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Transmission Price Control Review - gas entry baseline re-consultation

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Target audience: NGG NTS, gas shippers, producers, storage operators, interconnectors, GDNs, and other industry stakeholders (including consumers).

Overview:

Gas entry capacity baselines were modified as part of the 2007-2012 Transmission Price Control Review (TPCR). As set out in the 27 July Ofgem Open letter, having considered this matter further and in view of the concerns that have been expressed, we have now decided to re-consult on the baseline figures as implemented in the March 2007 Decision and reconsider the matter.

The baseline review will be conducted in three stages. This first consultation document invites views on the alternative methods for allocating the baseline capacity figures as published in TPCR Final Proposals to NTS entry points.

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Context

On 30 March 2007, Ofgem published a Modification of the Gas Transporter Licence under section 23 of the Gas Act 1986, which introduced new baseline entry capacity figures for the various entry points on the National Transmission System (NTS). The implementation of the new baseline figures was part of the Transmission Price Control Review ("TPCR"), and various elements of the TPCR had been consulted upon since July 2005.

The baseline levels as implemented in March 2007 were originally published in December 2006 as part of the TPCR Final Proposals.

Following the release of the Final Proposals document it became apparent that there were significant concerns from a number of industry participants regarding revisions to the baseline levels between the Updated TPCR proposals published in September 2006 and the Final Proposals in December. Having considered this matter further and in view of the concerns that have been expressed, we now consider that Ofgem should re-consult on the baseline figures as implemented in the March 2007 Decision, and reconsider the matter.

This baseline review involves three stages. This preliminary consultation document on alternative allocations of current TPCR baselines forms the first stage. The next stage will be a second consultation document to be published by end of November/early December which will address potential increases to baselines, as well as issues raised in response to this document and the NGG Summary Report on Entry Capacity Baseline Workshops which were held during August 2007 and September 2007. This document will also include an impact assessment.

The final baseline review document will be the Ofgem decision document which will aim to have NTS entry baselines finalised by 1 April 2008.

Associated Documents

- Approval of the Entry Capacity Transfer and Trade Methodology Statement, 6 September 2007 (Ref No. 220/07)
- TPCR 2007-2012 Direction issued to National Grid plc by the Gas and Electricity Markets Authority pursuant to paragraph 10 of Special Condition C8D of the Gas transporter licence, 5 September 2007 (Ref No. 218/07)
- TPCR 2007-2012 Direction issued to National Grid Gas plc by the Gas and Electricity Markets Authority pursuant to Special Condition C8E paragraph 4(d)(v) of the gas transporter licence, 5 September 2007 (Ref No. 219/07 (a))
- TPCR 2007-2012 Explanatory Note for a Direction to National Grid Gas plc under Special Condition C8E(4)(d)(v), 5 September 2007 (Ref No. 219/07(b))
- TPCR 2007-2012 Decision to modify the gas transporter licence under Section 23 of the Gas Act 1986, 5 September 2007 (Ref No. 217/07 (a))
- TPCR 2007-2012 Section 38A notice in respect of reasons for the decision to modify the licence of National Grid Gas plc, 5 September 2007 (Ref No. 217/07 (b))
- TPCR 2007-2012 Schedule to Decision under section 23 of the Gas Act 1986, 5 September 2007 (Ref No. 217/07 (c))
- TPCR 2007-2012 Notice under section 23(3) of the Gas Act 1986, 30 July 2007 (Ref No. 195/07)
- TPCR 2007-2012 Schedule to Notice under section 23 (3) of The Gas Act 1986 - Clean version, 30 July 2007 (Ref No. 195/07a)
- TPCR 2007-2012 Schedule to Notice under section 23 (3) of the Gas Act 1986 - Track change version, 30 July 2007 (Ref No. 195/07b)
- Open Letter - Further consultation on NTS entry capacity baselines, 27 July 2007 (Ref No. 192/07)
- TPCR 2007-2012 Notice under section 23(3) of the Gas Act 1986, 25 June 2007 (Ref No. 151/07)
- TPCR 2007-2012 NGG NTS Proposed Licence Mods, 25 June 2007 (Ref No. 151b/07)
- TPCR 2007-2012 Modification of the Gas Transporter Licence Under Section 23 of the Gas Act 1986, Ofgem letter (30 March 2007)
- TPCR 2007-2012 Section 38A notice in respect of reasons for the decision to modify the licence of National Grid Gas plc (Ref No. 61/07)
- TPCR 2007-2012 Notice under section 23(3) of the Gas Act 1986 (16 February 2007)
- TPCR 2007-2012 Final Proposals, Appendices, December 2006 (Ref No. 206/06b)
- TPCR 2007-2012 Addendum to Updated Proposals, Appendices (Ref No. 170/06a)
- TPCR 2007-2012 Updated Proposals, September 2006 (Ref No. 170/06)
- TPCR 2007-2012 Updated Proposals - Appendices, September 2006 (Ref No. 170/06a)
- TPCR 2007-2012 Initial Proposals, June 2006 (Ref No. 104/06)
- TPCR 2007-2012 Initial Proposals, Main Appendices, June 2006 (Ref No. 104b/06)
- TP50CR 2007-2012 Initial Proposals, Appendix: Offtake Revenue Drivers and Baselines for NGG NTS , June 2006 (Ref No. 104c/06)
- TPCR 2007-2012 Initial Proposals, Draft Enduring Offtake Impact Assessment, June 2006 (Ref No. 104d/06)
- TPCR 2007-2012: Third Consultation, March 2006 (Ref No. 51/06)

- TPCR 2007-2012: Third Consultation, Supplementary Appendices, March 2006 (Ref No. 51/06b)
- TPCR Capital Expenditure Projections 2007-2012 (open letter), 1 February 2006 (Ref No. 21/06)
- TPCR Second Consultation, December 2005 (Ref No. 277/05)
- TPCR Initial Consultation, July 2005 (Ref No. 172/05)

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Summary

Background

Following the March 2007 publication of the Ofgem decision to modify NGG NTS Gas Transporter Licence in order to implement the new TPCR baselines, it became apparent that a number of industry participants had significant concerns regarding revisions to the baseline levels between the Updated TPCR proposals published in September 2006 and the Final Proposals in December 2006.

On 27 July 2007 we published an Open Letter announcing our intention to re-consult on the TPCR baselines. In this letter, we recognised that the scale of the changes to the baseline levels as between the Updated Proposals and Final Proposals was significant in some cases and that, at the time of the Final Proposals, we had given careful consideration as to whether to consult further on these numbers. However, in view of the need to ensure certainty around the timing and implementation of the Transmission Price Control, we decided that it was appropriate to issue our Final Proposals with the revised baselines included. Concluding the Transmission Price Control for both electricity and gas transmission was important in ensuring clarity and certainty for industry participants, the transmission companies and customers in a price control period that is likely to see significant network investment being driven by a large number of changes in the sources of supply to the gas and electricity markets. This factor weighed particularly heavily upon us in deciding not to consult further on the baselines last December.

Nevertheless, having considered this matter further and in view of the concerns that have been expressed, we now consider that Ofgem should re-consult on the baseline figures as implemented in the March 2007 Decision, and reconsider the matter.

Baseline issues addressed during TPCR

The concept of baselines for entry capacity was introduced at the Transco price control review which covered the 2002-2007 price control period. Subsequent to this review the long-term entry capacity auctions were introduced, following Network Code Modification 0500. The aim of the auction regime was to enable Transco (now NGG NTS) to base its investment decisions on firm user commitment and to enable users to buy capacity longer-term at a fixed price thus reducing capacity price uncertainty.

At the time of the Transco price control we defined TO baselines and SO baselines. The approach used to determine TO baselines was based on the 'theoretical maximum physical capability' of the network. This approach does not take interactions between entry points into account. The SO baselines were therefore set at 90% of the TO baselines, we defined this approach as 'practical maximum physical capability' as it would take some degree of interactions between entry points into account. NGG NTS (previously Transco) obligation to offer for sale capacity in a series of auctions is linked to the SO baselines, not the TO baselines.

During the Transco price control period (2002-2007) a number of issues emerged, which in part were either the result or related to the fact that the entry baselines had been set at a relatively high level. For example, the aggregate baseline capacity was in excess of physical network capability.

This resulted in us adopting a different approach to determining baselines as part of TPCR. One of our main objectives was to ensure that baselines would better reflect physical network capability under a number of credible scenarios.

Consultation on baseline allocation methods

One of the key issues when determining baselines is how to allocate 'spare capacity' on the network to existing entry points. We considered three different approaches based on NGG NTS 2005 Ten Year Statement, based on sold capacity and based on pre-TPCR (e.g. Transco price control review) baselines. For Final Proposals we adopted the first approach. We are now inviting views on the three different allocations methods as well as the methodology we used for determining network capability.

At the Entry Capacity Baseline workshops held during August and September 2007, NGG NTS presented a slightly different way of allocating baseline capacity to individual entry points. We also invite views on these approaches.

Impact assessment of baseline increases

In this document, we also invite views on a number of questions to help us with an Impact Assessment on the implications if aggregate baseline capacity was to be increased, for example in terms of buyback and/or capex allowance. We will include an impact assessment as part of the next consultation document.

Next steps

This baseline review involves three stages. This preliminary consultation document, which focuses on alternative methods of allocating TPCR baselines, forms the first stage.

The next stage will be a second consultation document due to be published by end of November/early December which will address potential increases in baseline capacity and issues raised in responses to this document as well as to the NGG Summary Report on Entry Capacity Baseline Workshops which were held during August 2007 and September 2007.

The final stage in this process will be the Ofgem decision document and we aim to have the NTS entry baselines finalised by 1 April 2008.

1. Re-consultation on TPCR gas entry baselines

Chapter summary

As set out in the 27 July Open Letter, Ofgem has decided to re-consult on the TPCR Final Proposals baselines. This chapter summarises the 27 July Open Letter, sets out a timeline for the baseline re-consultation process and presents progress so far.

Importance of baselines for NGG NTS, shippers and consumers

1.1. NGG NTS plays a key role in energy markets in GB through its role in making available transmission capacity to shippers. This can have significant impacts on consumers; e.g. by facilitating market entry and thereby influencing prices to consumers. It is important for consumers that NGG NTS's price control provides it with the right incentives to release capacity and to respond efficiently to changing demands for capacity.

1.2. Entry capacity is used by gas shippers who have bought gas from offshore producers or suppliers, or who are holding gas in storage and wish to bring that gas on to NGG NTS's transmission network.

1.3. Baselines are an important part of the Transmission Price Control Review (TPCR) package. Baselines have been determined at a nodal basis (i.e. on an entry point by entry point basis).

1.4. There are four main elements to the gas entry obligations and incentives faced by NGG NTS under its licence:

- obligations to release entry capacity ("capacity release");
- remuneration for the release of additional obligated capacity ("revenue drivers");
- costs incurred in buying back capacity it has sold and revenues generated by selling capacity over and above the amounts it is obliged to sell ("buy back"); and
- mechanisms to enable unsold entry baseline capacity to be transferred to other entry points, sold baseline capacity to be traded and firm demand for incremental capacity to be met through the substitution of unsold baseline capacity from elsewhere on the network.

1.5. The current gas transmission price control was designed to be flexible in the face of many uncertainties and challenges. Users can buy long-term rights to use the system to hedge against capacity price volatility and NGG NTS has financial incentives to enable the transfer of unsold baseline capacity and the trade of sold baseline capacity to reduce the risk of underutilised network assets and to use capacity substitution to reduce the risk of inefficient investment.

27 July Ofgem Open Letter

Changes to baselines as part of TPCR4

1.6. On 30 March 2007, Ofgem published a Modification of the Gas Transporter Licence under section 23 of the Gas Act 1986, which introduced new baseline entry capacity figures for the various entry points on the National Transmission System (NTS). The implementation of the new baseline figures was part of the Transmission Price Control Review ("TPCR"), and various elements of the TPCR had been consulted upon since July 2005.

1.7. The baseline levels as implemented in March 2007 were originally published in December 2006 as part of the TPCR Final Proposals. Following the release of the Final Proposals document it became apparent that there were significant concerns from a number of industry participants regarding revisions to the baseline levels between the Updated TPCR proposals published in September 2006 and the Final Proposals in December.

1.8. We recognised that the scale of the changes to the baseline levels between the Updated Proposals and Final Proposals was significant in some cases. At the time of the Final Proposals we gave careful consideration as to whether to re-consult on these numbers. However, in view of the need to ensure certainty around the timing and implementation of the Transmission Price Control, we decided that it was appropriate to issue our Final Proposals with the revised baselines included. Concluding the Transmission Price Control for both electricity and gas transmission was important in ensuring clarity and certainty for industry participants, the transmission companies and customers in a price control period that is likely to see significant network investment being driven by a large number of changes in the sources of supply to the gas and electricity markets. This factor weighed particularly heavily upon us in deciding not to consult further on the baselines last December.

1.9. Nevertheless, having considered this matter further and in view of the concerns that have been expressed and in spite of the time pressures we now consider that Ofgem should have consulted on the baseline changes. We have therefore taken the decision to re-consult on the baseline figures as implemented in the March 2007 Decision and reconsider the matter. This was made known in the Ofgem open letter published on 27 July 2007.

Capacity release process - Winter 2007/08

1.10. The letter outlines the process that we intended to follow and the associated timelines. We also clarified that, because of the development of the capacity transfer and trade mechanism to allow shippers to trade and transfer capacity between entry points for the coming winter, we did not intend that any re-consultation should cover the release of entry capacity for the period ending 31 March 2008. The existing baselines would therefore remain in place until 31 March 2008, and would apply to all auctions and any transfer/trading mechanisms established for the release of entry capacity rights applying to all gas days for this period.

Scope of consultation

1.11. Our objective in setting out a timeline for the baseline re-consultation was that entry baselines are finalised by 1 April 2008. Clearly, baselines were not set in isolation and are part of the wider TPCR package. We also recognised that there are other elements of the entry capacity regime that may need further development and may be impacted by a re-consultation on baselines. We envisaged that the re-consultation on baselines should be incorporated within a broader entry capacity regime development and consultation process that would encapsulate other areas of work including:

- Capacity substitution
- Incremental capacity release methodology
- Development of enduring arrangements for trade and transfer
- NGG NTS's transmission charging methodology in relation to spare capacity
- If necessary, NGG NTS's entry capacity buyback incentive

Entry Capacity Baseline workshops and timeline

1.12. We requested NGG NTS to take on the role of co-ordinating and managing this work and to set up a number of industry meetings in order to progress the development of the regime into 2008. The purpose of these meetings during August and September 2007 was for both Ofgem and NGG NTS to explain in detail the methodology and the modelling work undertaken last year that gave rise to the current baselines.

1.13. We set out the documents we intended to publish, taking account of any revised analysis undertaken by NGG NTS and the views expressed by shippers and other interested parties over the summer. Although the timeline was indicative we envisaged a consultation period commencing in November with a Final Proposals document in February 2008. We anticipated that the consultation would also include sensitivity analysis as appropriate, and an Impact Assessment on any changes.

Timeline for the Ofgem baseline review

1.14. The Ofgem baseline review will consist of three phases, which are briefly described below. This consultation document on TPCR baselines, together with the three Entry Capacity Baseline Workshops which took place on 14 and 17 August and 12 September 2007, forms the first phase.

1.15. The next phase consists of the publication of a second consultation document to be published by end of November/early December which will address issues raised in responses to this document, as well as to the NGG Summary Report on Entry Capacity Baseline Workshops which was published on 28 September 2007. This document will also include an impact assessment.

1.16. The third phase will consist of the Ofgem decision document which is currently expected to be published on 3 March 2008. Furthermore, if stakeholders consider it helpful and if the timeline permits, we could consider holding an industry workshop during January 2008. We aim to have this baseline review concluded, and therefore to have baselines finalised, by 1 April 2008.

Developments since publication of the 27 July Open Letter

Entry Capacity Baseline Workshops

1.17. Following publication of our open letter on 27 July, NGG NTS agreed to conduct a series of three entry capacity baseline workshops during August and September. The workshops were subsequently organised and chaired by the Joint Office of Gas Transporters. All presentations, documentation and minutes of these meetings are available on the Joint Office website[1]. Each of the workshops had a particular focus and these were:

1. **Workshop 1: 14 August 2007 -** Review of the process followed in setting current baselines during TPCR4 focusing on the changes made between Updated Proposals and Final Proposals and to set out an indicative timeline for this consultation process, and for associated areas of work: development of enduring transfer and trade arrangements, and the introduction of capacity substitution.

2. **Workshop 2: 17 August 2007 -** Examination of alternative methods of setting baselines whilst maintaining the same aggregate value and the issue of spare / sterilised capacity in relation to the development of a capacity substitution mechanism.

3. **Workshop 3: 12 September 2007** - Review of the informal consultation responses to the issues raised at the previous meetings, to consider alternative ways of allocating baselines whilst maintaining the same aggregate value, to consider the capex and buyback implications of increasing baselines above the current aggregate value and to further develop options for capacity substitution

1.18. Presentations were made at the workshops by OFGEM and NGG NTS explaining the process followed and the modelling undertaken (including the assumptions and scenarios used) in considering changes to baselines.

1.19. The workshops were all well attended and discussion took place among industry participants on relevant issues. There was significant debate on the method and assumptions behind the setting of baselines and the different ways of allocating capacity and on interactions between baselines and other aspects of the TPCR

[1] http://www.gasgovernance.com/Code/Workstreams/TransmissionWorkstream/2007Meetings/

package such as the buyback allowance. A number of issues were raised at the meetings, including:

- A need for clarification on the scope of the baseline re-consultation as notified in the Ofgem 27 July Open Letter;
- A request that increasing the aggregate value of baselines should be included in the scope of the baseline re-consultation;
- A request for sensitivity analysis on buyback cost if baselines were to be increased above their current aggregate values;
- A suggestion that the 10% of capacity currently withheld from the long term auctions should increase to a higher value, possibly to the previous value of 20% capacity withheld;
- A request to take account of the results of the September 2007 QSEC auctions in making any changes to baselines;
- A request for an independent audit of the modelling undertaken by NGG NTS during TPCR which informed the decision on changes to baselines;
- A request for more transparency on system capability and how this has changed over time and is forecast to change with future planned investments; and
- A request for NGG NTS to make available information about network constraints and the capex investment required to address them.

NGG summary report on Entry Capacity Baseline workshops

1.20. On 1 October 2007 NGG NTS published a summary report of the three Entry Capacity Baseline workshops. This report summarises the presentations made, the issues discussed and answers specific queries raised by respondents to the informal presentation. The report and all other relevant information are published on the Joint Office website.

1.21. In this report, NGG NTS have also summarised all the written responses received as part of the informal consultation and their views on these. This report considers two principal approaches to baselines, as discussed at the workshops - i.e. reallocating baseline capacity between different entry points whilst maintaining the same aggregate value, and increasing baselines in aggregate, above their current levels. The NGG NTS Summary report summarises the baseline options considered and also outlines the possible approaches to the development of a mechanism for capacity substitution.

1.22. We would welcome views on the NGG NTS Summary report by 29 October 2007 at the latest. Responses should be sent to Nienke.Hendriks@ofgem.gov.uk.

2. Background

Chapter summary

This chapter first sets out Ofgem's principal duty and role in setting price controls.

The concept of baselines was introduced at the Transco price control review which covered the 2002-2007 price control period. Subsequent to this review the long-term entry capacity auctions were introduced, following Network Code Modification 0500. The aim of the auction regime was to enable Transco (now NGG NTS) to base its investment decisions on firm user commitment and to enable users to buy capacity longer-term at a fixed price thus reducing capacity price uncertainty.

This chapter presents a brief description of how the initial entry capacity baselines were determined and also presents some background to why we introduced the buyback incentive as part of the price control arrangements.

This chapter concludes with several issues which had arisen during the 2002-2007 price control period.

Background

Ofgem's principal objective

2.1. Ofgem's principal objective in carrying out its functions in is to protect the interests of gas and electricity consumers (current and future), where appropriate through the promotion of effective competition. Ofgem also has other duties under UK and European law, including having regard to certain social and environmental objectives.

2.2. One of the particular functions performed by Ofgem periodically is to set a limit on the revenue that can be recovered by transmission and distribution companies. Revenue restrictions or 'price controls' are needed because these companies retain an effective monopoly on their licensed activities. Competition cannot be relied upon to protect the interests of consumers where there is an effective monopoly. In determining the revenue restriction the price control must provide a reasonable rate of return to debt and equity investors in order to enable licensees to finance their activities.

Transco price control 2002-2007

2.3. Price control reviews are carried out every five years. The previous Transco (now NGG NTS) price control covered the April 2002-2007 period. As part of this price control Ofgem set explicit entry and exit capacity output measures ('baselines') for each of the five years of the price control period.

2.4. Ofgem determined baselines for all existing entry points and put an obligation on Transco to offer this baseline capacity for sale through a number of entry capacity auctions. The product to be offered would be firm, tradable, capacity rights. The objective was that prices emerging from these auctions, and subsequent trading of capacity, would improve the signals to Transco of the need for additional investment in new capacity. Also, shippers would be able to purchase and trade firm capacity rights for several years ahead to meet their own requirements and to hedge short-term capacity price risks.

2.5. We also incentivised Transco in a number of ways, most notably through the investment incentive and the buyback incentive. The investment incentive aimed to incentivise Transco to move away from the initial entry baseline figures in response to changing demand.

Contractual rights rather than rights to physical capacity

2.6. We recognised that it might not necessarily be efficient for Transco to have to provide physical capacity at all entry points simultaneously up to the Ofgem-determined baseline level as this would involve significant investment and would result in a very large network. The rights bought by shippers through the auctions are therefore contractual (firm) rights; i.e. shippers do not buy physical capacity as such. However, if the contracted capacity is not physically available Transco is required to buy back these rights. This gives Transco discretion whether it makes this capacity physically available or buys back the capacity rights.

Buy back and the buy back incentive

2.7. In view of the requirement to buy back contracted capacity rights that are not physically available it was necessary, through the price control regime, to put in place an incentive mechanism to provide funding for buybacks and to encourage Transco to minimise the cost of buying back contractual rights. The parameters for this incentive are determined for five year periods coinciding with the price controls (e.g. 2002 to 2007).

Transco price control approach to determining baselines

2.8. As part of the Transco 2002-2007 price control baselines were initially determined using a 'theoretical maximum physical capacity approach'. This approach estimates the maximum amount of gas that can be taken through a particular entry or offtake point by reducing supplies at other nodes in order to balance the network. In order to balance the network it therefore relies on supply substitution.

2.9. Under this approach, modelling takes place on a nodal basis and hence does not take network effects into account. It therefore overstates the maximum physical capability of the network as a whole. We addressed this by scaling back the initial baseline numbers (referred to as 'TO baselines'). The baselines to be used for auction purposes were referred to as the 'SO baselines' and were set at 90% of the TO baseline.

2.10. Transco was also obliged to offer for sale no more than 80 per cent of the initial obligated capacity through the long-term entry capacity auctions, so that the remainder could be reserved for the short-term auctions. The key document in which this regime is described is the Ofgem decision letter on Modification Proposal 500 (30 September 2002). The first long-term entry capacity auction took place in January 2003.

Issues arising during the 2002-2007 price control period

2.11. During the Transco price control a number of issues emerged. Two of the key reasons why we supported the introduction of entry capacity auctions were that (i) it would help NGG to plan where to invest in the network; and (ii) it would increase user commitment. These two together would better protect the interests of consumers as it would reduce the risk of underutilised assets on the network.

2.12. The entry capacity regime is designed to deal with price uncertainty by enabling shippers to book long term entry capacity to secure their capacity needs and signal to NGG NTS where capacity is needed to inform NGG NTS investment plans. NGG NTS typically has investment lead times of between three to four years to respond to signals and build additional capacity on the NTS. In the shorter term, NGG NTS may have some flexibility to increase capacity at certain entry points, in response to shipper demand, by reducing available capacity at other entry points on the system.

2.13. However, given that the Transco price control baselines were set at relatively high levels, in aggregate in excess of the actual network capability, there was arguably little incentive for shippers to bid for entry capacity through the long-term entry capacity auctions. Instead a significant amount of capacity was bought through the short-term entry capacity auctions, especially on the day at zero reserve price with NGG recovering a relatively large proportion of its maximum allowed revenue not through auction revenue but the TO commodity charge. However, shippers which wanted incremental capacity (be it at a new entry point or at an existing entry point) did have to bid through the long-term entry capacity auctions and pass an NPV hurdle in order to procure obligated incremental entry capacity. In practice, due to the fact that baselines at existing entry points were relatively high there were only very few signals for incremental entry capacity at existing entry points.

'Sterilised' capacity

2.14. Also, the existence of high baselines at a number of existing points had potential implications for new entrants. It became clear when we undertook modelling to set Unit Cost Allowances (UCAs) for a number of potential new entrants that we were facing the potential of 'sterilised' capacity on the network.

2.15. A relatively high baseline at an existing entry point, even if this capacity was not bid for through the long-term and short-term auctions, was in practice available for the shippers at that entry point only. NGG NTS was reluctant to use this capacity

to accommodate a new entrant given that it would still be obliged to offer for sale unsold baseline capacity in the short-term auctions, including the day-ahead and on-the-day auctions at the existing entry point. It argued that if shippers had not indicated an interest in this capacity in the long(er) term auctions, they might still want to buy it through the clearing auctions. Hence, if the physical capacity was no longer available due to it being used to accommodate a new entrant, NGG NTS would have to buyback capacity rights bought by shippers at the already existing entry point.

2.16. As a result, shippers at a potential new entry point would potentially have to pay for network reinforcement even if there was unused baseline capacity on the network due to the latter being only available for shippers at the existing entry point. One of the key issues we therefore set out to address as part of TPCR was the 'sterilised' capacity issue.

Buyback costs

2.17. Another issue we set out to address was the potential for large buyback costs in situations where new projects faced major delays. We also recognised that going forward, with gas flow patterns being more uncertain the potential of high operational buyback costs could increase especially if baselines exceeded physical network capability. We therefore also set out to review the buyback arrangements as part of TPCR.

3. Transmission Price Control Review (2007-2012)

Chapter summary

In this chapter we briefly explain some of the challenges facing the UK gas network going forward and the greater need for network flexibility. As discussed in the previous chapter, a number of issues arose during the 2002-2007 price control period which we addressed as part of TPCR.

This chapter presents some of the changes we made to the existing regime dealing with buyback costs. We also set out how we further developed the regime by introducing a number of new obligations on NGG NTS in relation to capacity transfer, trade and substitution.

This chapter concludes by summarising the TPCR process, which involved not only a significant number of consultation documents but also involved workshops and meetings with interested parties over an eighteen month period.

TPCR 2007-2012

3.1. The UK gas market is undergoing considerable change as the UK moves to becoming a significant importer of natural gas. The UK gas transmission network has changed considerably since the last price control as there are now an increasing number of options for gas to enter the UK; i.e. from the gas fields, through the interconnectors and through LNG terminals.

3.2. Due to the decline in gas production from the UK Continental Shelf and increasing reliance on the interconnectors and LNG import terminals, we recognise that gas flow patterns could potentially change significantly during the TPCR price control period. Arguably the key driver determining gas supply will be price and hence it might only become clear at short notice where most gas will enter at a given moment in time. This winter we will have a diverse range of sources of gas supply including three (or more) LNG facilities and four major interconnectors as well as supplies from the North Sea and UK storage that connect to the NTS at a number of different locations. The UK gas market is also much more dynamic and changes in prices in other European countries or in the US or Asia could lead to significant shifts in the sources of supply. This is placing increasing pressure on the NTS as it is no longer possible to forecast with any accuracy where gas is likely to be delivered.

3.3. This type of environment is likely to require a much more flexible network compared with the past where it was clear that most gas would enter through St Fergus. We have addressed this through further development of the existing regime through the introduction of a number of new obligations on NGG NTS in relation to capacity trade, transfer and substitution and through changes to the buyback arrangements.

Changes to the buyback regime

3.4. As part of TPCR we considered that we needed to make a number of changes to the buyback arrangements to better protect consumers. Particular areas of concern were:

- the increasing uncertainty about gas flow patterns with potential major flow changes at short notice, combined with baselines in excess of actual network capability could leave NGG NTS potentially exposed to high buyback costs; and
- potential planning and environmental issues associated with large new infrastructure projects.

3.5. Given that NGG NTS's buyback exposure is capped, there is potentially a risk that in certain circumstances consumers would have to bear high buyback costs. We do not consider that consumers are necessarily best placed to face significant buyback risk as they have no means of managing this risk. We therefore sought to increase protection of consumers by changing the buyback arrangements.

3.6. Rather than having one buyback mechanism which covers both existing capacity (and deals with operational constraints) and 'new' (i.e. incremental) capacity, we considered it more appropriate to have two separate incentive schemes:

- the incremental buyback incentive (which deals with new obligated capacity); and
- the operational buyback incentive (which deals with all other capacity).

3.7. In setting the parameters (e.g. risk sharing factor, caps and collars and target costs) we recognised that the risks NGG NTS faces in investing to release incremental capacity are fundamentally different to the risks it faces in managing the risks of buyback on the prevailing network.

3.8. These mechanisms are set out in detail in the Final Proposals document and of course in NGG NTS' GT licence. However, table 3.1 summarises their key parameters.

Table 3.1 Incremental and operational buyback parameters

	Incremental buyback incentive	**Operational buyback incentive**
Target cost	0	£18m
NGG NTS exposure	100% up to £4m per month and £36m a year	50% sharing factor between NGG and shippers
Cap / collar	Prohibition to pay more than £0.52 per kWh per day for incremental obligated entry capacity offered for sale on or after 1 April 2007	Up to total net costs of £18m (if costs exceed revenues) and -£18m (if revenues exceed costs) in any given year

Introduction of capacity trade, transfer and substitution obligations

3.9. The objective of these new obligations was to reduce the risk of not fully utilising the existing network assets by enabling capacity that is not being used at a certain point of the network to be moved to another point on the network where users value it most. This could either refer to unsold capacity or capacity which has been sold but shippers would like to trade for capacity at another point on the network. Also, capacity substitution should reduce the risk of inefficient network investment.

3.10. An important element of these new obligations is the development of suitable methodologies. In the case of capacity transfer and trade this would involve calculating appropriate exchange rates between individual entry points and/or zones and realistic nodal and zonal maxima in order to provide a shipper with a rate of transfer that would enable it to buy capacity at one entry point and use it at another or exchange unsold capacity between entry points.

3.11. As part of the TPCR package, we considered that the introduction of these mechanisms should not materially alter NGG NTS' risk profile, however, this does not imply that we expect these mechanisms to be buyback neutral. Transparency in how the methodology works and calculations are carried out will be important.

Change to the amount of baseline capacity withheld from the long term auctions

3.12. Under the previous price control 2002 - 2007 the gas entry regime stipulated that 20 per cent of the baseline capacity at an entry point should be held back from the long term auctions. The intention behind this policy was to allow new entrants to gain access to capacity without having to wait until new capacity could be constructed.

3.13. This remains an important objective. However, we recognise that there is a potential cost to holding back capacity from the long-term auctions. Also, mechanisms capacity transfer, trade and substitution, especially once bedded in, might be expected to make it easier for new entrants to gain access to capacity in the short to medium term.

3.14. Given the overall TPCR package, we therefore considered it appropriate to reduce the proportion of capacity held back from 20 to 10 per cent. We also signalled an intention in our Updated Proposals to remove the concept completely as part of the next price control review.

TPCR process

3.15. As part of TPCR we published a series of consultation documents (as set out at the start of this document under the heading 'Associated documents') during a

period of around eighteen months, supported by industry workshops and meetings with interested parties.

3.16. The price control review culminated in a set of licence conditions to take effect from 1 April 2007. These licence conditions set out the licence obligations and incentives faced by NGG NTS and also set out how the allowed revenues for NGG NTS in respect of their provision of transmission assets ('Transmission Owner (TO) controls') will be determined for the next price control period.

3.17. Most incentive parameters and several obligations (such as baselines) are determined for a five year period, e.g. the price control period, and hence have to be reset as part of the next price control. As part of TPCR we therefore had to review these arrangements and reset a number of incentives and obligations. We also introduced several new obligations. One of the key new obligations we introduced was an obligation on NGG NTS to enable the transfer of unsold baseline capacity from one entry point to another entry point and to facilitate the trade of sold baseline capacity. In our view this would reduce the risk of sterilised capacity given anticipated changes to flow patterns.

3.18. The price control therefore consists of a package of measures. In the case of NGG NTS, this encompasses a number of new and existing incentives (such as buyback incentives, capex incentives, etc.), a number of obligations (such as the provision of baseline capacity, the introduction of capacity trade, transfer and substitution) and the maximum allowed revenue which NGG NTS could earn, consisting of a return on the RAV, opex allowance, revenue drivers in addition to incentive revenue (which could be positive or negative depending on the design of the incentive in question).

4. TPCR approach to baseline determination

Chapter summary

In this chapter we identify the underlying issues we tried to address through the TPCR baseline review and summarise the extent of the modelling we asked NGG NTS to undertake. This chapter also sets out how baselines changed from our Initial Proposals in June to the Updated Proposals in September and Final Proposals in December and the reason for these changes.

Questions

Question 1: Do you agree that the objectives of the TPCR baseline review were appropriate?

Question 2: Do you agree that the modelling approach we asked NGG NTS to carry out was appropriate? If not, why not.

Question 3: One of the main difficulties we faced in the run up to Final Proposals was to account for zonal constraints. Are there any better ways accounting for zonal constraints?

Question 4: Are there any other issues we should have considered in this chapter?

Introduction

4.1. As set out in the previous chapter, as part of TPCR we aimed to address a number of issues which had arisen during the previous price control period. This resulted in a rethink of the baseline objectives. This also influenced the approach to determining the baselines and the scope of the modelling which we asked NGG NTS to undertake.

Objectives of TPCR review of baselines

4.2. One of the key objectives in determining the TPCR baselines was to set baselines that reflect the physical capability of the network, taking into account changing gas flow patterns on the network. This was a change in approach compared with the previous price control in which baselines were determined using the 'theoretical max phys' and 'practical max phys' approaches.

4.3. As part of TPCR, we asked NGG NTS to carry out extensive network modelling to enable us to determine network capability. We sought to characterise the maximum capacity that can be released at each entry point at system peak given the current intact network and assuming flows at nearby entry points are also relatively high. This, in our view, would give a conservative but realistic view of the physical

capability of the network. It would also give baselines which were, in our view, consistent with the allowances we have made for NGG NTS in respect of the costs of buying back capacity.

4.4. Our rationale for seeking to set baselines which would better reflect the physical capability of the system was three fold:

- To reduce the risk of high buyback costs having to be borne by consumers (in part we also addressed this potential risk by making changes to the buyback regime);
- To reflect the fact that UK gas flow patterns might considerably change during the next five years;
- To strengthen investment signals to NGG NTS through the long-term entry capacity auctions.

TPCR baseline consultation

4.5. The approach to setting baselines was consulted on as part of the TPCR. The issues which were described in the documents included the following key points which need to be considered when undertaking a review of baselines:

- how to determine the capability of the network;
- the extent of the network modelling that needs to be undertaken;
- the different data sets that could be used: supply assumptions and demand assumptions;
- different approaches to balancing the base network: load absorption and supply substitution;
- differing approaches to estimating the additional incremental capacity at entry points; and
- treatment of zonal and nodal interactions.

4.6. The approach to the modelling undertaken was principally described in the following documents:

- TPCR Third Consultation - Supplementary Appendices, March 2006
- TPCR Initial Proposals - Main Appendices, June 2006

Initial baselines were published in the June document.

TPCR modelling undertaken by NGG NTS

4.7. The TPCR baselines are derived from the 2005 Ten Year Statement (TYS) data for the year 2008/09. This ten year statement adopted an approach based on three different supply scenarios, namely "Auctions+", "Global LNG" and "Transit UK".

4.8. We asked NGG NTS to balance the network using supply substitution. We did consider load absorption as part of the third consultation document and Initial Proposals. However, we rejected this approach as it resulted in a much larger network than forecast as it would rely on a steady growth in demand to meet increased supply.

4.9. We explained in the Initial Proposals that we preferred supply substitution instead because the key issue we were addressing was the decline in UK Continental Shelf gas rather than a huge increase in expected demand.

4.10. In order to balance the base network NGG NTS used a merit order approach. In order to balance the incremental network NGG NTS adopted 'least helpful supply substitution'.

4.11. NGG NTS provided not only data on an entry point by entry point basis but also the estimated free increment, which is a proxy for spare capacity, for each entry point in question for each of the three scenarios.

4.12. Our approach to baselines was to add the free increment to the baseflows on a nodal basis. First we took a straightforward average of the baseflows from the three scenarios (e.g. Auctions+, Global LNG and Transit UK) for each entry point included in the TYS. Some of these scenarios included entry points which had no baseline pre-TPCR and at which shippers had not bid for incremental capacity in the LTSEC auctions; for example, Caythorpe and Blyborough (Welton). These entry points were nevertheless included in the analysis because they were included in the TYS. We then took the average of the nodal free increment over the three scenarios and added this to the average nodal baseflows. This resulted in the June 2006 Initial Proposals baseline numbers.

4.13. We instructed NGG NTS to carry out network modelling using its existing Graphical Falcon software. We specified the following modelling assumptions:

- We asked NGG NTS to model network capability for one year, namely 2008/09;
- To keep the network in balance, we asked NGG NTS to use a "supply substitution" approach. Under this approach, as the supply at a particular entry point is increased, supply across o*ther* entry points is turned down to keep the network in balance;
- For the purpose of turning down supplies at other entry points under the “supply substitution” approach, we asked NGG NTS to choose those entry points with

"least benefit" to NGG NTS, in terms of allowing it to incur lower network reinforcement costs (as the supply at the particular entry point in question is increased). This is the approach labelled "least helpful supply substitution" in the main document. It seeks to identify the maximum capacity that could be released at each entry point at system peak, given the current intact network and assuming flows at nearby entry points were also relatively high;

- We asked NGG NTS to assess network capability on an entry point by entry point basis, and to include potential new entry points in the analysis;
- We asked NGG NTS to assume that the physical network is the one used in NGG NTS's latest (at the time) Gas Transportation Ten Year Statement (dated December 2005) for the year 2008/09;
- We asked NGG NTS to model using "1 in 20 winter peak" demand for 2008/09, taken from NGG NTS's Ten Year Statement;
- On the supply side, we asked NGG NTS to model all three scenarios from the same source, namely "Transit UK", "Global LNG" and "Auctions+";
- We asked NGG NTS to estimate reinforcement costs on the National Transmission System (NTS) for four different "increment sizes" (i.e. increases in capacity at individual entry points), namely 25 GWh/d, 100 GWh/d, 500 GWh/d and 1,000 GWh/d.

NGG NTS's modelling output

4.14. Most of the results for the Transit UK scenario (except for some potential new entry points) were summarised in the March 2006 Third Consultation document.[2] Following publication of the Third TPCR consultation document, NGG NTS provided final results for remaining potential new entry points under the Transit UK scenario in April, for the Global LNG scenario in May, and for the Auctions+ scenario in June. The results were summarised in the June Initial Proposals document.

4.15. In the September 2006 Updated proposals we reported these results once again, with some adjustments that we had made. In summary, this modelling work therefore produced three sets of data on baselines, for both existing and potential new entry points, namely for the following scenarios:

- 2008/09, Transit UK, supply substitution
- 2008/09, Global LNG, supply substitution
- 2008/09, Auctions+, supply substitution

[2] TPCR Third Consultation (30 March 2006), Appendix 10, Modelling revenue drivers, pp61-63.

4.16. With respect to setting entry flows at nearby terminals, NGG NTS were unable to use the "least helpful supply substitution" assumption throughout the analysis, as anticipated. This was because the sum of peak supplies across entry points was 10% to 20% greater than the 1 in 20 peak demand in the Ten Year Statement. While scaling down supplies to meet demand, in order to derive a "balanced network" to start the analysis, NGG NTS used "merit order" assumptions (which have formed part of NGG NTS's standard approach for network modelling). The "merit order" assumptions involved turning down supplies at storage sites, irrespective of the level of interaction of those storage sites with the entry point in question, instead of turning down supplies at "least helpful" entry points that by definition would have a low level of interaction with the entry point in question.

4.17. With respect to the modelling of the four different increment sizes, after deriving a "balanced network" as described above, NGG NTS first estimated at each entry point the maximum additional capacity that could be released at system peak, without triggering network reinforcement. In the TPCR consultation documents, we labelled this capacity the "free increment" while we labelled the capacity in the balanced network the "baseflow".

4.18. NGG NTS also produced its own analysis which used a zonal approach to network modelling. The separate zonal analysis that NGG NTS carried out produced significantly lower estimates of maximum network capabilities. The outputs from both sets of modelling were reported in the September 2006 Updated Proposals.

TPCR Initial Proposals

4.19. Our Initial Proposals were based on network modelling undertaken by NGG NTS with the specifications set by Ofgem. NGG NTS provided data on the base flows on the network and the amount of additional capacity that could be provided at each entry point without incurring additional investment.

4.20. As we noted in our March 2006 TPCR Third Consultation document, and as NGG NTS pointed out in their response to it, it is not possible to accommodate all of the free increments simultaneously.

4.21. We recognised that as part of the next stage of analysis, we needed to consider what level of capacity could be provided simultaneously, taking into account buyback implications. For the Initial Proposals we assumed that NGG NTS could provide 90 per cent of the free increments at all entry points simultaneously. However, we also pointed out that this assumption was untested.

4.22. We considered both load absorption and supply substitution data for the Initial Proposals baseline figures. Given that the key driver for future changes in patterns of gas entry flows appears to be declining UKCS (UK Continental Shelf) supplies, we considered that supply substitution was most appropriate.

4.23. We calculated our initial quantification by taking the average baseflow for each entry point, from the outputs of the modelling undertaken by NGG NTS, and adding to it 90 per cent of the average free increment at each entry point. In each case, we took an unweighted average across the three supply scenarios. On the basis of these assumptions the baselines for the existing entry points that NGG NTS has provided data for would be as set out in Table 4.1.

Table 4.1 June 2007 Initial Proposal for gas entry baselines

	Initial Baseline mscmd
Easington	136
Bacton	196
Isle of Grain	39
Milford Haven	81
St. Fergus	163
Teesside	63
Barrow	62
Theddlethorpe	42
Point of Ayr	24
Hole House Farm	25
Humbly Grove	21
Hatfield Moor	33
Aldbrough	24
Cheshire	44
Hornsea	20

Source: Ofgem - Transmission Price Control Review: Initial Proposals, Appendices, p. 52 (Ref: 104b/06)

4.24. . The proposed baselines were based on analysis for (and so applied to) the year 2008/09. At the time of determining these initial baselines no incremental capacity could be signalled for that year so this was consistent with our approach of having all incremental revenues backed by user commitments to specify baselines for this year.

Respondents views on TPCR Initial Proposals

4.25. This section summarises the responses received to the questions posed in the Initial Proposals, relating to chapter 11 'Adjustment mechanisms and incentives: gas' and in particular to the baselines section in that chapter.

Licensees' views

4.26. There was generally broad support for our proposed form of revenue drivers. However, NGG NTS raised a number of detailed concerns on the network modelling undertaken to set the baselines and revenue drivers - and the potential for under-remuneration relative to costs.

4.27. NGG NTS expressed concern regarding its potential exposure under our proposals on buy-back. However, there was general support for our proposals to adopt separate arrangements for incremental and operational buyback.

Other respondents' views

4.28. There was support from shippers for our proposal to continue to place NGG NTS under obligations to release specified amounts of capacity at each entry point (i.e. to set nodal baselines rather than zonal or global baselines). There was general recognition that there needed to be more flexibility to transfer capacity between entry points.

4.29. A number of shippers raised concerns about the extent to which the proposals for baselines represented significant changes to how they understood the regime would work when it was first implemented.

4.30. One respondent questioned whether the current regime, which has only been in place for a single price control period, is sufficiently ineffective such that this level of radical change was required. This respondent would have expected the cost benefit analysis for the change to have been presented at this time.

4.31. Another expressed fundamental concerns about the existing gas entry regime. In its view, the existing regime has distorted competition, unnecessarily increased perceptions of regulatory risk of operating in the competitive gas market and has required frequent, unanticipated regulatory intervention to solve problems that have emerged from the complex auction arrangements.

4.32. Some respondents agreed that allowing capacity substitution between entry points may improve efficiency. However, they considered that the proposed changes transfer additional risk to shippers unless the reallocation methodology is clearly defined.

TPCR Updated Proposals

4.33. The June document included Initial Proposals for gas entry baselines for 15 main aggregate system entry points (or "ASEPs") for formula year 2008/09. Ofgem's intention was that the baselines would be set 'flat', i.e. would not change over the five year price control period.

4.34. NGG NTS responded that our proposed baselines were (on average) too high. NGG NTS considered that our baselines were above system capability, and that they were likely to trigger significant buy back exposure under certain supply scenarios.

4.35. NGG NTS proposed an alternative set of baselines which on average were lower than our baselines. NGG NTS's proposed baselines had been derived by estimating zonal capabilities (i.e. the capability of the network across interacting groups of entry

points within the same geographical area). Our baselines were derived by estimating nodal capabilities (i.e. the capability of the network for each entry point considered in isolation, with lesser consideration of the interactions between entry points). This difference in approach largely explains why on average NGG NTS's baselines were lower than ours.

4.36. Table 4.2 below, which was published in an appendix to the Updated Proposals, shows the difference between Ofgem's proposed baselines in the June document and NGG NTS's proposed baselines in their response to the June document. NGG NTS's baselines are on average about 30 per cent lower than Ofgem's Initial Proposals. However, for a few entry points (Isle of Grain, Milford Haven, and Garton) NGG NTS's baselines were higher reflecting capacity sold through the LTSEC auctions.

4.37. The baselines in our June Initial Proposals were expressed in mscm/d whereas the same values in the September Updated Proposals were expressed in GWh/d. The published numbers are rounded values and do not show any decimal places. There are very minor differences, due to rounding of additional decimal places, which means that not all of the values in the September Update table exactly match the stated conversion factor of 10.83.

Table 4.2 September 2007 Updated Proposals for gas entry baselines

	Ofgem Initial Proposals (2008/09)	Ofgem Initial Proposals (2008/09)	NGG's Proposed Baseline (2008/09)	Difference (Ofgem minus NGG)
	mscm/d	GWh/d	GWh/d	GWh/d
Easington	136	1,473	1,062	411
Bacton	196	2,119	1,768	351
Isle of Grain	39	425	453	-28
Miford Haven [1]	81	877	950	-73
St Fergus	163	1,769	1,342	427
Teeside	63	684	234	450
Barrow	62	669	240	429
Theddlethorpe	42	451	227	224
Burton Point [2]	24	260	55	205
Hole House Farm	25	265	26	239
Barton Stacey [3]	21	232	90	142
Hatfield Moor [4]	33	360	22	338
Garton [5]	24	255	420	-165
Cheshire	44	480	214	266
Hornsea	20	221	175	46
Sub-total	973	10,539	7,278	3,261
Glenmavis	n/a	n/a	n/a	n/a
Partington	n/a	n/a	n/a	n/a
Avonmouth	n/a	n/a	n/a	n/a
Dynevor Arms	n/a	n/a	n/a	n/a
Hatfield Moor (onshore)	n/a	n/a	n/a	n/a
Wytch Farm	n/a	n/a	n/a	n/a
Burton Agnes (Caythorpe)	n/a	n/a	n/a	n/a
Winkfield	n/a	n/a	n/a	n/a
Blyborough (Welton_	n/a	n/a	n/a	n/a
Tatsfield	n/a	n/a	n/a	n/a
Albury	n/a	n/a	n/a	n/a
Palmers Wood	n/a	n/a	n/a	n/a
Fleetwood	n/a	n/a	n/a	n/a

Note:
[1] NGG NTS proposed baseline is 650 GWh/d from Oct 07 to Dec 08 and 950 GWh/d from Jan 09
[2] Burton Point is referred to as Point of Ayr in the June Initial Proposals
[3] Barton Stacey is referred to as Humbly Grove in the June Initial Proposals
[4] Garton is referred to as Aldborough in the June Initial Proposals
n/a = not available
Conversion factor mscm/d to GWh/d: multiply by 10.83

Source: Ofgem - Transmission Price Control Review: Updated Proposals, Appendices, p. 29 (Ref: 170/06a)

4.38. One of our objectives in determining baselines was to ensure that baselines were set at levels consistent with the simultaneous physical accommodation of possible flows under a wide range (although not all possible) scenarios across entry points. This meant that we intended to set baselines such that exposure to (operational) buy back risk would be residual, and relatively low.

4.39. However this did not mean that the network needed to be designed to accommodate simultaneous flows at each entry point at the level of the baselines. We indicated our intention to continue working with NGG NTS to assess the risks associated with different baseline proposals and to quantify them.

Treatment of sold capacity

4.40. In response to concerns expressed by NGG NTS and some shippers, we clarified that we intended to set baselines such that no baseline was less than the amount of obligated baseline capacity that NGG NTS had already sold in respect of that entry point. In order to implement this change, we planned to increase baselines at some entry points to reflect past sales of obligated baseline capacity, and to turn down baselines at other entry points within the same zone on a pro rata basis, in order to keep the total system capability implied by the baselines constant relative to our June Initial Proposals.

4.41. These adjustments were made following the September 2006 long term system entry capacity auctions. Table 4.3 shows our Updated Proposals for gas entry baselines, published in October 2006 as an addendum to the September Updated Proposals document.

4.42. The apparent increase in the aggregate level of baselines is because of an adjustment to show the maximum obligated level at Milford Haven. This adjustment has no impact on the overall aggregate baseline level since the baseline for the Milford Haven entry point is set to zero and excluded from the final baseline total.

Table 4.3 Addendum to Updated Proposals for gas entry baselines

ASEP	Initial NTS SO baseline entry capacity (2006/07)	Ofgem June 2006 Initial Proposals (2008/09)	Maximum of obligated firm capacity sales on any given day within formula year (2008/09)	Ofgem Sep 2006 Updated Proposals (2008/09)	NGG's Proposed Baselines (2008)
	GWh/d	GWh/d	GWh/d	GWh/d	GWh/d
Easington	1,062	1,473	843	1,355	1,062
Bacton	1,745	2,119	909	2,119	1,768
Isle of Grain	218	425	410	425	453
Miford Haven [1]	0	877	950	950	950
St Fergus	1,677	1,768	1,138	1,768	1,352
Teeside	761	684	87	684	234
Barrow	712	669	205	669	240
Theddlethorpe	848	450	52	450	227
Burton Point [2]	55	260	0	260	55
Hole House Farm	26	266	21	266	26
Barton Stacey [3]	0	232	90	232	90
Hatfield Moor [4]	54	360	0	331	22
Garton [5]	0	255	420	420	420
Cheshire	214	480	114	480	214
Hornsea	175	221	0	203	175
Sub-total	7,547	10,540	5,239	10,613	7,278
Glenmavis	99	n/a	0	n/a	n/a
Partington	215	n/a	0	n/a	n/a
Avonmouth	149	n/a	0	n/a	n/a
Dynevor Arms	50	n/a	0	n/a	n/a
Hatfield Moor (onshore)	1	n/a	0	n/a	n/a
Wytch Farm	3	n/a	0	n/a	n/a
Burton Agnes (Caythorpe)	0	n/a	0	n/a	n/a
Winkfield	0	n/a	0	n/a	n/a
Blyborough	0	n/a	0	n/a	n/a
Tatsfield	0	n/a	0	n/a	n/a
Albury	0	n/a	0	n/a	n/a
Palmers Wood	0	n/a	0	n/a	n/a

Note:
[1] NGG NTS proposed baseline is 650 GWh/d from Oct 07 to Dec 08 and 950 GWh/d from Jan 09
[2] Burton Point is referred to as Point of Ayr in the June Initial Proposals
[3] Barton Stacey is referred to as Humbly Grove in the June Initial Proposals
[4] Hatfield Moor (storage) was referred to as Hatfield Moor in the June Initial Proposals
[5] Garton is referred to as Aldborough in the June Initial Proposals
n/a = not available
Conversion factor mscm/d to GWh/d: multiply by 10.83

Respondents views on TPCR Updated Proposals

4.43. This section summarises the responses received to the questions posed in the Updated Proposals, relating to chapter 10 'Adjustment and incentive mechanisms Gas' and in particular the baselines section.

Licensees' views

4.44. NGG NTS stated that it had more issues with gas revenue drivers than with electricity revenue drivers. It did not consider that the Unit Cost Allowances (UCAs) represented a reasonable ex ante view of investment costs, and the problem was in its view exacerbated by our proposals to expose the licensee to 38 per cent of the difference between allowed and actual costs.

4.45. SHETL expressed concern that at certain locations we proposed an increase in baseline capacity that could undermine a shipper's decision to participate in the September 2006 QSEC auctions.

Other respondents' views

4.46. The majority of respondents supported our proposals for revenue drivers and considered it an appropriate mechanism for generating revenues in response to uncertain demands for connection.

TPCR Final Proposals

Double counting the free increments

4.47. The main reason why baselines changed (significantly in some instances) in the period between Updated Proposals and Final Proposals was the treatment of the free increment. In its response to the June Initial Proposals NGG NTS had raised concerns that Ofgem had been double counting free increments resulting in baselines in excess of the physical capability of the network.

4.48. Given the fact that our baselines were based on nodal analysis rather than zonal analysis we did recognise that we might have to make further adjustments to our Initial Proposals baseline figures to account of network interactions.

4.49. Our Initial Proposals were based on the average flows across the three 2005 TYS scenarios per node to which we then added the average free increment at the node in question. Thus if we were to look at one of NGG NTS zones[3] and assume

[3] The zones we used for this analysis were the zones as defined in NGG NTS 2005 TYS

that there are three entry points in that zone, we would count the free increments for each entry point in question and hence the aggregate baseline for that zone would include the sum of these three free increments. For example, in a situation where the free increments would be 50 GWh/d, 100 GWh/d and 20 GWh/d, we assumed that there would be 170 GWh/d spare capacity as reflected by the free increments.

4.50. In the period between Updated and Final Proposals, we adjusted our approach to reflect zonal constraints by taking a free increment on a zonal rather than nodal basis. We used the existing nodal data and took the maximum free increment in each zone[4]. For example, if there were three entry points in a given zone with free increments of 50 GWh/d, 100 GWh/d and 20 GWh/d, we would use the 100 GWh/d free increment and allocate that free increment to the three entry points in that zone. We did this for each of the three 2005 TYS scenarios. We then used the arithmetic average of the results from the three TYS scenarios to provide the baseline number.

Size of the free increment

4.51. For the Final Proposals, rather than using 90% of the free increment as we did for the Initial Proposals, we added the full (i.e. 100%) free increment.

Allocation method of the free increment

4.52. Our final baseline numbers were based on allocating the free increment using 2005 TYS flows. However, we also looked at different approaches based on sold capacity through the auctions and based on pre-TPCR SO baselines. These approaches are explained in the next chapter.

4.53. We also made some further adjustments. The 2005 Ten Year Statement included both Caythorpe and Blyborough (Welton). However, these are potential new entry points for which no capacity had been booked through the long-term entry capacity auctions. As a result we needed to move capacity from Caythorpe and Blyborough (Welton) to existing entry points. We reallocated this capacity respectively to Hornsea and Theddlethorpe.

4.54. The Updated Proposals baselines also included incremental capacity at Milford Haven and Isle of Grain (totalling 1185 GWh/d). However, for revenue purposes we differentiate between obligated baseline capacity and obligated incremental capacity. For new entry points we therefore set baselines at zero (even if capacity has been bought through the long-term entry capacity auctions and this capacity has been

[4] The definition of zones was the same as that used in the Network Code modification proposal 118. These were narrower zones (and so gave higher baselines) than those used by NGG NTS in its zonal analysis.

released, eg. the NPV hurdle has been passed). We therefore removed incremental capacity by setting the Milford Haven baseline at zero and removing incremental capacity from Isle of Grain. However, given that this capacity had been sold through the auctions and passed the NPV hurdle, and given that these potential flows were taken into account when the network modelling was undertaken, we did not reallocate this capacity to other entry points.

4.55. After having made these adjustments we made some further adjustments to baselines following further dialogue with NGG NTS. These changes reflected NGG NTS concerns that they would not be able to accept our figures as in their view it would expose them to higher buyback costs compared with our allowance. These further changes resulted in an aggregate baseline number of 7629 GWh/d.

Table 4.4 Final Proposals baselines[5]

	GWh/d		GWh/d
Easington	1062.0	Aldborough	420.0
Bacton	1783.4	Cheshire	285.9
Isle of Grain	175	Hornsea	164.1
Miford Haven	0	Fleetwood	0
St Fergus	1670.7	Caythorpe	0
Teeside	361.3	Wytch Farm	3.3
Barrow	309.1	Blybourgh (Welton)	0
Theddlethorpe	610.7	Albury/Winkfield	0
Point of Ayr	73.5	Palmers Wood/Tatsfield	0
Hole House Farm	131.6	Glenmavis	28.5
Humbly Grove	172.6	Partington	174.6
Hatfield Moor (storage)	14.9	Avonmouth	179.3
Hatfield Moor (onshore)	0.3	Dynevor Arms	8

Source: Ofgem - Transmission Price Control Review: Final Proposals, p. 69 (Ref: 206/06)

Respondents views on TPCR Final Proposals

4.56. We received only one formal response to the TPCR Final Proposals, which was NGG NTS' acceptance of the TPCR Final Proposals. However, one other interested party responded to Dti on the introduction of capacity trade and transfer and was referred to us.

[5] In previous tables Barton Stacey was referred to as Humbly Grove.

Modification of the Gas Transporter Licence under section 23 (3) of the Gas Act 1986

4.57. On 30 March 2007, Ofgem published a Modification of the Gas Transporter Licence under Section 23 of the Gas Act 1986, which introduced new baseline entry capacity figures for the various entry points on the National Transmission System (NTS). These baseline figures were the same figures as published in the Final Proposals document.

4.58. Under normal circumstances the Annual Monthly System Entry Capacity (AMSEC) auctions in respect of entry capacity for the period of two years starting on 1 April 2007 would have been held in February 2007. Under the provisions of the uniform network code (UNC) in these auctions NGG NTS offers for sale unsold entry capacity according to the obligations (including the baselines) specified in NGG NTS's licence in force at that time. Since the AMSEC auctions were due to take place in February, they would have taken place in a manner that reflected the baseline entry capacity values set under the regime in place until 31 March 2007, rather than the proposed regime that will operate from 1 April 2007.

4.59. NGG NTS was concerned about this misalignment of obligations relating to entry capacity between the AMSEC auctions and its licence obligations which would take effect from 1 April 2007. Consequently NGG NTS brought forward two urgent code modifications (UNC128 and UNC129) to attempt to remedy this problem.

4.60. Ofgem directed that UNC129 be made which had the effect of delaying the announcement of the AMSEC auctions until after Ofgem had modified the baselines in NGG NTS's licence pursuant to the Gas Act. (UNC128 proposed a change to the current arrangements whereby the levels of entry capacity that NGG is obliged to release in the AMSEC auctions are determined by reference to NGG NTS's licence and was rejected).

4.61. In order to avoid delaying the AMSEC auctions more than necessary Ofgem decided that it should seek to modify the baselines in advance of the introduction of the rest of the TPCR Final Proposals, which was likely to be implemented at a later date with retrospective effect from 1st April 2007.

Respondents' views

4.62. Several respondents expressed significant concern regarding the revisions to the baseline levels. In particular, they raised concerns regarding the manner in which the revised baselines were derived and pointed to the lack of a transparent process.

5. Sensitivity analysis

Chapter summary

In this chapter we present the sensitivity analysis which we undertook as part of the TPCR determination of baselines between Updated Proposals and Final Proposals. We also undertook analysis based on different network balancing approaches (e.g. load absorption and a combination of load absorption and substitution of supply) but we have already consulted on this as part of Initial Proposals.

The different allocation methods could be used to allocate the aggregate TPCR Final Proposals baseline figure in different ways, i.e. cutting the cake in a different ways. This involves increases in baselines at some entry points and decreases in baselines at other entry points. At the 12 September Entry Capacity Baseline workshop NGG NTS presented a slightly different way of allocating capacity to specific entry points which we have also included in this chapter.

Questions

Question 1: Would you consider any of the alternative approaches for allocating the free increment as discussed in this chapter more or less appropriate than the approach adopted for the TPCR Final Proposals baselines? Please give your reasons.

Question 2: We allocated the Caythorpe and Blyborough (Welton) free increments to Hornsea and Theddlethorpe respectively, do you agree with this approach or should these free increments have been allocated in a different way and if so, how and why?

Question 3: NGG NTS presented three principles in order to allocated baseline capacity, namely to (i) allocate in line with physical capability; (ii) constrain not to exceed previous obligated levels; and (iii) be broadly commensurate with the buyback target. Do you agree with these principles? Please explain why or why not.

Question 4: NGG NTS presented slightly different ways of reallocating entry capacity to different entry points. Would you find these approaches more or less appropriate? Please give your reasons.

Question 5: Are there any other considerations which we have not highlighted which we should have taken into account?

Different approaches to allocating the free increment

5.1. Our final baseline numbers were based on allocating the free increment using 2005 Ten Year Statement (TYS) flows. However, we also looked at different

approaches based on sold capacity through the auctions and based on pre-TPCR SO baselines. All three approaches could be seen as proxies for the size of each entry point in a given zone. This data was included in a spreadsheet model which was published on the Joint Office website on 27 April 2007.

5.2. These different approaches not only produce different nodal baselines but also different aggregate network capability numbers. Table 5.1 presents the results of this analysis undertaken during the period between the September Updated Proposals and the December Final Proposals.

Table 5.1 Three approaches for allocating the free increment

Free increment allocation based on:	2005 TYS for 2008/09	Sold Capacity	Pre-TPCR SO Baselines
Easington	1190.2	1175	1164
Bacton	2073.7	2068	2076
Isle of Grain	425.4	431	423
Miford Haven	950	950	950
St Fergus	1670.7	1702	1598
Teeside	361.3	361	403
Barrow	309.1	307	353
Theddlethorpe	555.7	556	579
Point of Ayr	73.5	130	120
Hole House Farm	131.6	151	88
Humbly Grove	172.6	290	90
Hatfield Moor (storage)	14.9	16	12
Hatfield Moor (onshore)	0.3	0.3	0.2
Aldborough	420	420	420
Cheshire	285.9	338	286
Hornsey	140	140	140
Canvey	0	0	0
Portland	0	0	0
Fleetwood	0	0	0
Caythorpe	24.1	25	30
Wytch Farm	3.3	0	5
Blyborough (Welton)	55	55	31
Albury/Winkfield	0	0	0
Palmers Wood/Tatsfield	0	0	0
Glenmavis	28.5	0	16
Partington	174.6	0	173
Avonmouth	179.3	65	260
Dynevor Arms	0	0	0
Total network capability	9239.7	9180.3	9217.2

5.3. The total network capability of the pre-TPCR SO baselines was 8064 GWh/day. The total network capability under the three approaches for smearing the free increment (as presented in Table 5.2) is in excess of the aggregate TPCR Final Proposals baseline number, which is 7629 GWh/d.

5.4. In part this difference is due to the fact that until Final Proposals we included obligated incremental entry capacity within the baselines. This meant that we set the Milford Haven baseline at 950 GWh/d and had included 235 GWh/d obligated incremental capacity into the Isle of Grain baseline. However, for revenue purposes we treat incremental capacity different from baseline capacity. It is therefore important to keep the two separate as it would otherwise result in double counting in revenue terms.

5.5. Therefore, in order to assess the aggregate baseline numbers under these different approaches we have to subtract incremental capacity at Milford Haven and Isle of Grain. In table 5.2, the third row presents aggregate baseline numbers which have been adjusted for incremental capacity.

Table 5.2 Aggregate baseline capacity under the different approaches

Pre-TPCR SO Baselines	Free increment allocation based on 2005 TYS for 2008/09	Free increment allocation based on sold capacity	Free increment allocation based on pre-TPCR SO baselines
8064 GWh/d	9239.7 GWh/d	9180.3 GWh/d	9217.2 GWh/d
	Adjusted for incremental capacity 8050 GWh/d	Adjusted for incremental capacity 7629 GWh/d	Adjusted for incremental capacity 8032.2 GWh/d

Reallocating TPCR Final Proposals aggregate baseline capacity

5.6. As set out in previous chapters, the baselines form part of the wider TPCR package and their determination was based on a combination of modelling and ultimately final adjustments following dialogue with NGG NTS in the run up of Final Proposals. This resulted in an aggregate baseline number of 7629 GWh/d.

5.7. There is a degree of judgment involved in how to allocate aggregate baseline capacity and as set out at the start of this chapter we considered three different allocation methods. As part of this baseline re-consultation, we would like to hear views from interested parties on the advantages and disadvantages of the alternative allocation methods we considered and potential other methods, such as the approaches presented by NGG NTS at the 12 September workshop.

5.8. However, given that TPCR was a package, with baselines being only one (although a very important) component of the package, if we were to adopt simply a different approach to allocating baseline capacity it would need to remain in the order of 7629 GWh/d unless some other changes to the TPCR package, in the form of buyback allowance and/or capex allowance, were made.

5.9. Table 5.3 presents different allocation methods whilst reflecting the TPCR aggregated network capability. We arrived at these numbers through scaling back using the same allocation approach. For example, baseline capacity which is allocated to existing entry points in accordance to sold capacity is also scaled back using sold capacity. The same applies to baseline capacity allocated based on the pre-TPCR baselines. The first column shows baselines based on sold flows, the second column is based on the pre-TPCR SO baselines.

Table 5.3 Reallocating TPCR aggregated baseline capacity

	Sold Flows	**Pre-TPCR Baselines**
Easington	1120.6	1105.3
Bacton	1973.3	1971.6
Isle of Grain	186.9	178.7
St Fergus	1623.8	1518.0
Teeside	344.4	382.8
Barrow	292.6	334.8
Theddlethorpe	530.2	550.2
Point of Ayr (Burton Point)	124.3	114.4
Hole House Farm	144.2	83.3
Humbly Grove (Barton Stacey)	276.6	85.5
Hatfield Moor	16.0	11.7
Aldborough (Garton)	400.7	398.9
Cheshire	322.8	271.9
Hornsea	133.6	133.0
Caythorpe	24.1	28.5
Wytch Farm	0.0	4.9
Blyborough (Welton)	52.5	29.8
Glenmavis	0.0	14.8
Partington	0.0	164.1
Avonmouth	62.4	247.0
Aggregate Capacity	**7629.0**	**7629.0**

5.10. In both cases, table 5.3 presents baseline numbers for each entry point, before the Caythorpe and Blyborough (Welton) capacity has been reallocated to Hornsea and Theddlethorpe. Arguably, rather than reallocating the Caythorpe and Blyborough (Welton) increments the way we did, these increments could have been reallocated in a different way.

Options suggested by NGG NTS

5.11. During the Entry Capacity Baseline Workshops which took place on 17 August and 12 September 2007, NGG NTS presented a number of different options for allocating the available zonal increment in developing revised nodal baselines.

5.12. In order to be able to compare the Ofgem options which we considered as part of the sensitivity analysis, it is important to note that NGG NTS starting point was an aggregate baseline figure of 8814 GWh/d rather than the Final Proposals aggregate number of 7629 GWh/d.

5.13. NGG NTS disaggregated the 8814 GWh/d into 7118.8 GWh/d baseline capacity and 1695.4 GWh/d incremental capacity for Barton Stacey, Milford Haven, Garton and Isle of Grain.

5.14. NGG NTS allocated the 8814 GWh/d network capacity in the following manner:

- Firstly, it allocated the maximum capacity sold through the auctions as per August 2007 (8210 GWh/d);
- Then it subtracted incremental capacity which had been sold in the 2006 long-term entry capacity auctions (eg. 1310 GWh/d) which implies that 6900 GWh/d of the initial 8814 GWh/d has been allocated;
- Next, NGG NTS deducted 20% of capacity previously held back for shorter term auctions at ASEPs which had sold out, eg. Cheshire, Easington, Hornsea, Isle of Grain (totalling 359 GWh/d) this would leave 6900 GWh/d minus 359 GWh/d which leaves 1554 GWh/d according to NGG NTS calculation.

5.15. NGG NTS then explores four different options of allocating this 1554 GWh/d. Before presenting these options in more detail it is worth noting one difference between the Ofgem and NGG NTS approach. The Ofgem analysis was carried out during the September 2006 Updated Proposals and December 2006 Final Proposals and therefore does not take the AMSEC 2007 results into account.

5.16. NGG NTS then considers that this 1554 GWh/d should be allocated in line with the following principles:

- reflects the physical capability of the network ;
- baselines should be constrained to not exceed previous obligated levels (as capacity is effectively being rationed compared to the previous obligations);
- needs to be broadly commensurate with the buy-back target.

5.17. The above principles are different compared with the Ofgem principles when determining the TPCR baselines, clearly there is a considerably degree of judgment involved in relation to the first and third principle. Therefore, different parties might have different views. However, Ofgem does not share the view that the objective would have been to effectively ration capacity compared with previous obligations and hence does not share the view that baselines necessarily should be constrained not to exceed previous obligated levels.

5.18. Table 5.4 shows the disaggregation on a zonal basis:

Table 5.4 Zonal summary

Zonal Totals	Current Baseline	Obgligated Allocation	Unallocated
GWh/d	GWh/d	GWh/d	GWh/d
East Coast	4,465	3,733	733
Easington Area	1,661	1,672	-11
South East	2,193	1,572	621
Theddlethorpe	611	489	122
West UK	958	956	2
Northern Triangle	2,370	2,074	295
North West	666	373	293
South West	355	123	232
Total	**8,814**	**7,259**	**1,554**

5.19. Table 5.5 shows four ways of splitting the 1554 GWh/d as proposed by NGG NTS:

- On the previous obligated level;
- Using 2005 TYS forecast flow for 2008;
- Using 2006 TYS forecast flow for 2008; or
- Based on Max flow seen over 2 winters, 2005/6 and 2006/7.

Table 5.5 Four ways of allocating 1554 GWh/d

ASEP	Obligated Allocation	Split on Old Obligated Levels	Split on Av 2005 TYS	Split on 2006 TYS	Split on Max Flowover Winters 2005/06 and 2006/07
ASEP	GWh/d	GWh/d	GWh/d	GWh/d	GWh/d
Avonmouth	0	147	154	188	121
Bacton	1,119	1,671	1,655	1,600	1,663
Barrow	309	374	349	342	352
Barton Stacey	120	209	200	166	235
Burton Point	55	87	67	70	110
Cheshire	214	337	334	275	214
Dynevor Arms	6	8	8	8	8
Easington (incl. Rough)	1,062	1,062	1,062	1,062	1,062
Garton	420	420	420	420	420
Glenmavis	0	9	16	16	8
Hatfield Moor (onshore)	0	0	0	0	0
Hatfield (storage)	15	15	15	15	15
Hole House Farm	104	119	142	167	153
Hornsea	175	175	175	175	175
Isle of Grain	453	522	538	593	530
Partington	0	124	123	154	189
St Fergus	1,437	1,590	1,631	1,644	1,627
Teeside	328	397	373	368	381
Theddlethorpe	489	595	595	595	595
Wytch Farm	3	6	7	7	5
Milford Haven	950	950	950	950	950
Fleetwood	0	0	0	0	0
Total	7,259	8,814	8,814	8,814	8,814

5.20. Two alternative methods were also explored which started with the 8814 GWh/d rather than the unallocated 1554 GWh/d. These methods were based on adding back the 20% of baseline capacity which previously had been held back for the short-term auctions and added this amount back to each ASEP in turn. The other approach was based on historical flows which had been observed over the last two winters (subject to being constrained not to exceed the old TPCR baseline). However, according to NGG NTS both these approaches were not constrained by the zonal levels that exist with the current baselines and hence would have buyback implications.

6. Way forward

Chapter summary

This chapter sets out the next steps in the baseline consultation process and asks a number of questions to help us with the Impact Assessment which we will include as part of the next consultation document.

Questions

Reallocating TPCR Final Proposals aggregate baseline capacity

Question 1: Is our approach for allocating the free increment, taking zonal constraints into account appropriate given the premise that baselines need to reflect the physical capability of the system?

Question 2: Are there any other factors that we have not considered which should be assessed in considering an appropriate adjustment to baselines?

Question 3: What are your views on the different options outlined for allocating capacity in a different way, whilst maintaining aggregate baselines at the current TPCR Final Proposals level of 7629 GWh/d?

Question 4: What are the advantages and disadvantages of keeping baselines unchanged at their current TPCR Final Proposals level?

Increasing aggregate baseline capacity

Question 5: If we were to increase the aggregate baselines how could we quantify possible increases in buyback costs and/or capex allowance also given the timescales involved?

Question 6: If we were to increase the aggregate baselines how should we allocate the additional capacity? Which mechanism, if any, should we use?

Question 7: Are there any other considerations which we have not highlighted which should be taken into account if we were to increase aggregate baselines?

Views on TPCR aggregate baseline capacity

6.1. In this document we have set out how we determined the TPCR baselines presented in Final Proposals. We also set out the different approaches we considered for allocating the free increment.

6.2. We would like to hear interested parties' views on the most appropriate way of allocating capacity between nodes.

6.3. The TPCR baselines were part of the wider TPCR package which included capex allowance, buyback allowance, revenue drivers etc. If we were to increase the aggregate level of entry capacity baselines, it is likely to impact on other parts of the package, most notably buyback allowance and/or capex allowance.

6.4. It is also worth noting that, as baselines are a key input in the current transportation charging model, changes to baselines are therefore likely to affect charges.

Impact Assessment

6.5. As part of the next consultation document, which we intend to publish late November or early December, we want to include an impact assessment.

6.6. We have identified the following issues for this impact assessment:

- Risks and unintended consequences
- Flexibility of arrangements to deal with changes in supply
- Ease of implementation
- Regulatory certainty over the price control period
- Non-discriminatory processes
- Meeting the objectives of avoiding sterilised capacity
- Removing barriers to new entrants
- Protecting consumers

6.7. More specifically, we would like respondents views to the questions outlined at the start of this chapter.

Timeline for the baseline review: next steps

NGG NTS Summary Report on Entry Capacity Baseline Workshops

6.8. Since publishing the 27 July Open letter, three Entry Capacity Baseline Workshops have been held on 14 and 17 August and 12 September 2007. Shippers were asked to submit their written views on a number of issues to NGG NTS by 31 August.

6.9. NGG NTS has now published the Summary Report on Entry Capacity Baseline Workshops on 1 October 2007. Ofgem is inviting views on NGG NTS Summary report by 29 October 2007.

6.10. Responses (preferably in electronic form) to Summary Report on Entry Capacity Baseline Workshops should be sent to Ofgem by 29 October at the latest so we can take these responses into account in our next consultation document which we intend to publish at the end of November/start of December. Responses should be sent to:

Nienke Hendriks
Head of Gas Transmission Policy, Compliance and Enforcement
Ofgem
9 Millbank
London SW1P 3GE
Nienke.Hendriks@ofgem.gov.uk

6.11. Responses which are confidential or contain confidential information should be clearly marked. All non-confidential responses (or sections thereof) will be placed on the Ofgem website.

6.12. If you would be interested in a further workshop on baselines to be held in January 2008, please let Nienke Hendriks know by email.

October 2007 TPCR baseline re-consultation document

6.13. The publication of this first consultation document concludes the first phase, which kicked off with the three Entry Capacity Baseline Workshops.

6.14. We invite comments on the issues raised in this document by 31 October 2007. Responses (preferably in electronic form) should be sent to:

Robert Hull
Director, Transmission
Ofgem
9 Millbank
London SW1P 3GE
Robert.Hull@ofgem.gov.uk

6.15. Responses which are confidential or contain confidential information should be clearly marked. All non-confidential responses (or sections thereof) will be placed on the Ofgem website.

Appendices

Index

Appendix 1 - Consultation Response and Questions

1.1. Ofgem would like to hear the views of interested parties in relation to any of the issues set out in this document.

1.2. We would especially welcome responses to the specific questions which we have set out at the beginning of each chapter heading and which are replicated below.

1.3. Responses should be received by 31 October and should be sent to:

- Robert Hull
- Director, Transmission
- 9 Millbank
- London, SW1P 3GE
- Tel: 020 7901 7050
- Robert.Hull@ofgem.gov.uk

1.4. Unless marked confidential, all responses will be published by placing them in Ofgem's library and on its website www.ofgem.gov.uk. Respondents may request that their response is kept confidential. Ofgem shall respect this request, subject to any obligations to disclose information, for example, under the Freedom of Information Act 2000 or the Environmental Information Regulations 2004.

1.5. Respondents who wish to have their responses remain confidential should clearly mark the document/s to that effect and include the reasons for confidentiality. It would be helpful if responses could be submitted both electronically and in writing. Respondents are asked to put any confidential material in the appendices to their responses.

1.6. Next steps: Having considered the responses to this consultation, Ofgem intends to issue a further consultation by end of November or early December 2007. Any questions on this document should, in the first instance, be directed to:

- Bogdan Kowalewicz
- Senior Manager, Gas Transmission Policy
- 9 Millbank
- London, SW1P 3GE
- Tel: 020 7901 7293
- Bogdan.Kowalewicz@ofgem.gov.uk

CHAPTER 4: TPCR approach to baseline determination

Question 1: Do you agree with the objectives of the TPCR baseline review?

Question 2: Do you agree with the modelling approach we asked NGG NTS to carry out? If not, why not.

Question 3: One of the main difficulties we faced in the run up to Final Proposals was to account for zonal constraints. Are there any better ways accounting for zonal constraints?

Question 4: Are there any other issues we should have considered in this chapter?

CHAPTER 5: Sensitivity analysis

Question 1: Would you consider any of the alternative approaches for allocating the free increment as discussed in this chapter more or less appropriate than the approach adopted for the TPCR Final Proposals baselines, please given reasons why.

Question 2: We allocated the Caythorpe and Blyborough (Welton) free increments to Hornsea and Theddlethorpe respectively, do you agree with this approach or should these free increments have been allocated in a different way and if so, how and why?

Question 3: NGG NTS presented three principles in order to allocated baseline capacity, namely to (i) allocate in line with physical capability; (ii) constrain not to exceed previous obligated levels; and (iii) broadly commensurate with buyback target. Do you agree with these principles? Please explain why or why not.

Question 4: NGG NTS presented slightly different ways of reallocating entry capacity to different entry points, would you find these approaches more or less appropriate? Please give reasons why.

Question 5: Are there any other considerations which we have not highlighted which we should have taken into account?

CHAPTER 6: Way forward

Reallocating TPCR Final Proposals aggregate baseline capacity

Question 1: Is our approach for allocating the free increment, taking zonal constraints into account appropriate given the premise that baselines need to reflect the physical capability of the system?

Question 2: Are there any other factors that we have not considered which should be assessed in considering an appropriate adjustment to baselines?

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Increasing aggregate baseline capacity

Question 5: If we were to increase the aggregate baselines how could we quantify possible increases in buyback costs and/or capex allowance also given the timescales involved?

Question 6: If we were to increase the aggregate baselines how should we allocate the additional capacity? Which mechanism, if any, should we use?

Question 7: Are there any other considerations which we have not highlighted which should be taken into account if we were to increase aggregate baselines?

Appendix 2 – Approaches to setting baseline levels of entry capacity

Summary

This appendix provides a description of the possible approaches that can be adopted when considering how to set baselines as part of the price control review.

Introduction

6.16. There are at least five main ways to define the level of baseline capacity, including:

- theoretical maximum physical capacity approach (as adopted at the last National Grid Gas price control review);
- practical maximum physical capacity approach (based on flow scenarios);
- the capacity requirements based on assessments of existing and/or future demands on the network as proxied by 1 in 20 demand scenario(s);
- the capacity requirements based on assessments of existing and/or future demands on the network as proxied by auction signals; or
-
- a combination of the third and fourth approach.

6.17. These approaches might be used to set either nodal baseline levels or a zonal or network wide baseline.

6.18. Determination of baselines needs careful consideration from a TO funding perspective to ensure that customers do not pay twice for the same investment and hence it is important that the approach to determining baselines is sufficiently robust.

6.19. The specific characteristics and merits of the five main approaches are discussed in turn below.

Theoretical maximum physical capacity approach

6.20. This approach can be characterised as the maximum amount of gas that can be taken through a particular entry or offtake point by reducing supplies at other nodes in order to balance the network.

Advantages

6.21. The main advantages of this method are that it is the simplest, relatively mechanistic and more objective method compared with the other methods. Also, it results in a comparatively high baseline, which gives shippers a high degree of certainty without any obligation on their part.

Disadvantages

6.22. The problem with this methodology is that the maximum physical capacity at each node is dependent upon the level of flows at other nodes and hence, this approach overstates the level of actual capacity. This could have the following implications:

- combined with a nodal determination of baselines and the wider auction arrangements at gas entry, this approach can lead to baseline capacity remaining unused at certain nodes but not being made available for use at new nodes ie sterilised capacity;
- the higher the baseline, the greater the TO revenue allowance could be expected to be and the smaller the emphasis on the revenue driver; and
- it could also be argued that high baselines create a degree of certainty amongst market participants regarding the availability of capacity and could therefore discourage bidding in the long-term auctions resulting in weaker signals for investment planning purposes.

6.23. One of the key issues with this approach is that baselines will be set at levels which are arguably unrealistically high from an operational point of view. At the 2002-2007 price control, this issue was in part addressed by scaling back. The actual entry baseline for policy purposes (SO baseline) was set at 90% of the theoretical baseline (TO baseline). However, as some of the problems which have emerged since the last price control review indicate, it is difficult and arguably, quite arbitrary, to determine an appropriate scaling factor given that capacity changes by location and over time.

Practical maximum physical capacity approach

6.24. An alternative approach would be to estimate the volume of maximum capacity available at each node on the network, according to a range of plausible flow scenarios whilst taking into account interactions with flows elsewhere on the network. By taking account of such interactions the entry capacity baselines derived would more accurately reflect the physical capability of the network.

6.25. This approach has not been used for setting entry capacity baselines but was considered for setting offtake capacity baselines.

Advantages

6.26. A potential advantage of this approach is that, as interactions with other nodes are taken into account, baselines are set at a more realistic level compared with a theoretical maximum physical approach. As such, issues discussed above in relation to sterilised capacity, the impact upon long term auction signals and the potential need for capacity buy backs would be lesser in scale depending on how accurate the underlying modelling assumptions turn out to be.

6.27. Furthermore, a practical maximum physical approach could form a realistic base case against which to measure incremental investment if the underlying assumptions are sufficiently robust.

Disadvantages

6.28. However, there are a number of disadvantages to this approach. Firstly, available physical network capacity is a dynamic concept. The physical capacity at a certain node depends on a number of factors which are difficult to forecast such as flows at other nodes, the magnitude and distribution of supply and demand, the use of linepack and the installation of new pipelines or compressors within the network and hence will change both during the gas year and from year to year. Therefore if baselines were to be set ex ante for each of the five years of the price control period on a nodal basis, there will be a considerable risk that at least several of these baselines would be fixed at inappropriately high or low levels as the assumptions that were applied will, quite naturally, differ from the out-turn.

6.29. This is especially an issue when baselines are set on a nodal basis. In a situation with declining terminals this approach could still result in inefficiently high baselines (potentially resulting in sterilised capacity) unless the scale and timing of the decline is fully anticipated.

6.30. Secondly, the robustness of this approach is dependent on the scenarios and assumptions which have been used.

6.31. Thirdly, assumptions will have to be made with respect to substitution of supply. For example, this might involve having to convert a demand scenario to a supply scenario. This involves a considerable degree of judgment with respect to who would flow, how much and when. This is especially an issue going forward, with greater uncertainty about gas flows and increased reliance on import terminals, interconnectors and storage sites. Assumptions would have to be made about how demand is to be met, ie through the interconnectors/import terminals and storage sites, who would contribute how much and who would flow when and for how long.

6.32. Fourthly, there may be implementation issues in applying this methodology to entry.

6.33. Finally, any approach which relies on medium to long term forecasts is likely to either overestimate or underestimate actual levels of capacity given the lack of robustness of such forecasts. If the level of physical capacity is underestimated it could result in not all existing capacity being released, which could have distortionary effects on competition. If the level of physical capacity is overestimated it could result in higher buy-back costs, with part of these costs being borne by consumers.

The capacity requirements based on assessments of existing and/or future demands on the network as proxied by 1 in 20 demand scenarios

6.34. It would be possible to set baselines on planning standards, eg 1 in 20 peak day flows. This would involve using 1 in 20 data as, for example, consulted on and published in Transporting Britain's Energy. Either 1 in 20 flows for each node for each of the five years of the price control could be used (resulting in changing baselines on a year by year basis) or data for year 1 only could be used resulting in flat baselines. Alternatively, the average over the five years could be used. Rather than setting nodal baselines, this data could also be used to set a system wide baseline.

Advantages

6.35. A potential advantage of this approach is that baselines are set at a more realistic level compared with a theoretical maximum physical approach.

6.36. The key advantage is that NGG NTS has an obligation to meet 1 in 20 demand and hence it might provide a realistic base case against which to measure incremental investment. The 1 in 20 demand obligation could be characterised as the minimum required to be delivered by NGG NTS.

Disadvantages

6.37. There are a number of problems with this approach. Firstly, available physical network capacity is a dynamic concept. The physical capacity at a certain node depends on flows at other nodes, the magnitude and distribution of supply and demand, the use of linepack and the installation of new pipelines or compressors within the network and hence will change both during the gas year and from year to year. As a result, a fixed baseline at a specific node, even if only fixed for one year, will never truly reflect the actual available physical capacity at all times. Thus if baselines are to be set ex ante for each of the five years of the price control period on a nodal basis, there will be a considerable risk that at least several of these baselines would be fixed at inappropriately high or low levels.

6.38. Secondly, on the entry side, assumptions will have to be made with respect to substitution of supply. For example, this might involve having to convert a 1 in 20 demand scenario to a 1 in 20 supply scenario. This involves a considerable degree of judgment with respect to who would flow, how much and when and hence if Ofgem was to carry this out Ofgem might be accused of picking winners and losers. This is especially an issue going forward, with greater uncertainty about the pattern of gas flows and increased reliance on import terminals, interconnectors and storage sites. Assumptions would have to be made how demand is to be met, ie through the interconnectors/import terminals and storage sites, who would contribute how much and who would flow when and for how long.

6.39. Thirdly, if baselines are to be set on nodal basis, this approach could still result in inefficiently high baselines at declining entry terminals and/or inefficiently high baselines in the event of mothballed plant at offtake, potentially resulting in sterilised capacity.

6.40. Fourthly, if TO revenue allowance is directly linked to baselines, and baselines are set on the 1 in 20 forecast for year 1 of TPCR, this approach might allow National Grid Gas insufficient revenue to meet its 1 in 20 obligation for the full duration of the price control period especially in situations where 1 in 20 demand is expected to increase during the next price control period. However, this might be addressed by including an appropriate revenue driver and/or specific revenue allowance.

6.41. Fifthly, at certain points on the network maximum available capacity might exceed 1 in 20 and hence at these points this approach might underestimate the actual capacity of the network.

6.42. Finally, this approach is very reliant on medium to long-term forecasts, with all the inherent problems attached to forecasts. If the level of physical capacity is underestimated it could result in not all existing capacity being released, which could have distortionary effects on competition. If the level of physical capacity is overestimated it could result in higher buy-back costs, with part of these costs being borne by consumers.

Capacity required to meet existing/future demands on the network as proxied by auction signals

6.43. Another option would be to set baselines to reflect existing/future demands on the network as proxied by auction signals.

6.44. Nodal or system wide baselines could be set to reflect auction signals from both the monthly and long-term auctions. For year 1 of the next price control both monthly and long-term entry capacity auction signals will be available, but from year 2 onwards only long-term auction signals would be available at the time when a price control is set. Alternatively it would be possible to use all auction signals (including on the day) for say year 3 of the current price control.

Advantages

6.45. The advantage of using available auction data for the next price control period (ie forward looking data), is that rather than setting baselines using historical information this approach would determine baselines on a forward looking basis. Arguably, this is more relevant from a network users' perspective as it recognises that demands on the network are dynamic. These approaches would utilise existing market information and arguably reflect what the customers of the network require it to do. Alternatively it would be possible to use historical data. Although it could be argued that actual gas flows are a better measure of existing demand than auction signals, especially if demand is expected to increase during the next few years, actual flows might not be a very good indicator of future demand.

6.46. In both cases, these approaches are transparent and do not involve arbitrary decisions. However, in the second approach (using historical data) some degree of flexibility (slack) is built in. The latter would result in slightly higher baselines (possibly in excess of 1 in 20 at certain parts of the network) given that shippers might buy capacity on the day at zero price to increase their commercial flexibility. In the former approach (using forward looking data, ie auction signals for the next price control period) resulting baselines would be more in line with a tight network assumption and might be below the forecast 1 in 20 demand, especially if only based on long-term auction signals for year 2-5 of the next price control.

Disadvantages

6.47. Current auction signals for the five year price control period would be insufficient to accurately reflect forecast demand. For year 1 of the price control a combination of monthly auction data as well as long-term auction data could be used, but for the remaining years only long-term auction data will be available when setting the baselines. In both cases, the data would underestimate future demand as the data would suggest baselines significantly below 1 in 20. Also, baselines would not be flat but would actually be declining due to increasing sparseness of auction signals in the latter years of the price control. For a number of entry points no auction data would be available which would suggest zero baselines. This would raise a number of implementation issues.

A combination of the capacity required to meet 1 in 20 forecast and existing auction signals to determine baselines

6.48. Another approach for setting baselines would be to use auction data to the maximum extent possible but augment this by 1 in 20 forecast data. For example, using existing auction signals as a starting point for each of the five years of the price control period. If these signals are insufficient to meet the anticipated 1 in 20 demand the auction signals could be scaled up. Scaling up might be based on a judgment about how demand would be met or through using a more mechanical approach to scaling, for example proportional to existing gas flows;

- use the lower of the 1 in 20 demand forecast and auction signals. In most cases, especially for year 2-5 of the price control period this would result in very low baselines given the limited nature of current auction signals. Very low baselines are likely to significantly underestimate both the existing physical capacity of the network as well as the future level of demand for capacity and hence raise implementation issues with respect of the revenue driver; and

- use the higher of the 1 in 20 demand forecast and auction signals. This approach could result in a larger network than necessary to meet 1 in 20 demand if all auction signals are used (eg say auction signals from year 3 of the current price control which includes on-the-day auction bids). Shippers are likely to value a degree of flexibility, though at present it is not clear what shippers would be willing to pay to increase their flexibility given that under the current regime additional entry capacity rights can be purchased at zero or very low price at a significant number of entry points.

Advantages

6.49. Given the shortcomings to the use of planning data, especially over medium to long-term horizons, this approach would ensure best use of all available information by using both auction information and planning data. It could be used to either set entry point specific baselines or a system wide baseline.

6.50. It would also reduce the reliance on forecast data (eg 1 in 20 forecasts) by giving (maximum) weight to auction data and it might provide a reasonable proxy for existing capacity. In addition, it would reduce the buy-back risk faced by National Grid NTS and consumers.

Disadvantages

6.51. However, this approach might underestimate actual physical capacity at declining terminals. Also, if used to set entry point specific baselines by using year 3 data of the current price control or year 1 data of the next price control, it might still result in sterilised capacity at declining terminals. This would not be an issue if a network wide baseline were to be adopted.

6.52. One issue with this approach would be how to use 1 in 20 figures to scale up auction signals. Given that at some entry points there might be no long-term auction signals, proportional scaling might be difficult. Therefore, especially in these cases, this would involve a degree of judgment.

Appendix 3 – The Authority's Powers and Duties

1.1. Ofgem is the Office of Gas and Electricity Markets which supports the Gas and Electricity Markets Authority ("the Authority"), the regulator of the gas and electricity industries in Great Britain. This Appendix summarises the primary powers and duties of the Authority. It is not comprehensive and is not a substitute to reference to the relevant legal instruments (including, but not limited to, those referred to below).

1.2. The Authority's powers and duties are largely provided for in statute, principally the Gas Act 1986, the Electricity Act 1989, the Utilities Act 2000, the Competition Act 1998, the Enterprise Act 2002 and the Energy Act 2004, as well as arising from directly effective European Community legislation. References to the Gas Act and the Electricity Act in this Appendix are to Part 1 of each of those Acts.[6]

1.3. Duties and functions relating to gas are set out in the Gas Act and those relating to electricity are set out in the Electricity Act. This Appendix must be read accordingly[7].

1.4. The Authority's principal objective when carrying out certain of its functions under each of the Gas Act and the Electricity Act is to protect the interests of consumers, present and future, wherever appropriate by promoting effective competition between persons engaged in, or in commercial activities connected with, the shipping, transportation or supply of gas conveyed through pipes, and the generation, transmission, distribution or supply of electricity or the provision or use of electricity interconnectors.

1.5. The Authority must when carrying out those functions have regard to:

- The need to secure that, so far as it is economical to meet them, all reasonable demands in Great Britain for gas conveyed through pipes are met;
- The need to secure that all reasonable demands for electricity are met;
- The need to secure that licence holders are able to finance the activities which are the subject of obligations on them[8]; and
- The interests of individuals who are disabled or chronically sick, of pensionable age, with low incomes, or residing in rural areas.[9]

[6] entitled "Gas Supply" and "Electricity Supply" respectively.
[7] However, in exercising a function under the Electricity Act the Authority may have regard to the interests of consumers in relation to gas conveyed through pipes and vice versa in the case of it exercising a function under the Gas Act.
[8] under the Gas Act and the Utilities Act, in the case of Gas Act functions, or the Electricity Act, the Utilities Act and certain parts of the Energy Act in the case of Electricity Act functions.
[9] The Authority may have regard to other descriptions of consumers.

1.6. Subject to the above, the Authority is required to carry out the functions referred to in the manner which it considers is best calculated to:

- Promote efficiency and economy on the part of those licensed[10] under the relevant Act and the efficient use of gas conveyed through pipes and electricity conveyed by distribution systems or transmission systems;
- Protect the public from dangers arising from the conveyance of gas through pipes or the use of gas conveyed through pipes and from the generation, transmission, distribution or supply of electricity;
- Contribute to the achievement of sustainable development; and
- Secure a diverse and viable long-term energy supply.

1.7. In carrying out the functions referred to, the Authority must also have regard, to:

- The effect on the environment of activities connected with the conveyance of gas through pipes or with the generation, transmission, distribution or supply of electricity;
- The principles under which regulatory activities should be transparent, accountable, proportionate, consistent and targeted only at cases in which action is needed and any other principles that appear to it to represent the best regulatory practice; and
- Certain statutory guidance on social and environmental matters issued by the Secretary of State.

1.8. The Authority has powers under the Competition Act to investigate suspected anti-competitive activity and take action for breaches of the prohibitions in the legislation in respect of the gas and electricity sectors in Great Britain and is a designated National Competition Authority under the EC Modernisation Regulation[11] and therefore part of the European Competition Network. The Authority also has concurrent powers with the Office of Fair Trading in respect of market investigation references to the Competition Commission.

[10] or persons authorised by exemptions to carry on any activity.
[11] Council Regulation (EC) 1/2003

Appendix 4 - Glossary

B

Baseline

Baselines define the reference levels of capacity that the transmission licensee is to release. Baselines also determine the levels above (or below) which incremental capacity is defined.

Baseline Capital Expenditure

Baseline capital expenditure is the total amount of capex required in association with the baseline. It includes both load related capex and non-related capex.

Buy Back

The process of compensating users if NGG NTS are unable to deliver entry capacity, which is sold on a financially firm basis.

C

Capital Expenditure (Capex)

Expenditure on investment in long-lived transmission assets, such as gas pipelines or electricity overhead lines.

F

Free increment

The highest amount of additional capacity that can flow into that zone without investment.

N

National Grid Gas (NGG NTS)

The licensed gas transporter responsible for the gas transmission system, and four of the regional gas distribution companies.

National Transmission System (NTS)

The high pressure gas transmission system in Great Britain.

Q

Quarterly System Entry Capacity (QSEC)

A period of time for which NGG NTS entry capacity can be purchased. Entry capacity is sold forward via Quarterly System Entry Capacity Auctions which offer capacity at each aggregate system entry point.

S

System Operator (SO)

The system operator has responsibility to construct, maintain and operate the NTS and associated equipment in an economic, efficient and co-ordinated manner. In its role as SO, NGG NTS is responsible for ensuring the day-to-day operation of the transmission system.

T

Transmission Owners (TO)

Companies which hold transmission owner licenses. NGG NTS is the gas TO.

Transmission Price Control Review (TPCR)

The TPCR will establish the price controls for the transmission licensees which will take effect in April 2007 for a 5-year period. The review applies to the three electricity transmission licensees, NGET, SPTL, SHETL and to the licensed gas transporter responsible for the gas transmission system, NGG NTS

U

Unit Cost Allowance (UCA)

A parameter of the current revenue restriction for NGG NTS. A UCA is set for each entry point, and is intended to reflect the cost of providing additional capacity at that point on the network. The actual additional revenue entitlement for NGG NTS if it releases such additional capacity at a particular entry point is a function of the UCA for that entry point. NGG NTS also uses the UCAs as reserve prices in its auctions of entry capacity.

Uniform Network Code (UNC)

As of 1 May 2005, the UNC replaced NGG NTS's network code as the contractual framework for the NTS, GDNs and system users.

Appendix 4 - Feedback Questionnaire

1.1. Ofgem considers that consultation is at the heart of good policy development. We are keen to consider any comments or complaints about the manner in which this consultation has been conducted. In any case we would be keen to get your answers to the following questions:

- Do you have any comments about the overall process, which was adopted for this consultation?
- Do you have any comments about the overall tone and content of the report?
- Was the report easy to read and understand, could it have been better written?
- To what extent did the report's conclusions provide a balanced view?
- To what extent did the report make reasoned recommendations for improvement?
- Please add any further comments?

1.2. Please send your comments to:

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