake capacity substitution where proposing to release capacity incremental to the prevailing level of Obligated NTS Entry Capacity.

## Cost Reflectivity

- 8.13 EC Regulation 1775/2005 on conditions for access to the natural gas transmission networks (binding from 1 July 2006) states that the principles for network access tariffs or the methodologies used to calculate them shall reflect actual costs incurred for an efficient and structurally comparable network operator.
- 8.14 The prices generated from the Transportation Model are reflective of the costs that have been incurred in making physical system capacity available (through the assumptions in the Expansion Constant). Calculating prices on forecast flow approach with a Transportation Model will therefore result in Users paying differentially for the capacity they are forecast to require during the relevant Gas Year.
- 8.15 Basing prices on the analysis of the maximum forecast Base Case level might improve cost reflectivity compared to using the Obligated NTS Entry Capacity level due to the potential variability in the obligated capacity level resulting from National Grid NTS's Licence obligation to use reasonable endeavours to undertake capacity substitution where proposing to release capacity incremental to the prevailing level of Obligated NTS Entry Capacity.

## 9 Timetable for Implementation

- 9.1 National Grid NTS is submitting this conclusions report to the Authority, which it is anticipated will allow a veto/non-veto to be provided that will allow final charge rates to be published within the notice period as required by the UNC. In the event that the proposal is not vetoed by the Authority National Grid intends to notify Users of the new Entry Capacity reserve prices by 10 July 2007.
- 9.2 The Entry prices will apply in the September 2007 QSEC and RMSEC auctions and in the 30th September 2007 DSEC (day ahead) auction but only in relation to capacity release from 1st October 2007 onwards and hence for the determination of charges from 1st October 2007 onwards, in accordance with Standard Special Conditions A5 (2A) (b) and A4 (2) (a) of National Grid Gas' Gas Transporter Licence in respect of the NTS.

## Appendix A - Licence Relevant Objectives and EU Gas Regulations

The National Grid Gas plc Gas Transporter Licence in respect of the NTS requires that proposed changes to the Charging Methodology shall achieve the relevant methodology objectives.

Where transportation prices are not established through an auction, prices calculated in accordance with the methodology should:

- 1) Reflect the costs incurred by the licensee in its transportation business;
- 2) So far as is consistent with (1) properly take account of developments in the transportation business;
- 3) So far as is consistent with (1) and (2) facilitate effective competition between gas shippers and between gas suppliers.

Where prices are established by means of auctions, either

- 4) No reserve price is applied or
- 5) Reserve prices are calculated at a level that promotes efficiency, avoids undue preference in the supply of transportation services and promotes competition between gas shippers and between gas suppliers.

National Grid NTS is obliged to keep the NTS Charging Methodology under review at all times for the purposes of ensuring that it achieves the relevant objectives.

National Grid NTS also has an obligation to use all reasonable endeavours to ensure that obligated entry capacity is offered for sale in at least one clearing auction *providing that this does not contravene wider Licence obligations including methodology objective (5) listed above.*

EC Regulation 1775/2005 on conditions for access to the natural gas transmission networks (binding from 1 July 2006) states that the principles for network access tariffs or the methodologies used to calculate them shall:

- Be transparent
- Take into account the need for system integrity and its improvement
- Reflect actual costs incurred for an efficient and structurally comparable network operator
- Be applied in a non-discriminatory manner
- Facilitate efficient gas trade and competition
- Avoid cross-subsidies between network users
- Provide incentives for investment and maintaining or creating interoperability for transmission networks
- Not restrict market liquidity
- Not distort trade across borders of different transmission systems.

All but the last of the principles listed above map onto the objectives for National Grid's Transmission Transportation Charging Methodology. In terms of cross border trade, the Regulation recognises that funding for network investment may require different tariffs across different transmission systems.

## Appendix B – Indicative Obligated NTS Entry Reserve Prices

This appendix sets out the indicative Obligated NTS Entry Capacity reserve prices, under this proposal, which would apply from 1 October 2007 for the use of the NTS. These prices have been calculated based on the proposed licence obligated firm entry capacity levels and an annuitisation factor of 0.10272. It should be noted that final prices will be subject to the final Licence drafting and updated demand data expected to be published later in June 2007. The prices will also depend on confirmed pipeline distances for new pipes planned up to October 2009.

	Proposal		
	Base Case Level (GCM06)		
NTS Entry Point	2007/8	2008/9	2009/10
Avonmouth LNG	0.0001	0.0001	0.0001
Bacton	0.0097	0.0096	0.0103
Barrow	0.0080	0.0042	0.0026
Burton Point	0.0001	0.0001	0.0001
Caythorpe	0.0066	0.0068	0.0073
Cheshire	0.0001	0.0001	0.0001
Dynevor Arms LNG	0.0001	0.0026	0.0043
Easington / Rough	0.0072	0.0074	0.0082
Fleetwood	0.0009	0.0001	0.0001
Garton	0.0065	0.0068	0.0086
Glenmavis	0.0186	0.0162	0.0139
Hatfield Moor	0.0021	0.0024	0.0023
Hole House Farm	0.0001	0.0001	0.0001
Hornsea	0.0077	0.0074	0.0089
Humbly Grove (Barton Stacey)	0.0001	0.0001	0.0001
Isle of Grain	0.0001	0.0001	0.0001
Milford Haven	0.0120	0.0134	0.0137
Partington	0.0001	0.0001	0.0001
St Fergus	0.0348	0.0313	0.0297
Teesside	0.0092	0.0051	0.0010
Theddlethorpe	0.0046	0.0049	0.0056
Wytch Farm	0.0001	0.0001	0.0001