

National Grid Gas - Offtake Arrangements Final Impact Assessment on modification proposals

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Overview:

This document provides our views on the potential impact of a series of UNC modification proposals relating to the reform of offtake arrangements for the National Grid Gas National Transmission System business. The proposals, to varying extents, will alter the market rules governing how parties signal their demands for, and secure offtake capacity. The modification proposals are due to be assessed by the Authority in March 2007 and this document is intended to assist the Authority in reaching its decision.

The document builds on our impact assessment of enduring offtake reform published in June 2006. Responses to this impact assessment and the consultations on the modification proposals will also inform the Authority's decision on whether to approve any of the proposals. We welcome views on the analysis presented in this document.

Contact name and details: Mark Feather, Associate Director, Ofgem

Tel: 020 7901 7437

Email: mark.feather@ofgem.gov.uk

Team: Transmission Directorate

Context

Gas is taken directly from the National Transmission System (NTS) by the gas distribution businesses and by a number (approximately 60) of large customers, known as transmission connected customers (TCCs). The majority of TCCs are gas-fired generators. All other users of pipeline gas receive their gas from the distribution networks (GDNs).

Reform of NTS offtake arrangements was originally envisaged to occur in conjunction with the GDN sales process which was completed in June 2005. This process involved the sale by National Grid Gas (NGG) of four of its GDNs to independent parties. The Authority approved the sale in January 2005 following extensive consultation with industry participants. Prior to this sale, NGG operated a fully integrated pipeline business including both the high pressure transmission network and the low pressure gas distribution networks. One of the key challenges associated with the sale process was the creation of formal operational and commercial arrangements at the new interface between NGG NTS as the owner of the transmission network and the owners of the GDNs.

Following extensive industry consultation, NGG NTS raised a proposal to modify the Uniform Network Code (UNC). This is known as modification proposal 0116V, 'Reform of NTS Offtake arrangements'. Subsequently, industry participants have proposed a number of variants and alternatives to the NGG NTS proposal. The Authority intends to reach a decision on the modification proposals in March 2007.

Associated Documents

- TPCR 2007-2012 Draft licence conditions – Draft licence conditions (gas) - second informal consultation, January 2007 (Ref No. 16/07)
- TPCR 2007-2012 Final Proposals, December 2006 (Ref no. 206/06)
- TPCR 2007-2012 Final Proposals - Appendices, December 2006 (Ref No. 206/06b)
- NTS gas offtake: Proposals for licence modification drafting, October 2006 (Ref No. 118/06)
- 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)
- TPCR 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 Second Consultation, December 2005 (Ref No. 277/05)
- TPCR Initial Consultation, July 2005 (Ref No. 172/05)

Copies of the responses to the Ofgem consultation documents can also be found on the Ofgem website (www.ofgem.gov.uk).

Table of Contents

Summary	1
1. Introduction	3
Introduction	3
Structure of this document	5
2. Background	6
Background	6
Overview of transitional offtake arrangements	7
Gas Distribution Networks	7
Transmission Connected Customers (TCCs)	8
TCC shippers	8
GDN shippers	8
Overview of the proposed modifications	8
UNC Modification proposal 0116V	8
NTS Exit Flat Capacity	9
NTS Exit flexibility capacity	10
Alternative modification proposals	10
Modification proposal 0116A – E.ON	11
Modification proposal 0116BV - RWE	11
Modification proposal 0116CVV – BGT	11
Modification proposal 0116VD – SGN	12
Processes associated with the offtake modifications	12
Legal framework for the decisions	13
Applicable Objectives of the Uniform Network Code	13
The Authority's wider duties	13
Principal objective	14
3. Quantitative analysis of benefits and costs	15
Overview	15
Analysis of benefits	17
Efficient NTS investment signals	17
June IA	17
Gas Forum report	17
Ofgem's current view	18
Non-discriminatory allocation of capacity products	20
The June IA	20
Gas Forum report	21
Ofgem's current view	21
Reduced Incidence of ARCAs	23
The June IA	23
Respondents' views	23
Ofgem's current view	23
Overview of results of benefits analysis	24
Sensitivities of the benefits analysis	25
Analysis of costs	25
Shipper costs	26
The June IA	26

Gas Forum Report	26
Ofgem's current view	27
Cost to Transmission Connected Customers & storage sites	30
The June IA	30
Gas Forum Report	30
Ofgem's current views	30
Cost to gas transporters and their Agency	32
The June IA	32
Gas Forum Report	32
Ofgem's current view	32
Industry participants and customers in other jurisdictions	34
The June IA	34
Gas Forum report	34
Ofgem's current view	34
Summary of cost analysis	35
Overall outcome of quantitative benefits and costs analysis	36
4. Qualitative analysis of benefits and costs	37
Overview of qualitative benefits and costs	37
Efficient network development and system operation	37
The June IA	37
Ofgem's current view	37
Promotion of competition	38
The June IA	38
Ofgem's current view	38
Appropriate allocation of risk	39
The June IA	39
Ofgem's current view	39
Simplicity and Transparency	40
The June IA	40
Ofgem's current view	40
Ensuring security of supply	41
The June IA	41
Ofgem's current view	41
Preventing undue discrimination	42
The June IA	42
Ofgem's current view	42
Firm and interruptible sites	42
Classes of users	43
NGG retained GDNs and independent GDNs	44
Distributional impacts	45
Impact on small businesses	45
Environmental & social objectives	45
Health and safety	46
Risks and unintended consequences	46
Appendices	47
Appendix 1 - Consultation Response and Questions	48
Appendix 2 – The Authority's Powers and Duties	50
Appendix 3 - Glossary	52
Appendix 4 - Feedback Questionnaire	54

Summary

This document sets out for consultation Ofgem's Impact Assessment (IA) on a series of UNC modification proposals relating to the reform of the framework under which shippers and GDNs obtain access to offtake capacity on NGG's NTS. These proposals have recently been consulted upon through UNC modification processes and are now with the Authority for decision in March 2007. This IA is intended to inform the Authority's assessment of the proposals.

The modification proposals that are considered in this IA are NGG NTS's proposal 0116V, 'Reform of the NTS Offtake Arrangements' as well as a series of alternative proposals which take the NGG NTS as their basis but seek to vary it. These alternative or variant proposals are 0116BV, 0116CVV and 0116VD. In order to assess the costs and benefits of these proposals, we have compared each of them against the baseline of modification proposal 0116A which represents a continuation of the existing offtake arrangements. In summary, the proposals that have been raised provide for:

- increased levels of financial commitment for all NTS users (both new and existing) seeking to obtain access to NTS exit flat capacity with existing holders of capacity being granted prevailing rights. The flat capacity arrangements also provide for medium and short term auctions of NTS exit flat capacity in order to ration capacity where there is insufficient available.
- the introduction of new network interruption arrangements with interruption being managed by NGG NTS through long term contracting and the sale of a day ahead interruptible product.
- the release of NTS flexibility capacity rights to GDNs and shippers through annual auctions up to five years in advance. It is noted that this aspect of the proposals is not incorporated within modification 0116CVV.

Assessment of the proposals

In assessing the impact of the proposals we have undertaken a quantitative and qualitative cost and benefit analysis. Our analysis suggests that there are significant potential benefits to customers from the reform proposals. It is important to note that there are considerable uncertainties associated with measuring these benefits. By contrast the costs of reform are more directly measurable. It is therefore important not to give undue weight to the quantitative analysis in this document. We have summarised the potential benefits of reform as follows:

- The introduction of a framework under which all classes of users provide longer term firm financially backed user commitments should **improve the investment signals** received by NGG NTS to inform its investment processes. Improved signals should bring about **more efficient NTS investment** and reduce the risk that NGG NTS undertakes capital expenditure that becomes stranded with the generality of customers bearing the costs. We estimate the benefits of efficient investment as approximately £42m per annum.

- The proposals should **reduce the potential for discrimination** under the current offtake arrangements. Reforms to the NTS interruption arrangements should reduce the potential for discrimination between firm and interruptible customers. Modification proposals 0116V, 0116BV and 0116VD should also reduce the potential for discrimination as between GDNs and shippers by establishing equivalent access arrangements for NTS flexibility rights.
- Establishing transparent and non-discriminatory allocation processes should reduce the risk that NGG's retained GDNs are treated more favourably than independently owned GDNs networks. We estimated these benefits as being approximately £20m per annum for 0116V, 0116BV and 0116VD.¹
- We consider that the proposals **should promote competition** in a number of areas including in the provision of interruptible services to NGG NTS and in the case of 0116V, 0116BV and 0116VD, the introduction of the flexibility product should promote competition between parties seeking to access this product.
- We consider that the introduction of a clear and transparent offtake capacity framework **should reduce the likely incidence of disputes** arising over the terms of Advanced Reservation of Capacity Agreements (ARCA's). We have estimated this benefit as approximately £10m per annum.

It is important to note that the introduction of the proposed reforms is likely to create complexities and transactional costs. We set out below these potential costs based on the cost survey information we have received. This data has been incorporated on an uncritical basis and we consider that it could potentially represent a significant over estimate of the true costs to customers.

Summary of estimated costs

(£m, 05/06)	0116V	0116A	0116BV	0116CVV	0116VD
Total cost	64.1	0	59.6	15.0	58.1

Our overall quantitative assessment of the proposals indicates that for the proposals presented (other than 0116A) there are likely to be net benefits. To further inform consideration of the proposals we have also set out below a summary of the net benefits using the lowest four cost submissions from shippers. This approach assumes that in a competitive market only the costs of the most efficient shippers will be passed through to customers.

Summary of quantitative analysis

£m, 05/06	0116V	0116A	0116BV	0116CVV	0116VD
Net benefits	8.3	0	12.8	47.2	14.3
Net benefits-4 lowest cost shippers	28.5	0	32.5	53.0	34.5

¹ These benefits are reduced to approximately £10m per annum for 0116CVV.

1. Introduction

Chapter Summary

This chapter sets out the background to this document and the legal framework against which the document is developed. It also sets out a summary of the chapter structure of the document.

Question box

There are no questions in this chapter.

Introduction

1.1. This document builds on Ofgem's June impact assessment² associated with the introduction of the enduring offtake arrangements from 1 October 2010.

1.2. Since the June impact assessment was undertaken a modification proposal to the Uniform Network Code (UNC) has been raised which seeks to introduce the enduring offtake arrangements. The proposal, together with a number of alternative proposals, has recently been consulted upon through UNC modification processes. The proposals are now with the Gas and Electricity Markets Authority (the Authority) for decision.

1.3. Section 5A of the Utilities Act 2000 imposes a duty on the Authority to undertake impact assessments in certain cases. This duty arises in the case of modification proposals where the proposal is important (unless the urgency of the matter makes it impracticable or inappropriate). It is our view that the decision on the enduring offtake modification proposals outlined below is important for the purposes of Section 5A. As such, this Impact Assessment is being prepared in response to our statutory duties and is intended to help inform the Authority's decision.

1.4. The document considers the potential costs and benefits of these proposals from both a quantitative and qualitative perspective. The Impact Assessment compares the potential costs and benefits of the enduring offtake modification proposals to the status quo of continuing with the 'transitional arrangements' from 1 July 2010.

1.5. The introduction of the enduring offtake arrangements is provided for in a number of alternative modification proposals, namely:

² Transmission Price Control Review: Initial Proposals, Appendix 17 - Draft Enduring offtake impact assessment, Ofgem, June 2006

- 0116V - Reform of NTS Offtake Arrangements - raised by National Grid Gas's National Transmission System (NGG NTS) business
- 0116BV - Reform of NTS Offtake Arrangements - raised by RWE npower (RWE);
- 0116CVV - Reform of NTS Offtake Arrangements - raised by British Gas Trading (BGT); and
- 0116VD - Reform of NTS Offtake Arrangements - raised by Scotia Gas Networks plc (SGN).

1.6. The continuation of the transitional offtake arrangements, against which the other proposals are compared in this document, is represented by Modification proposal 0116A, Reform of the NTS Offtake Arrangements, raised by E.ON UK plc.

1.7. In order to inform the analysis contained in this Impact Assessment, we have gathered further quantitative information on the costs of implementing the enduring offtake arrangements. This information has been gathered from gas shippers, transporters, transmission connected customers and other interested parties in response to a cost survey issued by Ofgem on 13 November 2006.³

1.8. In addition, since Ofgem issued the cost survey, the Gas Forum has commissioned a report from NERA ('the Gas Forum report') on the implications of the proposed enduring offtake arrangements. This report was released on 7 December 2006 and includes NERA's own cost and benefit analysis.⁴

1.9. It should be noted that this document is not intended to represent the Authority's decision on the modification proposals that have been raised. Instead, the document and the responses received are intended to inform the Authority's decision making process which is described below in Chapter 2. Further, this document is not intended to comment in detail on the conclusions of the Gas Forum report. Instead, the Authority will consider the points raised in this report in its decision letter on the modification proposals.

1.10. However, this Impact Assessment does consider those elements of the Gas Forum report which consider the cost and benefit analysis contained in Ofgem's June Impact Assessment.

1.11. Nothing in this impact assessment can fetter the discretion of the Authority with respect to its decision on the modification proposals that have been raised.

1.12. Further details on how to respond to the issues raised in this document and the questions set out are contained in Appendix 1.

³ 'Pro-forma questionnaire on the cost impacts of enduring gas offtake reform and incentives', Ofgem open letter, 13 November 2006.

⁴ 'Reform of NTS Gas Offtake Arrangements - Report for the Gas Forum', NERA Economic Consulting, December, 2006.

Structure of this document

1.13. The remainder of this document is structured as follows:

- Chapter 2 provides background to the modification proposals and transitional offtake arrangements.
- Chapter 3 provides an analysis of the potential quantitative benefits and costs that may be expected to be associated with implementation of any of the proposals.
- Chapter 4 analyses the potential qualitative benefits and costs likely to result from implementation of the modification proposals.
- Chapter 5 sets out views invited and the way forward.

2. Background

Chapter Summary

This chapter provides background to the modification proposals and the existing arrangements for securing offtake capacity.

Question box

1. Do you have any comments on the process associated with the modification proposals that have been raised?

Background

2.1. National Grid Gas National Transmission System (NGG NTS) is the owner and operator of the high pressure gas pipeline system in the UK. Gas is taken directly from the NTS by the gas distribution businesses and by a number (circa 60) of large customers, known as transmission connected customers (TCCs). Prior to the Gas Distribution Network Sales (GDN Sales) process, National Grid Gas also owned the low pressure gas distribution networks and operated a fully integrated pipeline business.

2.2. The GDN sales process involved the sale by NGG of four of its GDNs to independent parties. The Authority approved the sale in January 2005 following extensive consultation with industry participants. One of the key policy challenges associated with the sale process was the creation of formal operational and commercial arrangements at the new interface between NGG NTS as the owner of the transmission network and the owners of the DNs.

2.3. The creation of formalised arrangements to govern the interface between the two types of networks was considered to be necessary for several reasons. These included:

- Ensuring that investment across the interface was optimised. This was widely recognised as important because, to varying extents, investment on the high pressure network can offset investment on the local DN and vice versa. Whilst a single integrated network owner would optimise its investment strategy across both networks, with multiple owners arrangements are needed to indicate to the DNs the relative costs of using the transmission network capabilities compared to investing in their own networks.
- Establishing a user commitment framework under which NGG NTS would obtain financially backed investment signals from DNs and from shippers acting on behalf of TCCs through purchases of offtake rights. This would be expected to improve the efficiency of NGG NTS investment decisions.

- Introducing non-discriminatory access arrangements to ensure that, amongst other things, NGG NTS is not biased in its allocation of the NTS's capabilities in favour of its retained DN businesses. In addition, non-discriminatory arrangements were necessary to ensure that the DNs supplying gas to their customers, and shippers supplying gas to large customers connected to the NTS have equal opportunities to compete for and obtain access to NTS offtake capacity following the DN sales process.

2.4. When the Authority gave its consent to DN sales in January 2005, it included the introduction of the proposed NTS offtake arrangements from September 2005 as a condition of its consent.

Overview of transitional offtake arrangements

2.5. In June 2005, the Authority concluded that it would be appropriate to delay the introduction of enduring offtake arrangements to allow for further consultation and to allow the new arrangements to be developed in parallel with the Transmission Price Control Review (TPCR). This delay to the introduction of the NTS offtake arrangements also necessitated the creation of a transitional regulatory framework, known as the 'transitional offtake arrangements', which was introduced in January 2006 following various licence modifications and acceptance of UNC modification proposals.

2.6. The transitional arrangements are the arrangements and associated incentives currently in place in relation to capacity released between 1 October 2008 and 30 September 2010. The transitional arrangements affect NTS users differently. The arrangements facing each party are described at a high level below.

Gas Distribution Networks

2.7. GDNs signal their demands for NTS exit capacity through the purchase of two separate products. Flat NTS exit capacity gives the holder the right to offtake a volume of gas during the day at an even rate across the gas day. If the GDN wants to vary its offtake from this level, it is able to purchase NTS exit flexibility capacity, which gives the holder the right to offtake gas from the NTS according to a profile that varies across the day.

2.8. Under the transitional arrangements, GDNs are required to make requests during June/ July each year for both revisions to existing capacity and increments of new capacity in annual tranches until the start of the start of gas year 2010/11.

2.9. Where a GDN has sought incremental capacity and the request is judged by NGG NTS to trigger additional investment, GDNs must enter into an Advance Reservation of Capacity Agreement (ARCA) with NGG NTS. The ARCA is negotiated bilaterally (with Ofgem determining on any disputes) and is designed to protect NGG NTS, and ultimately customers, from the risk that investment is undertaken unnecessarily and becomes stranded. This also provides the GDN with certainty over when capacity will be delivered.

Transmission Connected Customers (TCCs)

2.10. TCCs are also required to enter into an ARCA with NGG NTS if they wish to reserve incremental exit capacity, where this requires NTS investment.

TCC shippers

2.11. Under the transitional arrangements, TCC shippers purchase a bundled "NTS exit capacity" product on behalf of their customers. Capacity is automatically allocated in respect of NTS daily metered (DM) supply points on a monthly basis, based on the shipper's prevailing Supply Point Capacity (i.e. this is on an "evergreen" basis with no renewal process required). Capacity booking processes for NTS connected system exit points (CSEPs), including interconnectors, is on a 12 monthly rolling basis, with proactive renewal of existing capacity required.

2.12. Where TCC shippers wish to reserve incremental capacity that requires additional investment, they must enter into an ARCA with NGG NTS.

2.13. TCC shippers may also elect to nominate a supply point as having NTS interruptible status. Sites that are nominated by shippers as interruptible can be interrupted for up to 45 days a year. In turn, interruptible sites receive a 100 per cent discount on exit capacity charges.

GDN shippers

2.14. GDN shippers purchase and pay for rights to use the GDNs and the NTS separately. As part of the DN sales process, it was proposed that GDNs would pay the NTS directly for transmission exit capacity and subsequently recover these costs through GDN shippers. This is known as the "Option 2A" payment flows model. It was originally intended that this model take effect from 1 October 2008 for the transitional offtake period. However, as part of the TPCR process we concluded that it was appropriate to delay the implementation of the model until 1 October 2010 to coincide with the proposed introduction of the enduring offtake arrangements. This was to allow any changes to charging systems to be coordinated and managed efficiently.

Overview of the proposed modifications

UNC Modification proposal 0116V

2.15. On 13 September 2006 National Grid Gas National Transmission System (NGG NTS) raised a proposed modification to the UNC to implement enduring offtake arrangements from July 2007. This modification proposal was subsequently varied and re-raised in November 2006.

2.16. The modification proposal – UNC modification proposal 0116V ‘Reform of NTS offtake arrangements’ - envisages that the first capacity booking window where users are able to book their requirements for capacity from 1 October 2010 onwards will be held in July 2007.

2.17. The proposer of the modification considers that it will allow all users of the network, including the newly independent gas distribution networks, non-discriminatory access to the NTS. In its modification proposal NGG NTS outlines the release of two separate NTS exit capacity products from 1 October 2010, namely:

- An NTS flat capacity product. This product effectively provides users with the right to flow up to a maximum level (a maximum daily quantity) at a flat rate across the gas day; and
- an NTS flexibility capacity product. As explained above, this product allows users to vary their offtakes from the NTS throughout the gas day and is likely to be purchased by DNs with a diurnal flow profile as well as gas fired generators participating in the wholesale electricity market.

NTS Exit Flat Capacity

2.18. The main characteristics of the NGG NTS proposed modification for NTS exit flat capacity are:

- Long term allocation of existing flat capacity: existing flat capacity made available at regulated prices with existing users assumed to have “prevailing rights” for such capacity. Under these proposals, existing holders of capacity that wish to continue using their rights are required to give 14 months notice should they wish to reduce these requirements. As such, a greater level of user commitment is required compared with the one month’s notice that is required under the transitional offtake arrangements;
- Long term allocation of incremental flat capacity: incremental flat capacity (i.e. in excess of a users prevailing rights) made available at regulated prices on a non-discriminatory basis between all classes of network users with requests submitted consistent with investment planning timescales. Under the NGG proposals, users will be required to financially commit to purchasing capacity rights for a four year period in order to trigger the release of incremental capacity. NGG NTS’s proposals also allow users to purchase incremental rights beyond four years.
- Medium / short term capacity allocation: allocation mechanisms that provide for the efficient allocation, through pay as bid auctions, of flat capacity in the event that the supply of such products is insufficient to meet demand for such products in the medium / short term. Under the proposals capacity is offered for sale on a nodal or supply point basis (as opposed to a zonal basis);
- Interruption arrangements: interruption of flat capacity being managed by NGG NTS through the sale of a day-ahead use it or lose it (UIOLI) interruptible product and through the long term buy back contracting for the interruption of firm offtake rights. It is envisaged that the NGG NTS will only enter into long term contracts for interruption at NTS exit points to the extent that it is unable to

physically guarantee the delivery of firm capacity at those points. As such, the current framework whereby TCC shippers can nominate themselves as interruptible and receive a full discount to the NTS exit capacity charges will no longer apply;

- Over-run charges: Overrun charges apply to the extent that shippers flow gas without having secured sufficient capacity rights. Overrun charges are only triggered if the aggregate end of day flow of all users at an exit point exceeds the aggregate end of day flat capacity held by all users at the exit point.
- Trading: shippers and DNs are able to trade capacity at a node. However, no proposals exist for inter-nodal trading, although DNs are able to request from the NTS the ability to substitute capacity between nodes for operational reasons where this is possible.

NTS Exit flexibility capacity

2.19. The main characteristics of the NGG NTS proposed modification for NTS exit flexibility capacity are:

- Long term allocation of new flexibility capacity: Under the NGG proposal, a firm NTS exit flexibility capacity product will be made available in annual bundles of daily rights on a national basis. Under its proposals, NGG NTS will offer for sale a baseline level of flexibility capacity through annual pay as bid auctions occurring in July of each year. Under this process, shippers and DNs will be able to procure annual NTS exit flexibility capacity rights for up to five years in advance. Whilst the auction is a national auction, the release of flexibility capacity to the parties that value it the most is subject to a national, zonal and area maxima determined by NGG NTS.
- Short term capacity allocation: In addition to the long term auctions, NGG NTS is also proposing to offer for sale flexibility capacity in daily auctions. However, these auctions will only be triggered if a constraint emerges on the gas day. In the absence of a constraint (i.e. where there is sufficient capacity available), shippers and GDNs will be able to secure flexibility capacity through existing Offtake Profile Notification (OPN) processes.
- Flexibility capacity over-runs: As with flat capacity, overrun charges are applied to those shippers and DNs who have used flexibility capacity but have failed to purchase sufficient volumes of the product. These charges only apply where there is an aggregate over-run within a zone.
- Flexibility trading/ transfers: NGG NTS has proposed that a user will be able to transfer and trade flexibility capacity across zones (subject to the zonal and regional maxima referred to above).

Alternative modification proposals

2.20. Four alternative modification proposals have been raised to modification proposal 0116.

Modification proposal 0116A – E.ON

2.21. On 19 September 2006, E.ON raised an alternate modification to the NGG NTS modification, namely modification proposal 0116A. This proposal provides for the transitional offtake arrangements to be extended beyond their current expiry date of 30 September 2010 and therefore seeks to remove the 'sunset' clause on these arrangements from the UNC.

Modification proposal 0116BV - RWE

2.22. The RWE alternative modification proposal 0116BV, 'Reform of NTS offtake arrangements' takes the NGG NTS proposal as its basis but amends particular aspects of that proposal. In particular, the modification, amongst other things:

- increases the tolerance associated with the flexibility product to increase the amount of allowed utilisation of flexibility before overrun charges would be incurred;
- provides that overrun charges are only payable in respect of flexibility rights on days when there are constraints in the release of flexibility;
- provides the ability for users to signal their requirements for incremental flat capacity rights outside of the annual booking window each July;
- provides for sites that are commissioned after 1 July 2007 and before 1 October 2010 to secure firm prevailing flat capacity rights; and
- provides for NGG NTS to release more information regarding the operation of the flexibility arrangements including forecast and actual utilisation of flexibility capacity and flexibility overrun quantities.

Modification proposal 0116CVV – BGT

2.23. This proposal, which was raised by BGT, takes the NGG NTS modification as its basis but proposes the removal of the requirement on users to apply for the flexibility capacity product beyond that already existing in the UNC.

2.24. As such, under this proposal, DNs would continue to acquire flexibility capacity but the release of the product would not be extended to shippers representing NTS direct connects. Instead, NGG NTS would be required to introduce a regime of monitoring and publishing flexibility capacity utilisation going forward. In the event that NGG NTS was unable to deliver flexibility capacity on the gas day then NGG NTS would have the ability to reject nominations that are not consistent with holdings of flexibility capacity.

2.25. In its proposal BGT cite a number of reasons underlying the removal of the flexibility product, including:

- NGG NTS's proposals do not recognise non-coincidence in flex demands from users and will lead to an artificial scarcity in the level of flexibility;

- NGG NTS has underestimated the amount of flexibility for release, due to difficulties associated with forecasting availability more than a day in advance of usage;
- costs and complexity of the arrangements;
- increased risks being passed to users; and
- negative impact on wholesale electricity market.

2.26. The BGT proposal also adopts a number of the changes suggested in the RWE Trading proposal including the release of information relating to forecast and actual use of flexibility close to the gas day and providing users with the ability to signal requirements for incremental flat capacity outside of the annual July application window.

Modification proposal 0116VD – SGN

2.27. This proposal, which has been raised by SGN, also takes the NGG NTS modification proposal as its basis with certain variations. These include:

- the expansion of the flex tolerance from 1.5 per cent to 3 per cent.
- notification of prevailing rights by 1 May 2007 (rather than July) – under the proposal the annual capacity applications would occur in July as proposed by NGG NTS;
- allowing the deadline for notification of transfers of flex capacity between zones to be extended from 12:00 to 14:00 ahead of the gas day;
- changes in the NGG NTS liability provisions for where it has failed to make gas available for offtake
- bringing forward the date against which offtake pressure requests are submitted by DNs to NGG NTS and subsequently confirmed by the NTS.

Processes associated with the offtake modifications

2.28. As outlined above, NGG NTS raised its original proposal to reform the NTS offtake arrangements in September 2006. Following discussion of the proposal with market participants, it was subsequently varied under the UNC modification rules at the request of NGG NTS. As a consequence of this variation, the original NGG NTS proposal was withdrawn and replaced by modification proposal 0116V. Further, modification proposal 0116B and 0116C were also deemed withdrawn by the UNC modification panel and re-raised as modification proposals 0116BV and 0116CV.

2.29. Ofgem understands that the variation of the original NGG NTS modification proposal and the consequences of this variation for the status of the alternative proposals in place at the time (0116A, 0116B and 0116C) were discussed in detail by the joint office and the UNC modification panel. We are not aware of any reason why we should not treat all of the proposals that have been submitted to the Authority for decision on the offtake arrangements as valid proposals. However, if any parties have any concerns either with any aspect of the process

associated with these proposals or with their validity, we would ask that these concerns be raised with us in response to this Impact Assessment.

Legal framework for the decisions

2.30. In the following section we set out the legal framework in which the Authority will be required to decide on the modification proposals that have been raised.

Applicable Objectives of the Uniform Network Code

2.31. The assessment of proposals to modify the UNC is governed by Standard Special Condition A11 of the National Grid Gas (NGG) National Transmission System (NTS) Gas Transporter licence. Under standard special condition A11, modifications to the UNC can only be made with the consent of the Authority. The test applied by the Authority in assessing a UNC modification proposal is whether the proposal will better facilitate, consistent with the licensee's duties under section 9 of the Gas Act, the achievement of the relevant objectives of the UNC. These objectives are set out in paragraph 1 of Standard Special Condition A11 and are as follows:

- The efficient and economic operation of the pipeline system to which the NGG NTS licence relates;
- So far as is consistent with sub-paragraph (a), the coordinated, efficient and economic operation of (i) the combined pipe-line system, and/or (ii) the pipe-line system of one of more other relevant gas transporters;
- So far as is consistent with sub-paragraphs (a) and (b), the efficient discharge of the licensee's obligations under the licence;
- So far as is consistent with sub-paragraphs (a) to (c), the securing of effective competition:
 - Between relevant shippers;
 - Between relevant suppliers; and/or
 - Between DN operators (who have entered into transportation arrangements with other relevant transporters) and relevant shippers.

2.32. Modification proposals are also assessed in the context of section 9 of the Gas Act. This requires NGG to develop and maintain an efficient and economical pipe-line system for the conveyance of gas. Section 9 also requires NGG to avoid any undue preferences or undue discrimination in connections or the terms under which it undertakes the conveyance of gas through its system.

The Authority's wider duties

2.33. Following an assessment of a proposal against the relevant objectives, the Authority must consider whether it is compliant with its wider statutory duties, including those arising under European law.

Principal objective

2.34. The final stage of the assessment process is to determine which of the options available to the Authority is best calculated to further the Authority's principal objective of protecting the interests of consumers, both present and future, wherever appropriate through the promotion of effective competition.

3. Quantitative analysis of benefits and costs

Chapter Summary

This section details our quantitative analysis of the benefits and the associated costs likely to result from implementation of the different variants and alternatives of the modification proposals.

Question box

We would welcome views on the analysis presented in this chapter.

Overview

3.1. In our June IA, our base case estimate of the total potential benefits to customers associated with the implementation of proposals for enduring offtake arrangements, relative to the transitional offtake arrangements, was £68.5m in present value terms. We also estimated base case costs of £22.5m, resulting in an estimate of the net benefits to customers of £45.9m.

3.2. Since the June IA the details of the proposed modifications have been developed substantially. This has allowed further clarification on the level of the potential costs that are likely to be incurred by customers were any of the proposed modifications to be implemented. Similarly, it has allowed Ofgem to consider the assumptions it made in its analysis of the costs and benefits presented in June. We have also received the Gas Forum report which includes a quantitative assessment of the costs and benefits of the proposals.

3.3. As a result of this additional data and analysis we have undertaken a further assessment of the costs and benefits of modification proposals 0116V, 0116BV, 0116CVV and 0116VD against the baseline of alternative modification proposal 0116A which provides for the continuation of the transitional offtake arrangements. This analysis is set out below.

3.4. In presenting the costs and benefits data in this chapter, Ofgem considers that it is important to emphasise the role of this analysis in informing the Authority's forthcoming decisions on the modification proposals. In particular, we consider that the proposed reform of the NTS offtake arrangements represents an area where there are considerable uncertainties associated with quantifying both the costs and the benefits associated with the various modification proposals. For example, the potential benefits of non-discrimination, competition and by implication well functioning markets are, for practical purposes, diffuse and difficult to calculate. By contrast, the transaction costs of markets including the

implementation of costs of the reforms considered in this document are more direct and measurable.

3.5. Given these uncertainties, it is important to have due regard to the risks of giving undue weight to those factors in the analysis which are measurable. Further, it is also important to have due regard to the requirement to take account of the less measurable impacts of the proposed arrangements set out in both Chapters 3 and 4. We refer to these as qualitative effects. The categorisation of effects as "qualitative" implies only that they are difficult to quantify in practice and not that they are fundamentally different in nature or less important than quantitative effects. We noted in our June 2005 guidance on impact assessments⁵ that qualitative assessments should not be given any reduced degree of importance in impact assessments. Further, the June 2005 guidance document makes clear that where there are uncertainties regarding the quantification of benefits it is important to comment upon the robustness of the assumptions set out in the IA.

3.6. We have therefore taken account of these uncertainties, wherever relevant, throughout this chapter and we consider that they will be a highly relevant consideration for the Authority when it comes to make its decisions on the modification proposals. In particular, the uncertainties necessarily condition the inferences that can safely be made from available, quantitative evidence.

3.7. A summary of the results of our quantitative assessment are presented in Table 3.1 below.

Table 3.1: Summary of benefits and costs for implementing UNC modification proposals 0116V and its variants

NPV (£m, 05/06)	0116V	0116A	0116BV	0116CVV	0116VD
Benefits	72.4	0	72.4	62.2	72.4
Costs	64.1	0	59.6	15.0	58.1
Net benefits	8.3	0	12.8	47.2	14.3

3.8. In estimating the present value (PV) of benefits and costs to customers of the current proposals for enduring offtake reform, a (pre-tax) discount rate of 6.25 per cent has been applied over the period from formula year 2006/7 up to and including formula year 2026/27 (i.e. the third complete price control period following implementation of enduring reform). This rate is consistent with that established in our recent Transmission Price Control Review Final Proposals⁶. In evaluating both present value benefits and costs, we have also applied the social discount rate of 3.5 per cent, recommended in the HM Treasury Green Book⁷.

⁵ 'Guidance on impact assessments', Revised Guidance, Ofgem, June 2005

⁶ "Transmission Price Control Review: Final Proposals", Ofgem ref 2006/06, 4 December 2006

⁷ <http://greenbook.treasury.gov.uk/chapter05.htm#discounting>

Analysis of benefits

3.9. In the June IA, we identified and quantified benefits arising from three broad areas as a result of the potential implementation of the enduring offtake regime. These three types of benefits arose from:

- more efficient NTS investment signals;
- non-discrimination allocation of capacity products; and
- a reduced incidence of ARCAs.

3.10. For each type of potential benefit, we set out:

- the conclusion reached in our June IA with regards each of the identified benefits;
- views expressed in the Gas Forum report; and
- our current view on the likely benefits of each modification proposal. In setting out our view on the quantitative benefits, we have also commented on some of the qualitative benefits of the proposals in so far as they relate to the three categories set out above. An analysis of the remaining qualitative impacts of the proposals is set out in Chapter 4.

Efficient NTS investment signals

June IA

3.11. In June we noted that the adoption of a model in which all NTS users are required to make a significant financial commitment to guarantee ongoing access to the NTS may increase the efficiency of NTS investments and reduce the risk of stranded assets emerging on the network.

3.12. We estimated the potential scale of such efficiency savings as £37.6m, which were based on a reduction of 6.5 per cent⁸ of the capital expenditure over the enduring period. We argued that this figure was appropriate on the basis of historical assumptions used by Ofgem in other impact assessments.

Gas Forum report

3.13. The Gas Forum report considered the use of a 6.5 per cent capex saving to be unjustified and indicated that it was an unchallenged working assumption that had been developed at the time of GDN sales. The Gas Forum report also indicated that Ofgem has not scaled down the rate of potential savings to allow for those

⁸ The 6.5 per cent calculation is based on assumptions used in previous Impact Assessments (see, National Grid Transco – Potential Sale of gas distribution networks businesses, Final RIA Appendices, November 2004) and is derived assuming a 3.5 per cent saving in annual NTS exit capacity capex from more efficient investment signals and a further 3 per cent saving from the removal of long-run NTS interruption inefficiencies.

achieved by the application of the transitional arrangements to the GDNs. It concluded that it would be more prudent to either assign no net benefit to the new arrangements, or apply a lower benefit rate to the majority of the exit capex on the grounds that much less of the additional exit capacity is user specific and determined by user commitments. On this basis, the report suggested capex benefits of £22.3m or less.

Ofgem's current view

3.14. The introduction of a firm user commitment framework should bring about more efficient NTS investment through a reduction in the risk of stranded assets. In this context, stranded assets are pipeline assets that are built by NGG NTS and paid for by the generality of customers yet are not actually required, despite previous forecasts.

3.15. By requiring parties seeking access to the NTS to underpin investment through financially backed user commitments, NGG NTS will receive more robust information than is currently the case to inform its planning process. In particular, the introduction of long term user commitment models should encourage parties seeking access to the NTS and triggering investment to consider more carefully their decision to commit to purchasing capacity relative to the current arrangements.

3.16. We would also note that the benefits to customers of the introduction of user commitment models have already been demonstrated in the gas entry capacity regime. In particular, in issuing our Final Proposals for the Transmission Price Control Review (TPCR)⁹, Ofgem disallowed certain transmission capital expenditure at the St Fergus entry point. In disallowing this expenditure Ofgem indicated that NGG NTS ignored key market based information provided at the time through the long term entry capacity auctions.

3.17. We consider that in the absence of the robust information provided by the long term auction regime at entry it would have been more difficult to disallow this investment. Instead, by reducing the informational asymmetries the long term auctions have enabled Ofgem to protect customers from paying for inefficient capital expenditure. As with the entry scheme, we consider that the introduction of user commitment models for gas offtake should provide similar protections to customers by improving the information received by NGG NTS in determining its investment programme. We have also made clear in the TPCR Final Proposals that a key consideration in forming a view at future price control reviews on the efficiency of load related capex will be the extent to which the investment decisions by NGG NTS are backed by strong evidence of long term demand for capacity from network users backed by financial commitment.¹⁰

⁹ Transmission Price Control Review - Final Proposals, Ofgem, 4 December 2006.

¹⁰ Transmission Price Control Review: Final Proposals, page 42.

3.18. There are a number of additional factors and uncertainties at present in the market place which also pose significant risks to consumers through the potential stranding of transmission investment. These include:

- the pricing of carbon under the EU Emissions Trading Scheme;
- greater gas price volatility as the UK becomes increasingly reliant on international sources of supply and is thus exposed to volatility in international markets.

3.19. These factors present heightened risks that loads which trigger significant investment on the NTS may subsequently mothball or disconnect, thus stranding network investments. We therefore consider that these factors also contribute to the need for the introduction of longer term user commitment models.

3.20. We believe that the figure of 6.5 per cent efficiency is appropriate. We note that the Gas Forum report was critical of the use of this figure on the grounds that it was subjectively derived and recommended a maximum figure of efficiency of 3.25 per cent. We concur with the Gas Forum report that, by its very nature, this figure is subjective and that there is some uncertainty in quantifying the level of these benefits.

3.21. As we observed in the June IA, if inefficient investment were perfectly observable on an ex post basis then some of these types of benefits to customers could potentially be achieved by Ofgem in subsequent price controls (although, achieving the benefit in full would require further assumptions on NGG NTS behaviour in response to this hypothetical situation).

3.22. We have assumed that incremental NTS exit capital expenditure is at an average of £77m per annum from 2012 onwards. This figure is based on the average of the TPCR exit projects during the 2006-12 period (£90m per annum) but reduced to £77m to account for the probability that not all of the planned projects will occur within the planned timescales. Table 3.2 below shows a breakdown of our capex forecast going forward.

Table 3.2: Incremental NTS exit capacity capex forecast

Year ending 31 March (£m)	2007	2008	2009	2010	2011	2012	2012-2027
Incremental NTS exit capacity capex	27	107	57	228	12	48	77
Average per year	79.9						

3.23. These benefits yield a net present value benefit of £42.3m. We believe that this number is justifiable on the basis of analysis conducted by independent consultants TPA Solutions during the recent TPCR. TPA reviewed 9 exit related projects as part of the price control. For three of these projects TPA expressed concerns at the high level of investment proposed by NGG NTS. We have concluded from TPA's arguments that the lack of a user commitment approach was

a major source of the uncertainty. Therefore the introduction of such an approach should, we believe, reduce significantly the level of potentially unnecessary capital expenditure being proposed.

3.24. The overall efficiency saving of £42m is consistent with the avoidance of investment in one large project over a ten year period. In turn, this justifies our ongoing use of 6.5 per cent reduction in capex over the forecast period, as used in previous impact assessments.

3.25. It should be noted that our estimate of savings attributable to efficient NTS investment are equally valid to all the modification proposals except for 0116A. Table 3.3 below shows our estimate of benefits

Table 3.3: Efficient NTS investment signals, PV savings

Present value benefits (£m, 05/06)	0116V	0116A	0116BV	0116CVV	0116VD
Efficient NTS investment signals	42.3	0	42.3	42.3	42.3

Non-discriminatory allocation of capacity products

The June IA

3.26. In the June IA, we noted that under the transitional arrangements, there is the potential for NGG NTS to favour the NG retained distribution businesses in the allocation of long and short term NTS exit capacity products. We argued that the proposed enduring regime might be expected to provide benefits in increasing the clarity and transparency of arrangements for securing both long term and short term NTS exit capacity. We also noted that GDNs will no longer need to enter into ARCAs to reserve incremental capacity in the long term and that, in the short term, GDNs would need to bid for capacity alongside other NTS users in a pay as bid auction.

3.27. We noted that there is potential for the retained GDNs to gain under their incentives with respect to the purchase of NTS exit capacity¹¹. Furthermore, we noted that favourable treatment with respect to the booking of long term capacity could allow the avoidance of GDN investment and therefore the retention of capex under-spend benefits that may accrue as well as the avoidance of the opex associated with managing such assets. Favourable treatment with respect to short term capacity allocations could also allow the potential avoidance of short-term over-run charges or consequential GDN interruption costs. We argued that such discrimination, or even the potential for such discrimination, could compromise the

¹¹ It is assumed that there will be some form of incentive upon the GDNs to minimise the costs of purchasing NTS offtake capacity in both the long and short term.

implementation of the comparative efficiency regulation of GDNs upon which the GDN sales transaction was predicated.

3.28. We assumed in our base case that 5 per cent of the comparative efficiency benefits identified under GDN sales may be compromised by such discrimination. Application of a 6 percent discount rate generated a present value benefit of £21m in 2005/06 prices over the evaluation period¹².

Gas Forum report

3.29. The Gas Forum report considered that the savings identified by Ofgem were largely unsubstantiated, because:

- any savings to the retained NGG DNs due to "favourable treatment" would only be achieved if they were economically efficient, and in any event, their potential magnitude is quite small
- similarly, any gains made by NGG DNs through manipulation of incentive schemes are comparatively small and of a short lived nature
- the benefits are based on an assumption that comparative regulation between GDNs will bring benefits to customers - a position that had "no basis in observable fact, accepted theory, or general experience".

Ofgem's current view

3.30. We do not agree with the Gas Forum report's view of comparative regulation. We consider that comparing the performance of similar monopoly business reduces the asymmetry of information between the regulator and regulated businesses compared to a regime in which there is only one regulated monopoly business. The ability to compare the performance of similar monopoly business should bring significant benefits to customers. As we and others noted during the process leading to the sale of the National Grid's DNs, there is a wide body of academic evidence to support this view and from other regulated industries - most notably the water industry.¹³

3.31. Despite the claims made by the Gas Forum report, we continue to believe that the potential for differences in treatment by NGG NTS towards the DNs that could arise under the transitional arrangements may undermine some of the benefits of DN Sales. For example, if an independently owned DN were to believe that it could be allocated a disproportionately low volume of capacity on an unfair basis it may choose to undertake additional investment on its own network that, were it to receive an appropriate volume, it would otherwise not undertake.

¹² This assumes that benefits will be realised from 2011 onward, consistent with the commencement of the long term user commitment model. Furthermore, we also assume that the GDN opex improvement rate for the final DPCR period, 2018/19 to 2022/23, of 3.09 per cent, will continue to apply to 2026/27.

¹³ See for example, Vivendi Water UK plc and First aqua ltd, A report on the proposed merger, Competition Commission, November 2002.

3.32. We accept the point made by the Gas Forum report that NGG NTS's pricing of the capacity products could also bring about the possibility of discrimination. However, this possibility also exists at the moment under the present offtake arrangements. As such, we do not consider this point is relevant for the purposes of this IA. Moreover, the pricing arrangements for capacity are subject to a separate consultation, which will, no doubt, consider the issue of transparency of the manner in which pricing for capacity is derived. We therefore consider that Modification Proposal 0116V will provide considerable incremental reduction in the scope for undue discrimination between DNs relative to the current arrangements. In turn, this will allow the full benefits of DN sales, as identified in the Final Impact Assessment¹⁴, to be realised through comparative regulation.

3.33. As we have noted elsewhere, we recognise that the five percent figure is a subjective assessment. Nonetheless, we continue to believe that it is a suitably cautious estimate of the potential scale of the comparative efficiency benefits that might be lost were the proposals not to be implemented. We note for example, that the assessment of DN Sales benefits did not include an assessment of the potential savings of capex.

3.34. If we assume that 5 per cent of the comparative efficiency savings identified at DN Sales might be compromised, this provides a benefit to customers of the proposals of £20.4m in net present value terms. We consider that this is reasonable on the basis that DN company forecast's of local transmission system investment (which is recognised, to some extent, to be a substitute for investment in NTS capacity) is, in aggregate, over £100m per annum¹⁵. Therefore we consider that a £20.4m efficiency over a 15 year period against company forecast spend substantially in excess of £1 billion is reasonable.

3.35. Given that modification proposal 0116CVV continues the current arrangements for flexibility we consider that, under this regime, there would still exist the potential for discriminatory allocation of flexibility in the short term through the Offtake Capacity Statement process and through day to day system operation. For this reason, we have halved the benefit to 2.5 per cent when considering this option.

3.36. In Table 3.4 we set out our view of the quantitative benefits associated with non-discrimination. As noted in the introduction to this chapter, it is important to note that there are uncertainties regarding the degree of benefits provided by non-discrimination and the analysis should be considered in this context.

Table 3.4: Non-discriminatory allocation of capacity products, PV savings

Present value benefits (£m, 05/06)	0116V	0116A	0116BV	0116CVV	0116VD
Non-discriminatory allocation	20.4	0	20.4	10.2	20.4

¹⁴ National Grid Transco – Potential sale of gas distribution network businesses, Final Impact Assessment, Ofgem, November 2004 - 255/04a.

¹⁵ Gas Distribution Price Control Review, Third Consultation document, Ofgem, 2003/06

of capacity products					
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Reduced Incidence of ARCAs

The June IA

3.37. In our June IA we argued that NTS users who are signatories to the UNC will no longer need to enter into ARCAs to reserve incremental capacity that requires or triggers system investment or reinforcement. We argued that this would avoid the costs associated with the negotiation of these bilateral agreements and any potential disputes that arise from these negotiations.

3.38. We assumed that the transparency of terms within the UNC and the regulatory framework governing the release of incremental capacity will reduce the incidence of disputes for the remaining ARCAs that are entered into by developers as we would expect the terms of such ARCAs to mirror the terms within the UNC.

3.39. Our analysis of the savings from the avoidance of disputes provided a present value benefit of £10m, using a 6 per cent discount rate.

Respondents' views

3.40. Although the Gas Forum acknowledged that benefits would arise as a result of the reforms from reduced incidence of ARCAs, it considered that:

- the reforms could have the unintended effect of introducing different types of dispute, for example, regarding NExAs; and
- the complexity of the new regime would increase the costs of scrutinising NGG's decisions over pricing and allocation of exit capacity products, and also affect the incidence and cost of disputes.

3.41. As a result, the Gas Forum considered that the net benefit of this aspect is the order of £0 - 5m, compared to the transitional arrangements.

Ofgem's current view

3.42. We consider that there will be benefits associated with the reduced incidence of ARCAs. This should produce benefits both in terms of cost and in the time taken to resolve any dispute. Whilst we recognise that there are uncertainties regarding the potential number of disputes going forward, we nevertheless remain of the view that the nature of the analysis presented in our initial IA was appropriate, but with the application of the revised WACC of 6.25 per cent.

3.43. Ofgem notes the points raised in the Gas Forum report that there is scope for disputes to occur over issues such as NGG NTS's pricing methodology under the proposed reformed offtake regime. However, we consider that the scope for such disputes over NGG NTS's pricing methodology already exists under the present offtake regime and should not increase under the proposed enduring regime. Further, NEXAs are bilaterally negotiated and also have the same propensity for disputes in the future. Therefore we see no reason to adjust our estimate of the benefits arising under this category.

3.44. The Gas Forum report also indicates that the complexity of the proposed regime would increase the costs of scrutinising NGG NTS's decisions over the allocation and pricing of exit capacity products. We accept that there are some information asymmetries associated with the determination of levels of available capacity and the substitutability of this capacity between different offtake points and zones. However, the proposed enduring arrangements and the incentives agreed through the TPCR process should increase transparency relative to the existing arrangements. In particular the commercial framework and incentives should alleviate these asymmetries by helping to reveal the true level of capacity on the network and substitutability between nodes and zones.

3.45. In addition, the introduction of auctions for flexibility and short to medium term flat capacity rights should ensure that capacity is allocated to those that value it the most. This is preferable to Ofgem or NGG NTS determining how to allocate a scarce capacity product on an administered basis. Indeed, the allocation of scarce capacity products on an administered basis creates significant risks for disputes over whether NGG NTS has discriminated between users in such an allocation.

3.46. Our analysis of the benefits of reduced incidence of ARCA disputes is set out below in Table 3.5.

Table 3.5: Reduced incidence of ARCA disputes, PV savings

Present value benefits (£m, 05/06)	0116V	0116A	0116BV	0116CVV	0116VD
Reduced incidence of ARCAs	9.7	0	9.7	9.7	9.7

Overview of results of benefits analysis

3.47. The total base case estimates of benefits to customers associated with the implementation of variants of modification proposal 0116 relative to 0116A are shown in Table 3.6 below.

Table 3.6: Overview of quantitative benefits - 6.25 per cent discount rate

Present value benefits (£m, 05/06)	0116V	0116A	0116BV	0116CVV	0116VD
Efficient NTS investment	42.3	0	42.3	42.3	42.3

signals					
Non-discriminatory allocation of capacity products	20.4	0	20.4	10.2	20.4
Reduced incidence of ARCAs	9.7	0	9.7	9.7	9.7
Total PV benefits	72.4	0	72.4	62.2	72.4

3.48. Alternatively, Table 3.7 shows what these would be if evaluated using a 3.5 per cent social discount rate.

Table 3.7: Overview of quantitative benefits - 3.5 per cent discount rate

Present value benefits (£m, 05/06)	0116V	0116A	0116BV	0116CVV	0116VD
Efficient NTS investment signals	57.0	0	57.0	57.0	57.0
Non-discriminatory allocation of capacity products	28.8	0	28.8	14.4	28.8
Reduced incidence of ARCAs	12.6	0	12.6	12.6	12.6
Total PV benefits	98.4	0	98.4	84.0	98.4

Sensitivities of the benefits analysis

3.49. As previously stated, the quantification of the benefits presented above is subject to significant uncertainties. One of these relates to the level of capex to which any potential savings would apply under the 'Efficient NTS investment signals' category. As noted above, we have used £77m which is the average of the projected levels of exit capacity capex from 2006-12 (£90m per annum), reduced to take into account the probability that some of these projects may not proceed as planned.

3.50. It is noted that the average of the project capex for the TPCR period alone is £90m. Using this figure, the resulting NPV of the benefits would increase from 42.3 to £50.5m. Similarly, each percentage point of change in the benefits arising from the non-discriminatory allocation of capacity products accounts for approximately +/- £4m in PV terms (using a 6.25 per cent discount rate).

Analysis of costs

3.51. To understand the costs to customers that the implementation of the various modification proposals would impose, we issued a cost pro forma on 14 November 2006 to industry participants. All respondents were asked to provide an assessment of the incremental upfront implementation costs and ongoing annual costs that they would incur with the implementation of each of the proposed modifications, except for 0116A. Since modification 0116A is a continuation of the status quo, we have used this as a baseline and consider that there would be no incremental costs for implementing this modification proposal.

3.52. We received twenty one submissions in response to our cost survey, comprising:

- 9 TCC shippers;
- 3 storage operators;
- 1 written response from a TCC representative organisation;
- 4 Gas Distribution Network (GDN) Business responses representing 8 networks;
- a response from NGG NTS;
- a response from Xoserve;
- a response from an interconnector agent; and
- a response from an Irish Shipper who is solely active at the Moffat interconnector.

3.53. Subsequently, we had meetings with about half of the respondents, in order to clarify issues with their submissions. In some instances, this resulted in an agreed change to the original cost data. Additionally, the Gas Forum provided an anonymised version of its TCC data, some of which already matched up with our respondent data.

3.54. The following sections present our analysis of the data submissions, grouped by respondent type.

Shipper costs

The June IA

3.55. In the June IA, we concluded that the cost to customers arising from costs incurred by shippers for implementation of the enduring offtake regime would be between £11m and £19m.

3.56. To derive the estimate of costs to customers for all shippers, Ofgem extrapolated from the estimates of shippers that had responded to an earlier cost pro forma. The extrapolation of responses from shippers was undertaken on the basis of "cluster analysis" that excluded high cost outliers when pro rating to include the potential cost to all shippers.

Gas Forum Report

3.57. The Gas Forum report considered that Ofgem's cluster analysis was subjective and biased, thereby resulting in a significant underestimation of the true costs to shippers. Its own survey on the implementation costs of modification proposal 0116 and each of the variants concluded that the total cost to shippers of implementing the NGG NTS modification proposal 0116V as against 0116A (the status quo) is in the range £43 - 60m. The Gas Forum report indicated that the cost of implementing modification Proposal 0116CVV as against the status quo is in the range of £29 - 42m.

Ofgem's current view

3.58. Discussions with the respondents indicated that there are two main sources of implementation costs for Modification Proposal 0116 and its variants (excluding 0116A):

- Initial IT system development costs, to integrate the flat and flexible capacity bookings with their electricity trading systems; and
- Ongoing staffing costs to enable around the clock participation in flexible capacity auctions (excluding 0116CVV).

3.59. Additionally, respondents included a wide range of costs in the "other" category, including legal costs for contract renegotiation, staff training costs and additional credit cover costs.

3.60. Table 3.8 below presents a summary of the responding shippers' data. For the purposes of calculating a present value of the costs, it is assumed that implementation costs are evenly spread over the year's 2006/07-2009/10, and the ongoing costs last from 2010/11 to 2026/27. The discount rate used is 6.25 per cent, which is the same rate as the pre-tax weighted average cost of capital used in the recent TPCR.

3.61. Nine shippers provided an estimate of their costs of implementation of the modification proposals. This therefore accounts for approximately two thirds of the fourteen shippers active on the NTS¹⁶ and also accounts for about three quarters of the shipper offtake points on the NTS¹⁷. Since the respondents indicated that the majority of the costs incurred by them are largely invariant to the number of exit points, we think it is appropriate to scale up the total of respondent costs by 1.5 to obtain an estimate of costs to shippers as a whole¹⁸. This is presented in table 3.8.

Table 3.8: Summary of shipper cost responses for UNC Modification Proposal 0116 and its variants

NPV (£m, 05/06)	0116V	0116A	0116BV	0116CVV	0116VD
Respondent total	27.3	0	24.3	5.7	23.3
Scaled-up total	40.9	0	36.4	8.5	34.9

3.62. The method of extrapolation to account for shippers that did not respond to the cost pro forma differs from the June IA in that we use the average of all respondents to pro rate for those that did not respond. As Figure 3.1 below shows, it is notable that the range of costs that the shippers state that they will incur as a

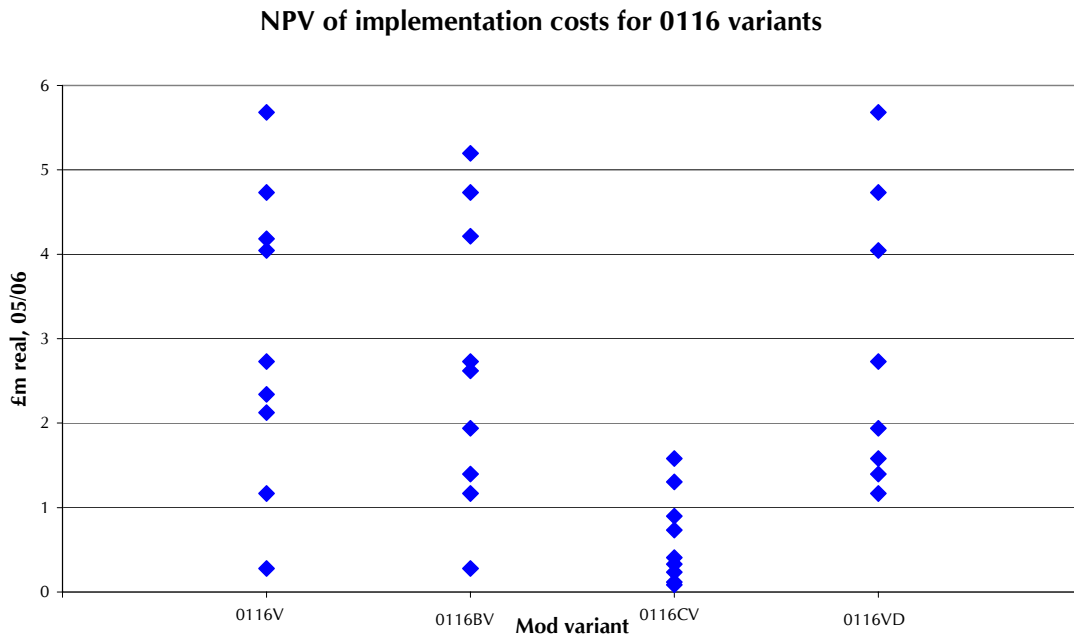
¹⁶ Data provided by NGG NTS indicated there are 14 active shippers on the NTS

¹⁷ Data provided by NGG NTS indicated there are 61 shipper offtake points.

¹⁸ Where respondents did not reply explicitly on Modification 0116VD, costs are taken to be the same as for Modification 0116BV

result of implementation of the enduring regime varies markedly between shippers for each modification proposal. For example, the estimated implementation costs of modification proposal 0116V vary between £0.4m and £5.8m for individual shippers.

Figure 3.1: Range of shipper costs for modification proposal 0116 variants



3.63. Whilst we have kept the base numbers as presented in Table 3.8 above as the estimates to be included in our overall assessment of costs and benefits, we believe that this, in all likelihood, represents a significant overstatement of the true costs that shippers and ultimately, customers will incur. Use of the data may therefore be considered to introduce a particularly cautious and pessimistic approach to our estimation. There are three key reasons why we believe this to be the case:

- We have assessed and presented the estimates to all shippers on a particularly uncritical basis. Unlike previous analysis, we have not adopted the "cluster" approach, but have pro-rated respondents' costs to account for the costs of shippers that have not responded. However, we consider that the estimates that have been provided represent a worst case outcome. In this respect, our view is that the costs that will be passed onto customers as a result of shippers incurring implementation and additional ongoing expenditure arising because of the modification proposals will, on average, be towards the bottom of the range of costs that shippers incur. In a competitive retail market, if a shipper that incurs

higher costs than the norm tries to pass on these costs in full to customers, then it risks losing market share to shippers incurring less costs. As such, because of competition, less efficient shippers will absorb additional costs rather than pass on the full costs to customers. Using cluster analysis reduces the estimate of the total cost to customers markedly. For example, the estimate of costs arising from Modification Proposal 0116V would be reduced by 26 per cent to £30m.

- Many shippers have argued that a significant driver of cost arises from Modification Proposal 0116V's intention to extend the flexibility arrangements to all NTS offtake points. Some shippers have argued that this will mean that they will need to have an additional trading desk that has to be manned full time for 24 hours a day, every day of the year. This is despite the changes to the enduring regime proposals discussed at the Enduring Offtake Working Group in 2006 which mean that, unless there is insufficient flexibility, all shippers will be able to continue to submit offtake profile notifications in the same manner as now rather than partake in the purchase of flexibility near real time. The objective of these changes (as against earlier versions of the proposed arrangements) was that it would reduce the costs to shippers of implementation of the flexibility proposals. However, no such savings seem to be reflected in respondents' submissions.

To date, NGG NTS report that the peak aggregate usage of flexibility has been up to approximately 15 mcm/day. This is below the 22 mcm/day that they will be obliged to provide. Therefore, whilst past performance is no guarantee of future performance, to date such trading desks would never have been operational. As such, given that the current technical characteristics of the network will remain unchanged, it seems possible that such desks would only be used very infrequently. Therefore to cost in a full dedicated trading solution for this seems a highly cautious response from shippers. Indeed, it is our view that, even if shippers were initially to install dedicated resources, it may soon merge this function with other elements of its business if network capacity and demand for this capacity remained largely unchanged. This would suggest that over time and with experience of the flexibility regime, the costs incurred by shippers could fall. Despite these significant reservations regarding the likely scale of costs that will borne by customers, we have included these costs as presented in our analysis.

- Some shippers have included costs that relate to additional risks that the regime will bring to them. In discussion with shippers, some agreed that in their initial submission they had included costs that would not actually be borne by customers in aggregate. For example one shipper had included the costs of purchasing firm exit capacity for some of its large customers that are currently on interruptible contracts.

Another shipper specifically requested that a significant cost relating to the risk of CCGT delay, brought about by the requirement for a user commitment under the modification proposal, should be included. This shipper's view was that it would incur costs if it chose to delay the connection of a CCGT to the NTS relative to the present regime. We agreed that this was the case, in that the user commitment meant that the shipper would be required to pay transmission charges from the agreed date regardless of whether it had connected to the NTS. Our view, however, is that, given the pipeline would have been constructed and the costs

incurred, the introduction of the user commitment framework represented a reallocation of costs from the generality of customers to the connecting party, rather than a creation of costs per se. Indeed, placing this risk back upon the connecting party is the intent of the proposals. Hence, in our view, to include these types of costs would not be appropriate.

If we were to remove these costs it would have the effect of reducing the overall estimate of cost to customers by approximately 7 per cent to £38.1m for Modification Proposal 0116V. However, given the shipper would not agree with this point of view in discussions, we have kept these costs in the estimate. It should be noted, however, that we do not believe that these are incremental costs that will be incurred by customers as a whole.

Cost to Transmission Connected Customers & storage sites

The June IA

3.64. In the June IA, we assumed that each of the 61 TCC sites (i.e. NTS power stations, industrial loads and storage sites, but excluding the NTS interconnectors) may incur costs of £10,000 a year per TCC. We noted that this equates to a PV cost of £5.1m using the same assumptions employed to calculate the present value benefits. Alternatively, using a social discount rate of 3.5 per cent yields a PV cost of £6.7m.

3.65. We also produced an estimate of the costs that may be incurred should a storage operator be required to undertake a flat and flexible capacity allocation agent role. This produced an aggregate, total present value cost to NTS storage users of £2.0m, using a 6 per cent discount rate and the same 21 year term as other costs and benefits are evaluated. Alternatively, if a 3.5 per cent social discount rate is used, the estimated cost to storage operators was £2.5m.

Gas Forum Report

3.66. The Gas Forum report estimated incremental costs for TCC's to be: 0116V and 0116BV - £33.69m, 0116A - £0, 0116CVV - £2.07m. This was on the basis of two cost submissions from TCCs, extrapolated across 69 offtake points.

3.67. Storage operator costs were estimated at: 0116V and 0116BV - £5.02m, 0116A - £0, 0116CVV £1.11m. This was a cost extrapolation which included the impact on some anticipated future storage facilities.

Ofgem's current views

3.68. We received responses from a TCC representative organisation, TCC data from the Gas Forum and some stand-alone storage operators. The TCC costs included costs being passed on to them by shippers. However, since these have

already been included in the shipper analysis, including them here would result in a double-count of costs. As such, these costs have been excluded (as they were in the Gas Forum's analysis).

3.69. Information supplied by NGG NTS indicated that there are 55 directly connected sites that would be affected by the implementation of an enduring offtake regime. Assuming that the shipper costs did not include associated TCC costs, the cost of 0116V is calculated as £16.8m in PV terms. None of these respondents provided costs for the alternatives, but using approximately the same proportions as shipper estimates (i.e. 0116BV and 0116VD being equal to 0116V, and 0116CVV being one fifth of that value), the cost for 0116CVV is estimated at £3.4m.

Table 3.9: Summary of TCC cost responses for UNC Modification Proposal 0116 and its variants

NPV (£m, 05/06)	0116V	0116A	0116BV	0116CVV	0116VD
Total cost	16.8	0	16.8	3.4	16.8

3.70. With regards the storage operator data, one of the three responses had an estimate for IT and staff implementation costs which was an order of magnitude greater than the others, and which was also in excess of all shipper submissions. Accordingly, we have added this particularly high value to the scaled- up average of the other two respondents to calculate a cost for all of the 10 storage sites on the network.

Table 3.10: Summary of storage operator cost responses for UNC Modification Proposal 0116 and its variants

NPV (£m, 05/06)	0116V	0116A	0116BV	0116CVV	0116VD
Total cost	6.4	0	6.4	3.1	6.4

3.71. Based on the respondents' data, the estimated costs for TCCs and storage operators are given in table 3.11 below, using the lower of the storage operator cost estimates.

Table 3.11: Summary of TCC and storage operator cost responses for UNC Modification Proposal 0116 and its variants

NPV (£m, 05/06)	0116V	0116A	0116BV	0116CVV	0116VD
Total cost	23.2	0	23.2	6.5	23.2

3.72. Again, we believe that the inclusion of costs at these levels represents a worst case outcome. Whereas TCCs may have to renegotiate their contracts with shippers to reflect any changes to the regime, we consider that these are one off costs. There should not be the need to incur significant systems and staffing costs at TCC level, as the shipper will be the primary interface with the new regime and will change their systems and behaviours to cope accordingly. Therefore, the

inclusion of significant ongoing costs probably represents a degree of duplication. In table 3.11 above, TCC ongoing costs represent just under £15m of the total NPV of the costs.

Cost to gas transporters and their Agency

The June IA

3.73. In June we noted that GDNs and GTs would be expected to incur costs as a result of the enduring offtake process and noted that we had contacted parties to seek to understand these costs. We concluded that the implied present value cost that may be incurred by GTs (including the NTS and GTs' agent, Xoserve) is £24.5m. Alternatively, if the costs to be incurred by a GDN are assumed to be invariant to the number of NTS offtakes that feed it, applying a fixed cost pro-ration based on the costs estimated by the second lowest cost network implied a total PV cost of £20.0m incurred by GDNs, NGG NTS and the Agency.

3.74. The gas transporters and their agency have now provided updated estimates of the costs of implementing these Modification Proposals, and these are considered in the following sections.

Gas Forum Report

3.75. The Gas Forum report estimated the cost to GDNs alone could be greater than £60m, but emphasised that this was based on the extrapolation of one GDN's tentative cost estimate. It also surmised that the DN costs should be incorporated in the net benefit analysis, claiming that these costs would eventually be passed through to customers either through increased charges or a higher rate of return than would otherwise have been allowed.

Ofgem's current view

3.76. Table 3.12 below presents a summary of the respondents' data.

Table 3.12: Summary of costs for NGG NTS, GDNs and their agency for implementation of modification proposal 0116 and its variants

NPV (£m, 05/06)	0116V	0116A	0116BV	0116CVV	0116VD
Respondents' data	56.4	0	56.9	49.9	56.7

3.77. In the June IA, we stated that the NGG NTS, DN and agency implementation costs of enduring offtake were effectively costs associated with the GDN sales transaction and therefore should be borne by the relevant GT shareholders rather

than consumers. This policy intent was stated clearly at the time.¹⁹ We believe that under a correct due diligence process, the implementation costs of the modification would have been priced into the GDN acquisition prices/NGG sale prices.

3.78. Therefore, whilst we understand the general point made by the Gas Forum that costs are finally passed through to customers in the rate of return if there is no explicit allowance, in the specific circumstances of DN sales this point does not carry its normal weight. The costs and risks associated with the implementation of enduring offtake reform should have been reflected by the purchasers of the DNs and by NG in the DN sales transactions. As noted above, under any due diligence process the shareholders of the purchasers of the DNs should have sought to reflect the costs of the implementation of enduring offtake reform in the prices paid for the businesses.

3.79. Therefore, whilst we recognise that there are indeed costs to transporters from NTS offtake reform, we are of the view that, provided that they are not manifestly disproportionate, it is appropriate for the Authority to give little weighting to these costs when assessing the overall cost impact to customers of these modifications. As such, we have excluded these costs from our assessment of the overall costs and benefits of reform as set out later in this chapter.

3.80. It should however be noted that Ofgem is currently consulting on the GDN price control review in order to set price controls for these businesses from 1 April 2008 through to 31 March 2013. As part of this process, it is possible that the question of providing allowances to the GDNs to recover the future ongoing operational costs of enduring offtake reform will be considered (should reform of the NTS offtake arrangements be implemented). This would require a reconsideration of the policy position outlined above with respect to ongoing operational costs. In view of this, and in order to inform respondents views, in table 3.13 below we have separated out the ongoing operational transporter costs from the upfront establishment costs associated with offtake reform. However, no assumptions should be made regarding the outcome of any re-consideration of the issue of GDN allowances for operational costs.

Table 3.13: Disaggregation of transporter cost data for implementation of modification proposal 0116 and its variants

NPV (£m, 05/06)	0116V	0116A	0116BV	0116CVV	0116VD
Upfront costs	20.9	0	21.1	19.0	21.2
Ongoing costs	35.5	0	35.8	30.9	35.5
Total costs	56.4	0	56.9	49.9	56.7

3.81. A further point to note is that the transporter costs are relatively invariant to the options other than 0116A. In particular, the costs associated with modification

¹⁹ National Grid Transco, Potential Sale of gas distribution businesses, Final Impact Assessment, Ofgem, November 2004.

proposal 0116CVV are similar to those associated with 0116V. Ofgem considers that this is likely to represent a high estimate of the costs associated with 0116CVV. Whilst 0116CVV proposes continuing with the flexible capacity product for the GDNs it does not provide for any material incremental change to the flexibility regime from the present transitional offtake arrangements. For example, it does not require the introduction of flexibility capacity auctions. As such, Ofgem considers that the costs to transporters associated with 0116CVV are likely to have been significantly overestimated.

3.82. It should also be noted that the cost submissions extend over an extreme range. In particular, four of the six estimates were in the £3 - 6m range (i.e. directly comparable to individual shipper submissions), but the remaining two constitute over two-thirds of the total costs.

Industry participants and customers in other jurisdictions

The June IA

3.83. In June we noted that the introduction of the enduring offtake arrangements may also have implications for customers in other jurisdictions. We further noted that a number of Irish respondents had raised concerns over the implications of enduring offtake reform.

3.84. We noted that, whilst we are keen to address the concerns of the jurisdictions downstream of the Moffat interconnector, such involvement needs to be to the extent appropriate and consistent with the Authority's principal objective and general and other duties. We noted that the Authority's principal objective and general duties under the Gas Act concern the gas industry in Great Britain and gas consumers within Great Britain. As such, we considered that it was inappropriate to include explicitly the costs incurred by jurisdictions external to Great Britain within our quantitative impact assessment.

Gas Forum report

3.85. The Gas Forum report included responses from three Irish respondents and concluded that the implementation costs to all players in the Irish market could be greater than £6.2m in present value. The single response received by Ofgem from an Irish market participant is broadly consistent with this figure.

Ofgem's current view

3.86. Ofgem remains keen to assist in the resolution of any cross border trading issues that may arise as a result of the potential introduction of enduring offtake arrangements. However, we still consider that the costs incurred by respondents operating in areas outside of the Authority's jurisdiction are not appropriate to be included in this Impact Assessment.

Summary of cost analysis

3.87. Given the estimation of the potential costs that may be incurred by shippers, NTS TCCs and storage operators as detailed above, and the conservative nature of these data, we estimate that the upper bound to the total potential costs to customers are as shown in table 3.14.

Table 3.14: PV of shipper, TCC & storage site costs - 6.25 per cent & 3.5 per cent discount rate

NPV (£m, 05/06)	0116V	0116A	0116BV	0116CVV	0116VD
Total cost @ 6.25 per cent	64.1	0	59.6	15.0	58.1
Total cost @ 3.5 per cent	84.1	0	78.0	19.7	76.0

3.88. In addition, should the Authority alter its policy on the treatment of ongoing operational costs as part of the GDPCR process, we have set out below in table 3.15 the impact that this would have on the overall costs analysis.

Table 3.15: PV of shipper, ongoing transporter costs, TCC & storage site costs - 6.25 per cent & 3.5 per cent discount rate

NPV (£m, 05/06)	0116V	0116A	0116BV	0116CVV	0116VD
Total cost @ 6.25 per cent	99.6	0	95.4	45.9	93.6
Total cost @ 3.5 per cent	132.5	0	126.8	61.8	124.5

3.89. As noted above, it is likely that the costs set out above have been significantly overestimated. In view of this and the general level of uncertainty surrounding the costs, we have also analysed the impact of using the average costs of the lowest four shipper submissions. We set out the impact of this on the overall cost analysis below in table 3.16. In summary, using the lowest four submissions reduces the total cost impact of the V, BV and VD variants by approximately £20m (using a 6.25 per cent discount factor).

Table 3.16: PV of lowest four shipper submissions, TCC & storage site costs

NPV (£m, 05/06)	0116V	0116A	0116BV	0116CVV	0116VD
Total cost @	43.9	0	39.9	9.2	37.9

6.25 per cent					
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Overall outcome of quantitative benefits and costs analysis

3.90. The following table presents the overall benefits and costs associated with the implementation of the variants of UNC modification proposal 0116. It is worth noting that this is just one aspect that the Authority will consider in relation to its decision on the modification proposals. In this respect, the assessment framework is outlined in Chapter 2.

Table 3.17: Summary of benefits and costs for implementing UNC modification proposals 0116 and its variants

NPV (£m, 05/06)	0116V	0116A	0116BV	0116CVV	0116VD
Benefits	72.4	0	72.4	62.2	72.4
Costs	64.1	0	59.6	15.0	58.1
Net benefits	8.3	0	12.8	47.2	14.3

3.91. In order to further inform the views of respondents and the Authority, we have also set out below in table 3.18 a summary of the overall benefits and costs which utilises the lowest four shipper cost submissions. This represents a less pessimistic approach to the cost data and assumes, as discussed in paragraph 3.63, that in a competitive shipping sector only the costs of the most efficient shippers will be passed through to customers.

Table 3.18: Summary of benefits and costs for implementing UNC modification proposals 0116 and its variants – using lowest four shipper cost submissions

NPV (£m, 05/06)	0116V	0116A	0116BV	0116CVV	0116VD
Benefits	72.4	0	72.4	62.2	72.4
Costs	43.9	0	39.9	9.2	37.9
Net benefits	28.5	0	32.5	53.0	34.5

4. Qualitative analysis of benefits and costs

Chapter Summary

This chapter sets out Ofgem's views on the qualitative benefits arising from the implementation of the different variants of UNC Modification Proposal 0116

Question box

We would welcome views on the issues raised in the chapter.

Overview of qualitative benefits and costs

4.1. In addition to the key benefits and costs that we have quantified in Chapter 3, there are a number of additional benefits and costs that may be expected to result from the approval of modification proposal 0116V, 0116BV, 0116CVV or 0116VD. These qualitative factors are discussed in this chapter by comparing the proposals outlined above to the proposed extension of the transitional offtake arrangements set out in modification proposal 0116A. We have characterised them under the following headings:

- efficient network development and system operation;
- promotion of competition;
- appropriate allocation of risk;
- simplicity and transparency;
- preservation of security of supply; and
- preventing undue discrimination.

Efficient network development and system operation

The June IA

4.2. In addition to the benefits to network development discussed in Chapter 3, our June IA noted that the proposals for enduring offtake would be expected to provide potential system operation benefits.

Ofgem's current view

4.3. We remain of the view that the allocation, by means of auction, of flexibility and short term flat capacity products should ensure that capacity is allocated to those that value it the most. This could allow certain connecting parties such as new CCGT plant to access capacity earlier than what would otherwise be the case under the existing transitional arrangements where capacity rights are

grandfathered to existing users. This may in turn provide consequential electricity market benefits, in so far as it facilitates the entry of efficient generation plant.

4.4. Further, in the absence of a non-discriminatory allocation mechanism for flexibility, there is a risk that some, more efficient CCGT plant may be unable to access flexibility going forward which could increase balancing costs incurred by the electricity system operator.

4.5. We also continue to consider that the allocation of flexibility capacity might be expected to allow the costs of offtake flow variations to be targeted to TCCs and GDNs and consequently reduce the need for NGG NTS to take within day gas balancing actions to manage these flow variations. As such, the costs that may be incurred by NGG NTS in its role as residual balancer may be reduced.

4.6. In terms of efficient network investment we consider that there are benefits in the proposed requirement on existing holders of capacity to provide more notice (relative to the current arrangements) to NGG NTS as to when they wish to cease to use capacity. In particular, these arrangements should assist NGG NTS in identifying whether there exists spare capacity on the network, which would avoid the need for investment. Where spare capacity exists, Ofgem has proposed obligations on NGG NTS to use its reasonable endeavours to substitute that capacity to offtake points where there is demand, thereby potentially avoiding the need for investment.

4.7. We consider that the qualitative benefits identified above would be maximised through modification proposal 0116V and also through proposals 0116BV and 0116VD. These benefits would be reduced under modification proposal 0116CVV.

Promotion of competition

The June IA

4.8. In our June IA we stated that the proposals for enduring offtake reform might be expected to promote competition between NTS users in that all participants will be able to secure access to the same defined products in the long and short term.

Ofgem's current view

4.9. We continue to consider that the introduction of the proposed enduring offtake arrangements might be expected to have a positive impact on effective competition. All NTS users, irrespective of user type, would be able to signal their demands for both flat and flexible capacity in both the short and long term. In the event of a constraint, there will be competition for long run interruption services and in the pay as bid auctions for capacity in the medium / short term, competition might be expected to increase. In addition, the proposed flexibility auction arrangements should promote competition between parties seeking to access this

product. Indeed by ensuring that flexibility is allocated to those that value it the most, the arrangements should effectively avoid any form of administered solution in which NGG NTS or Ofgem determines on behalf of customers to which market participants flexibility should be allocated. In particular, there is a risk that under administered arrangements flexibility capacity may be allocated in an arbitrary manner and therefore in a manner that distorts competition.

4.10. It is however important to note that the additional complexities and transactional costs associated with the introduction of the proposed enduring offtake arrangements may impact on competition in the shipping sector to the extent that they increase barriers to entry.

Appropriate allocation of risk

The June IA

4.11. In June we suggested that a key benefit of moving to a model that requires long term commitment by NTS users to secure guaranteed access to the network is that there is an improved allocation of risk between industry participants and customers.

Ofgem's current view

4.12. We remain of the view that the introduction of market rules which require all users to make financially backed long term commitments in order to secure network access might be expected to allocate risk more appropriately between industry participants and consumers. We consider that a system in which parties seeking connection receive certainty that rights will be awarded in return for financial commitments and in which network users are required to provide financially backed guarantees about their future use of the network may be expected to generate benefits.

4.13. Under the proposed user commitment framework, risk would be transferred away from consumers to NTS users and shippers. We consider that this is appropriate, as NTS users and shippers are best placed to assess their future needs for NTS offtake capacity services, and are therefore best placed to manage and mitigate the associated risks.

4.14. As noted in Chapter 3, the introduction of such a long term user commitment framework would reduce the likelihood, when compared with the transitional arrangements, of ARCA disputes. A reduction in the level of ARCA disputes will reduce the likelihood of Ofgem being placed in a position of having to assess the risks to customers associated with transmission reinforcement and with whether new large loads that trigger investment on the transmission network will proceed and continue to utilise offtake capacity. As noted above, we consider that these risks are best borne by those triggering network investments.

4.15. We therefore consider that the proposed arrangements set out in modification proposals 0116V, BV, VD and CVV have greater qualitative benefits in terms of risk allocation than those set out in proposal 0116A.

Simplicity and Transparency

The June IA

4.16. We noted that an important consideration in the selection of an appropriate model for enduring offtake was that the arrangements and package of associated incentives were as simple and transparent as possible. We noted that, in our view, a disadvantage of the proposed user commitment models is that, at least initially, a more complex set of arrangements and incentives were required than under the transitional arrangements.

4.17. However, we noted that we had sought to facilitate the discussion of proposals that maximise simplicity and transparency whilst achieving high level policy objectives.

Ofgem's current view

4.18. We recognise that the reform of the NTS offtake arrangements would result in increased complexity relative to the transitional offtake arrangements. We also note that modification proposals 0116V, 0116BV and 0116VD are likely to increase complexity to the greatest degree whilst 0116CVV would involve reduced levels of complexity when compared with 0116V, 0116BV and 0116VD.

4.19. Complexity may be expected to increase costs to system users and could, at an extreme level, disincentivise market entry.

4.20. We note that there has been significant opportunity for discussion of the likely form of enduring offtake arrangements, both through consultation on the proposals and through the discussions of the Ofgem chaired Enduring Offtake Working Group (EOWG).

4.21. We consider that these discussions have led to a number of simplifications being made to the proposals, which were intended to benefit existing market participants. These simplifications included the introduction of a prevailing rights model for the release of flat capacity rights as well as changes to the proposed daily flexibility arrangements.

4.22. The creation of a prevailing rights model for flat capacity enables existing market participants to roll over their existing bookings of capacity and avoids the requirement for a potentially more complex long term capacity auction regime along the lines of the gas entry capacity regime. In terms of the flexibility regime, the changes enable flexibility rights to be allocated through existing OPN processes

without the need for an auction provided there is sufficient flexibility capacity available. This should potentially save costs for users.

Ensuring security of supply

The June IA

4.23. In June we noted that the introduction of arrangements in which all users provide long term commitments in order to trigger the release of additional capacity would more clearly define the roles and responsibilities of NGG NTS and network users. This unambiguous definition of NGG NTS' role might be expected to incentivise the provision of long term investment signals and, in turn, have a positive impact on security of supply.

Ofgem's current view

4.24. We consider that the approval of modification proposal 0116V and its variants (other than 0116A) would be expected to more clearly define the respective roles of NGG NTS and network users thereby promoting security of supply. A system in which all users provide improved user commitments should provide greater clarity to parties seeking to increase offtake capacity holdings or to enter the market. As such, we continue to consider that there may be benefits to security of supply associated with the approval of a variant of modification proposal 0116 (other than 0116A).

4.25. We also consider that the arrangements and the provision of financially firm user commitments should provide better information to NGG NTS than is currently the case. The provision of information on future capacity requirements should in turn better inform NGG NTS's investment planning and reduce stranded asset risk as noted earlier in this IA.

4.26. We do not consider that the existing ARCA framework within the transitional offtake arrangements would provide the same benefits associated with modification proposal 0116V and its variants (other than 0116A). In particular, under the transitional offtake arrangements, ARCA commitments, whilst assessed on a case by case basis, do not normally extend beyond one year²⁰. Ofgem set out the reasons for this in the Marchwood determination²¹, where it indicated that to impose greater levels of commitment on new users to underpin transmission reinforcement costs, whilst existing NTS daily metered users are able to roll over their existing rights on a monthly basis could potentially result in undue

²⁰ Although a greater commitment may be necessary in the transitional arrangements where a load poses significant risks.

²¹ Determination by the Gas and Electricity Markets Authority of a dispute under section 27A of the Gas Act 1986 concerning the terms of an advanced reservation of capacity agreement and the charges associated with the proposed connection of a power station to the National Gas National Transmission System, October 2006.

discrimination. By contrast under the offtake reform proposals all classes of user would provide long term firm financial user commitments for incremental capacity as well as increased commitments in respect of existing capacity.

4.27. In terms of the flexibility product, we consider that the introduction of auction arrangements to manage the allocation of flexibility in the event of network constraints, should also facilitate security of supply in the electricity sector. In particular, the arrangements would enable generators that value flexibility capacity the most to access the capacity on a non-discriminatory basis thereby enabling them to access short term electricity markets when they may otherwise have been prevented.

Preventing undue discrimination

The June IA

4.28. In June we highlighted the importance of reducing discrimination in any enduring offtake arrangements. We suggested that the enduring offtake proposals could reduce the scope for undue discrimination between:

- firm and interruptible sites;
- different classes of user e.g. between TCCs and GDNs; and
- NGG retained GDNs and independent GDNs.

Ofgem's current view

4.29. We consider that the approval of one of the modification proposals other than 116A might be expected to reduce concerns over discrimination between various parties. In particular, we consider that there may be positive impacts on discrimination between:

- firm and interruptible sites;
- different classes of user; and
- NGG retained GDNs and independent GDNs.

Firm and interruptible sites

4.30. We note that under the existing arrangements, a firm customer is able to choose to become interruptible once connected irrespective of whether that customer is genuinely required for interruption. As such there is a risk that a firm customer that may have triggered investment switches to become interruptible to obtain the benefit of discounted charges. In this scenario the remaining firm customers would need to fund the investments which they have not benefited from. This is potentially discriminatory.

4.31. Ofgem considers that the discount provided to interruptible network users is largely unrelated to the probability or frequency of interruption. On this basis, we remain of the view that under the transitional offtake arrangements interruptible users may be receiving different levels of service for the same discount to NTS exit capacity charges.

4.32. In addition, as outlined in our June Impact Assessment, the practical maximum physical capacity baseline data provided by NGG NTS indicates that the capability of the current network is such that the majority of sites that are "interruptible" could be provided with their System Offtake Quantity (SOQ) on a firm basis. If, as the baselines indicate, the majority of interruptible customers can be provided with firm capacity, this does not indicate to Ofgem that these customers are needed for interruption on the 1 in 20 peak day.

4.33. As such, the probability of such sites being interrupted would be at, or close to, zero. Therefore, if interruptible services were to be priced in accordance with the probability of interruption, it would be reasonable to expect that in many instances the services would be priced at or close to the firm price, rather than significantly discounted as is currently the case.

4.34. As noted in the June Impact Assessment, under the modification proposals 0116V, 0116VB, 0116CVV and 0116VD, NGG NTS will only enter into contracts for interruptible services where the NTS user/ shipper already holds firm long term capacity rights and long term contracting for interruption is of value to NGG NTS. We also note that, in order to inform investment decisions, these long term contracts will be entered into at least three years ahead. As such, going forward, certain categories of customers will no longer be able to receive discounts for providing services that may be of little value to NGG NTS.

4.35. In our view therefore, proposals 0116V, VB, CVV and VD all reduce the potential for discrimination in the interruption arrangements relative to modification proposal 0116A.

Classes of users

4.36. We consider that benefits should also accrue to customers from modification proposal 0116V, 0116BV, and 0116VD through the elimination of potential discrimination between GDNs and TCCs as follows.

4.37. As noted in the June Impact Assessment under the transitional arrangements the two classes of user are required to purchase different capacity products. TCCs purchase a bundled NTS exit capacity product that allows unlimited use of flexibility whilst GDNs purchase two separate capacity products for flat and flexibility capacity. Indeed, the flexibility product effectively restricts the extent to which GDNs can utilise flexibility whilst the shippers that supply TCC's are not subject to the same restrictions. In Ofgem's view, the two classes of user are not materially different and both impose costs on NGG NTS's pipeline system in a manner that is

invariant to the type of user that they are. As such the two classes of user should be subject to equivalent access arrangements.

4.38. It is noted that the benefits described above are reduced under modification proposal 0116CVV to the extent that a flexibility product is not introduced for both classes of users.

4.39. Another area of potential discrimination relates to the different treatment of users with respect to the proposed flat capacity booking process. Under the transitional offtake arrangements users that hold existing capacity rights are able to continue using these rights on an "evergreen" basis with no renewal process required to maintain existing rights, whilst GDNs are required to confirm their capacity requirements at the three year ahead stage. Further, users that trigger investment on the network are also required to enter into an ARCA to underpin this investment whilst existing holders of capacity can roll over their rights on a monthly basis. The level of financial commitment required of a user under an ARCA is dependent on the risks of the investment project being triggered and is assessed on a case by case basis.

4.40. It is noted that whilst the proposed offtake reform framework seeks to treat GDNs and shippers on the same basis it nevertheless provides for holders of existing capacity and purchasers of new capacity to be treated differently. In particular holders of existing rights will continue to be able to rollover these rights whilst those requesting incremental capacity will need to enter into longer term user commitments. In assessing the modification proposals the Authority will need to carefully consider the potential discrimination issues associated with the different treatment of customers set out above.

4.41. However, it might be arguable that potential for discrimination between new and existing users would be reduced by the reform proposals to the extent that existing users are required to provide greater commitments to capacity than is currently the case. For example, under the proposed enduring offtake arrangements, NGG NTS is proposing to introduce a requirement on existing users to give 14 months notice to NGG NTS if they intend to cease or reduce their usage of flat offtake rights.

NGG retained GDNs and independent GDNs

4.42. As discussed in Chapter 3, we consider that benefits may be expected to arise from a clear, transparent and non-discriminatory capacity allocation mechanism in which NGG NTS invests in response to financially backed demands for capacity. This may be expected to reduce concerns that NGG's retained distribution businesses may be treated relatively more favourably than those networks which were sold to independent GDNs.

Distributional impacts

4.43. We consider the approval of a proposal for enduring offtake may create a number of distributional issues. A number of these relate to the changes to the interruption arrangements.

4.44. Although in the longer term NGG NTS should not build new capacity for interruptible sites, the ability of sites to become interruptible at short notice, even when NGG NTS would not place value on having the customer as interruptible, potentially increases the costs to be recovered from remaining firm users. Given that many interruptible customers are rarely interrupted, and that non-daily metered customers, including domestic customers, can only be firm, the proposed changes to these arrangements may have positive distributional impacts for these parties.

4.45. The distributional impact of the reform proposed is difficult to forecast precisely in advance. However, in broad terms (and excluding the impact of other factors that may affect charges) it can be expected that some existing interruptible customers will face higher charges through paying firm exit capacity charges and not receiving payments of an equivalent value for being interrupted, while existing firm customers who remain firm might receive a slightly lower charge.

4.46. Any other distributional effects will be dependent upon the pricing methodology applied by NGG NTS. However, it is the case that, at present, TCCs that use greater offtake flexibility (within their SOQ) than other equivalent TCCs do not face higher charges. Under the enduring regime, TCCs will be able to vary their flexibility capacity requirements and, as such, those TCCs requiring greater flexibility may be required to pay more than those that do not. Furthermore, to the extent that TCCs require a different level of flexibility to GDNs, the balance of charges paid by these two user classes may shift.

Impact on small businesses

4.47. Our initial view is that enduring offtake reform will have no significant direct effect on small businesses. As discussed above, small businesses might benefit from the distributional impact of charging changes.

Environmental & social objectives

4.48. Our social and environmental objectives include having regard to the impact of proposals on the sick, disabled, old, those on low incomes and rural customers; to have regard to the effect of a proposal on the environment; and to contribute to the achievement of sustainable developments. In considering the impact, we are required to have regard to DTI guidance regarding the attainment of social and environmental policies.

4.49. Our initial view is that enduring offtake reform will have no detrimental impacts on the environment and may, in the long term, deliver benefits. Increased efficiency in capital expenditure as a result of better investment signals, might be expected to reduce the need for investment in new capacity. This would reduce the environmental effects of such capital expenditure.

4.50. We do not expect there to be any detrimental impact on the sick, disabled or customers in fuel poverty.

Health and safety

4.51. We are required to protect consumers from dangers arising from the transport of gas and to consult and have regard to the advice of the Health and Safety Executive (HSE) about any gas safety issues.

4.52. Our initial view is that enduring offtake reform will not have a material impact, either positive or negative, on health and safety. However, we would note that the HSE has advised that these changes, if implemented, are likely to require material changes to the NGG NTS, DN and NEC safety cases. The safety assessment of these proposals has not yet been completed.

Risks and unintended consequences

4.53. Given the Authority's principal objective to protect customers' interests, one of the key risks associated with the enduring offtake reform is that the net expected benefits are not realised. This could occur where:

- the estimated potential customer benefits are not realised, or
- the estimated potential customer costs are an under-statement of the costs actually incurred.

4.54. As with any impact assessment, our cost benefit analysis seeks to measure the potential impact of a set of proposed arrangements that do not yet exist. If enduring offtake reform proceeds, the actual outcomes could be better or worse than presented. However, given this uncertainty, and the Authority's principal objective to protect customers' interests, we have sought to adopt a conservative approach in the quantification of net benefits including, in particular, our assessment of the costs based on the cost surveys received from market participants.

4.55. One possible unintended consequence of enduring offtake reform could be that the increased complexity of the arrangements could constitute a barrier to entry into the shipper market or increase the difficulty that customers face in switching shippers with negative implications for competition in gas supply.

Appendices

Index

Appendix	Name of Appendix	Page Number
1	Consultation Responses and Questions	48
2	The Authority's Powers and Duties	50
3	Glossary	52
4	Feedback Questionnaire	54

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 close of business 6 March 2007 and should be sent to:

Mark Feather
Associate Director, Industry Codes and Licensing
Ofgem
9 Millbank
London
SW1P 3GE
0207 901 7437
Email: mark.feather@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. As noted above, this document and the responses received are intended to inform the Authority's decision making process on the modification proposals that have been submitted. The Authority intends to reach a decision on the modification proposals in March 2007. Any questions on this document should, in the first instance, be directed to:

Andrew Pester
Senior Regulatory Analyst
Ofgem
9 Millbank
London
SW1P 3GE
0207 901 7107

Email: andrew.pester@ofgem.gov.uk

CHAPTER: One

Question1: There are no questions in this chapter.

CHAPTER: Two

Question1: Do you have any comments on the process associated with the modification proposals that have been raised?

CHAPTER: Three

Question1: We would welcome views on the analysis presented in this chapter.

CHAPTER: Four

Question1: We would welcome views on the issues raised in the chapter.

Appendix 2 – 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.²²

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 accordingly²³.

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 them²⁴; and
- The interests of individuals who are disabled or chronically sick, of pensionable age, with low incomes, or residing in rural areas.²⁵

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:

²² entitled "Gas Supply" and "Electricity Supply" respectively.

²³ 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.

²⁴ 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.

²⁵ The Authority may have regard to other descriptions of consumers.

- Promote efficiency and economy on the part of those licensed²⁶ 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 Regulation²⁷ 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.

²⁶ or persons authorised by exemptions to carry on any activity.

²⁷ Council Regulation (EC) 1/2003

Appendix 3 - 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.

C

[Capital Expenditure \(Capex\)](#)

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

G

[Gas Distribution Networks \(GDNs\)](#)

Gas Distribution Networks, of which there are eight, four of which are owned by National Grid Gas plc, and four of which were sold by Transco plc (now National Grid Gas plc) to third party owners on 1 June 2005.

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.

O

[Operating Expenditure \(Opex\)](#)

The costs of the day to day operation of the network such as staff costs, repairs and maintenance expenditures, and overhead.

T

[Transmission Connected Customer \(TCC\)](#)

A customer directly connected to the gas or electricity transmission system.

[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

[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:

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

1.2. Please send your comments to:

Andrew MacFaul
Consultation Co-ordinator
Ofgem
9 Millbank
London
SW1P 3GE
andrew.macfaul@ofgem.gov.uk