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Gas National Transmission System Offtake Arrangements Initial Impact Assessment on modification proposals

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Target audience: Transmission licensees, Gas transporters, Users of the transmission networks, consumer groups and other interested parties

Overview:
This document sets out our analysis of the potential impact of a series of modification proposals to reform the offtake arrangements for the National Grid Gas (NGG) National Transmission System (NTS). It builds on our earlier impact assessments of some of these modifications and takes into account the reasons the Competition Commission (CC) set out in its decision to quash our earlier decision to approve one of the proposed modifications. It also assesses the subsequent modifications proposed following an industry workgroup in the light of the CC's decision. We have not set out a "minded to" view on any of the proposed modifications but have set out the Authority's current views and assessment of all of the proposals. We welcome views on the analysis presented in this document by 29 August 2008. Responses to this impact assessment and the consultations on the modification proposals will inform our final decision planned for November 2008. If we approve any of the proposals they are likely to be implemented from April 2009.

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Context

This document sets out Ofgem's Impact Assessment (IA) on two sets of Unified Network Code (UNC) modification proposals relating to the reform of the framework under which shippers and Gas Distribution Networks (GDNs) obtain access to offtake (exit) capacity on the National Transmission System (NTS) of National Grid Gas (NGG). The first set of proposals (UNC 0116V and its alternatives) has been considered in two previous impact assessments. The Authority's decision on them was referred back to the Authority following a Competition Commission (CC) appeal. The second set of proposals (UNC 0195 and UNC 0195AV) were developed by the industry in response to the CC's decision and have not been the subject of a previous IA. This IA assesses both sets of proposals in the light of new information received since our original decision to approve one of the proposals, the decision of the CC and analysis carried out by a UNC Review Group. The IA and its responses will inform the Authority's assessment of both sets of proposals in reaching our final decision on whether to approve any of the proposed modifications.

Associated documents

- Pro forma questionaire on the cost impacts of enduring gas offtake and incentives (cover letter) 45/08 18/04/2008
- UNC 0116: enduring offtake - update on next steps following the Competition Commission's decision 27/02/2008
- Cover letter of National Grid Gas response to information request on the availability of NTS exit flexibility capacity 29/01/2008
- Competition Commission Witness Statements – UNC Modification proposal 0116V (An appeal under section 173 Energy Act 2004) 20/12/2007
- 269/07 UNC116: enduring offtake - information request on the availability of NTS exit flexibility capacity 269/07 01/11/2007
- 263/07 UNC0116:Enduring offtake - next steps 263/07 26/10/2007
- 219/07(a) – Direction issued to National Grid Gas plc by the Gas and Electricity Markets Authority pursuant to Special Condition C8E paragraph 4(d)(v) of the gas transporter licence 219/07 (a) 05/09/2007
- 209/07 Approval of the Incremental Exit Capacity Release ("IExCR") Methodology Statement 209/07 13/08/2007
- 201/07 Update on enduring offtake arrangements 201/07 03/08/2007
- Uniform Network Code (UNC): Reform of the NTS offtake arrangements (UNC 0116V, 0116BV, 0116CVV, 0116VD and 0116A) – Decision letter, 05/04/2007
- National Grid Gas - Offtake Arrangements Final Impact Assessment on modification proposals Ref: 23/07, 07/02/2007.
- 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).

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Summary

This Impact Assessment (IA) concerns the modification proposals that are with the Authority for the reform of the arrangements for gas offtake on the National Transmission System (NTS). There are two sets of proposals: Uniform Network Code (UNC) proposal 0116V and its variants, and the UNC 0195/0195AV proposals. Our initial view is that there are a number of positive features to the proposed reforms:

- The introduction of a framework under which all classes of NTS users provide longer term financial commitments should provide better information to NGG about future demand, leading to **more efficient NTS investment** and reducing the risk that customers have to pay for unnecessary capital investment.

- The proposals should **reduce the risk of undue discrimination** between different classes of user under the existing arrangements. Undue discrimination in the terms of network access is prohibited under EU and UK law.

- Modification proposals 0116V, 0116BV and 01116VD would establish a price for NTS "flexibility" – broadly the right to vary offtakes from the NTS from hour to hour within a daily capacity right. This would also provide NGG NTS with much better information about the demand for **flexibility** and would allow NGG NTS to allocate existing flexibility more efficiently and to make **more efficient investment decisions to increase system flexibility**.

- The proposals **should promote more effective competition** amongst shippers and suppliers in the provision of interruptible services and (in the case of 0116V, 0116BV and 0116VD) through the proposed auctions of flexibility rights.

- 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 (ARCAs).

We recognise that the proposals also **create additional costs for shippers** as a result of changes they would have to make to their IT systems and additional staffing costs to operate under any new arrangements. Our assessment of potential costs is based on shippers' own estimates and we would welcome views on whether these represent plausible estimates of the costs of operating under the different proposals.

In assessing the impact of the proposals we have undertaken a quantitative and qualitative cost and benefit analysis. Our overall quantitative assessment of the proposals indicates that there is likely to be a net cost of between £18-96m in present value terms for those proposals that introduce a flexibility product (0116V, 0116BV, 0116VD) and a net benefit of between £17 to -£34m for those proposals (apart from 0116A) where there is no new flexibility product.

However, these estimates have a high degree of uncertainty attached to them and may not fully capture the range of outcomes. There are considerable uncertainties associated with measuring the potential benefits associated with the reforms. Where we think the uncertainties are significant, we have not always attempted to quantify benefits but, recognising the limits of our knowledge, have tried to assess them

qualitatively. There is also the risk that shippers who may oppose the proposals might seek to inflate their own cost estimates of a particular proposal if they judge that its implementation would be disadvantageous for their own business.

Against this background of uncertainty over the potential benefits and costs, we think it is appropriate not to give undue weight to the quantitative analysis in this document. Clearly if the quantitative analysis suggested that across a range of scenarios and sensitivities there was a significant net cost, then to accept one of the proposals the Authority would have to demonstrate that it was plausible that the potential qualitative benefits could be significant enough to compensate. But if the net costs are modest and not disproportionate compared to the potential qualitative benefits, the Authority thinks that a lower burden of proof is required.

Since we took our original decision, we have asked NGG and the industry to provide us with much more information on the likelihood that flexibility might become more constrained in the future. This is an important when assessing whether it is necessary at this time to incur the costs of introducing a flexibility product. NGG suggested that flexibility constraints are likely under a range of plausible scenarios but many in the industry have disputed their analysis. This and other debates have revealed the following new and relevant insights:

1. In the case of proposals that would introduce a new exit capacity flexibility product, the level of flexibility that NGG can deliver also depends on the flow patterns at entry. This raises the question of whether introducing a flexibility regime only at exit is appropriate, or whether the issue needs to be addressed holistically at both entry and exit.

2. All of the proposed changes to the interruptible arrangements are based on the sale of interruptible capacity on a “nodal” basis rather than a zonal basis. This may limit the benefits that can be expected from these reforms, as there will only ever be a few, and will more often be only one, user who will want to capacity at a given node. This raises the question of whether the introduction of zonal interruptible capacity would be likely to have far greater benefits.

3. The main difference between 0116CVV/0195 and 0195AV is whether or not the level of interruptible capacity that is made available at the day-ahead stage is left to NGG’s discretion or based on a transparent set of rules. Our general preference would be for discretion combined with commercial incentives on NGG underpinned by enforceable statutory and licence obligations that would govern NGG’s use of that discretion. However, we recognise that there may be merits to a more prescriptive rules based approach to provide greater confidence to Users about the level of interruptible capacity that NGG will make available, at least until there is a track record in the release of this capacity and greater understanding about what patterns of flows affect NGG’s ability to release interruptible capacity.

We would welcome views on all of these issues along with any other issues that respondents consider relevant. Following consideration of all responses we intend to issue a Final IA in conjunction with the Authority’s decision on these proposals by the end of November 2008. If we decide to implement any of the proposals they are likely to be implemented from April 2009.

1. Introduction

Chapter Summary

This chapter provides background to the modification proposals, background on the GB transmission system, the existing arrangements for securing offtake capacity and the legal framework for the analysis.

Question box

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

Background on the GB gas system

1.1 National Grid Gas National Transmission System (NGG NTS) is the owner and operator of the high pressure gas pipeline system in Great Britain. Gas is taken directly from the National Transmission System (NTS) by the eight 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 and storage facilities. The NTS also incorporates Connected System Exit Points (CSEPs), where the NTS connects to other gas transportation systems. CSEPs include interconnectors to other national networks (such as the Irish network) and connections with independently owned gas pipelines. In total, the NTS has 180 exit points, of which approximately two-thirds are NTS/GDN transfer points and the remainder are connections to TCCs, interconnectors and others.

1.2 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. The GDN sales process involved the sale by NGG of four of its eight GDNs to independent parties. The reform of the NTS offtake arrangements was originally envisaged to occur in conjunction with the GDN sales process.

1.3 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 GDNs.

1.4 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 efficient. This was widely recognised as important because, to varying extents, investment on the high pressure network can offset investment on the local GDN and vice versa. Whilst

a single integrated network owner could be expected to optimise its investment strategy across both networks, with multiple owners arrangements are needed to indicate to the GDNs 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 GDNs and from shippers acting on behalf of TCCs through purchases of offtake rights. This would be expected to improve the efficiency of NGG NTS, TCC and GDN 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 GDN businesses or one class of user over another. In addition, non-discriminatory arrangements were necessary to ensure that the GDNs 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 GDN sales process.

1.5 When the Authority gave its consent to GDN 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

1.6 In June 2005, the Authority concluded that it would be appropriate to delay the introduction of enduring offtake arrangements to cater 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 required a transitional regulatory framework, known as the 'transitional offtake arrangements', which was introduced in January 2006 following various licence modifications and decisions to approve a number of UNC modification proposals.

1.7 The transitional arrangements are the arrangements and associated incentives currently in place in relation to capacity released between 1 October 2008 and 30 September 2012[1]. The transitional arrangements affect NTS users differently. The arrangements facing each party are described at a high level below.

Gas Distribution Networks

1.8 Under the transitional arrangements, GDNs signal their demands for NTS exit capacity through their bookings for 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, at NGG NTS's discretion, to book 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.

[1] The transitional arrangements were extended to 2012 following the Authority's decision to implement UNC 198.

1.9 Currently, 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 2011/12.

1.10 Where a GDN has sought incremental flat capacity and the request is judged by NGG NTS to require 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. There is no mechanism for the GDN to initiate NTS investment in flexibility.

Transmission Connected Customers (TCCs)

1.11 Under the transitional arrangements, the shipper for a TCC[2] purchases a bundled "NTS exit capacity" product, covering both flat and flexible capacity, on behalf of its customer. 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). TCCs can only reduce their capacity requirements during the period October to January and cannot reduce it below their maximum daily consumption in the previous winter. TCCs can obtain incremental flat capacity that does not require NTS investment, so long as NGG will release it.

1.12 If TCCs require incremental capacity that will necessitate an investment, then they, like GDNs, are required to enter into an ARCA with NGG NTS. As in the case of GDNs, ARCAs generally require users to make a commitment for at least one year, although this is subject to a case by case assessment.[3] The provision of additional capacity under an ARCA is generally subject to a lead time of about three years.

1.13 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. Currently all storage sites are treated as interruptible.

CSEPs

1.14 Capacity booking processes for NTS connected system exit points (CSEPs) is on a 12 monthly rolling basis, with proactive renewal of existing capacity required.

[2] TCCs can be their own shippers.

[3] In September 2006, we issued our first determination in respect of an ARCA, in which we stated that a one year commitment would normally be appropriate for incremental capacity, although an additional commitment could be levied for loads that were riskier than the overall portfolio of loads on the NTS

GDN shippers (shippers supplying customers connected to a GDN rather than the NTS)

1.15 GDN shippers purchase and pay for rights to use the GDNs and the NTS separately. As part of the GDN 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. The implementation of the model has subsequently been delayed to October 2012, in line with the extension of the sunset provisions for the transitional arrangements.

2. Overview of the Modification Proposals

Chapter Summary
This chapter summarises the two main modification proposals (0116 and 0195) and their alternatives.

Question box

Question 1: Are there any key features of the modification proposals which have not been incorporated in the descriptions below and which might have a material bearing on the outcome of the analysis?
Question 2: Are there any aspects relating to either the validity of the current proposals or the process being followed for this assessment that are a cause of concern?

The first set of modification proposals

UNC Modification proposal 0116V

2.1. The sale of four GDN businesses was approved by the Authority on the condition that NGG addressed the perceived issues that arose as a result of the separation of the ownership of the NTS and local gas distribution networks. On 13 September 2006 National Grid Gas National Transmission System (NGG NTS) raised a modification proposal to the UNC to implement enduring offtake arrangements from July 2007. This modification proposal was subsequently varied and re-raised in November 2006.

2.2. The proposer of the modification considered that it would allow all users of the network, including independent GDNs, non-discriminatory access to the NTS. In its modification proposal, NGG NTS outlined 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 GDNs with a diurnal flow profile as well as gas fired generators participating in the wholesale electricity market.

NTS Exit Flat Capacity

2.3. 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 would be made available at regulated prices with existing users assumed to have "prevailing rights" for such capacity. Existing holders of capacity would be required to give 14 months notice should they wish to reduce their capacity requirements
- **Long term allocation of incremental flat capacity:** incremental flat capacity (i.e. in excess of a user's prevailing rights) is made available at regulated prices on a non-discriminatory basis between all classes of network users with requests submitted consistent with investment planning timescales. Users would be required to commit financially to purchasing capacity rights for a four year period in order to trigger the release of incremental capacity. Users would also be able to purchase incremental rights beyond four years.
- **Medium / short term capacity allocation:** pay as bid auctions would provide an efficient allocation 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. Capacity would be offered for sale on a nodal or supply point basis (as opposed to a zonal basis);
- **Interruption arrangements:** interruption of flat capacity would be 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 would no longer apply;
- **Over-run charges:** Overrun charges would apply to the extent that shippers flow gas without having secured sufficient capacity rights. They would only be triggered if the aggregate end-of-day flow of all users at an exit point exceeded the aggregate end of day flat capacity held by all users at the exit point.
- **Trading:** shippers and GDNs would be able to trade capacity at a node but not between nodes, although GDNs would be able to request from the NTS the ability to substitute capacity between nodes for operational reasons where this is possible.

NTS Exit flexibility capacity

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

- **Long term allocation of a new flexibility capacity product:** A firm NTS exit flexibility capacity product would be made available in annual bundles of daily rights on a national basis. NGG NTS would sell a baseline level of flexibility

capacity through annual pay-as-bid auctions occurring in July of each year. Under this process, shippers and GDNs would be able to procure annual NTS exit flexibility capacity rights up to the baseline level for up to five years in advance. Whilst the auction would be a national auction, the release of flexibility capacity to the parties that value it the most would also be subject to zonal and area maxima determined by NGG NTS.

- **Short term capacity allocation:** In addition to the long term auctions, NGG NTS would offer for sale flexibility capacity in daily auctions. However, these auctions would 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 would be able to secure flexibility capacity through existing Offtake Profile Notification (OPN) processes.
- **Flexibility capacity over-runs:** As with flat capacity, overrun charges would be applied to those shippers and GDNs who have used flexibility capacity but have failed to purchase sufficient volumes of the product. These charges would only apply where there is an aggregate over-run within a zone.
- **Flexibility trading / transfers:** Users would be able to transfer and trade flexibility capacity across zones (subject to the zonal and regional maxima referred to above).

2.5. Four alternative modification proposals have been raised to modification proposal 0116, as summarised below.

Modification proposal 0116A – E.ON

2.6. 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 indefinitely 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

2.7. 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:

- 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 would only be 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

2.8. 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 new flexibility capacity product – in others words the flexibility arrangements would remain as currently laid out in the UNC.

2.9. As such, under this proposal, GDNs would continue to acquire flexibility capacity up to a level determined by NGG but the release of the product would not be extended to TCCs. 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.

2.10. 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

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

- Expanding the flexibility tolerance from 1.5 per cent to 3 per cent.
- Requiring NG NTS to provide 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 flexibility capacity between zones to be extended from 12:00 to 14:00 ahead of the gas day;
- Changes to the NGG NTS liability provisions when it fails to make gas available for offtake; and
- Bringing forward the dates by which offtake pressure requests are submitted by GDNs to NGG NTS, and subsequently confirmed by the NTS.

Ofgem's decision on the 0116 series of modification proposals

2.12. Ofgem published an initial IA on these proposals in June 2006 and a final IA in February 2007. The Authority then published a Decision to approve modification 0116V on the 5 April 2007.

2.13. Subsequently, on 30 April 2007, E.ON appealed against two aspects of the Authority's Decision — GEMA's decision that proposal 0116V should be implemented and its decision that proposal 0116A (E.ON's own proposal) should not be implemented. In July 2007 the Competition Commission (CC) upheld in part E.ON's appeal and quashed the Authority's April 2007 Decision.

2.14. It therefore falls to the Authority to re-consider the proposals in the light of E.ON's successful appeal. In a letter published in October 2007, the Authority explained that it intended to re-consider all the relevant modification proposals, not just the two modifications proposal (0116V and 0116A) that were the subject of the CC's decision.[4]

The second set of modification proposals

2.15. In the light of the CC's decision, a UNC Review Group 166 was set up by the UNC Modification Panel to consider:

- How best to monitor the availability of, and variation in, NTS linepack and the adequacy of arrangements for managing within-day flow variations;
- The size, duration and flexibility of user commitments for incremental NTS capacity;
- The need to consider User requirements and NTS requirements or characteristics and their effect on the design of relevant exit capacity products;
- How interruptible services should be offered to NTS Users;
- Compensation arrangements should exit capacity not be made available;
- Relevant consequential impacts on GDNs;
- Exit capacity overrun arrangements; and
- The release mechanisms for exit capacity.

2.16. As a result of this process, two new proposals relating to the offtake arrangements were brought forward in early 2008:

- 0195 – Introduction of Enduring NTS Exit Capacity Arrangements – raised by RWE Trading GmbH (RWE), and
- 0195AV – Introduction of Enduring NTS Exit Capacity Arrangements – raised by E.ON UK (E.ON)

UNC Modification proposal 0195

2.17. On 30 January 2008 RWE Trading raised a new proposed modification to the UNC relating to offtake arrangements. This proposal represented a consensus view of the Review Group 166, whose report was published on 13 February 2008. It very closely resembles 0116CVV in that it incorporates the 0116 proposals regarding flat and interruptible capacity but would not introduce a flexibility product. The proposal also incorporates a number of other adjustments from 0116CVV, the most important of which are:

[4] 263/07 UNC0116: Enduring offtake - next steps – 26/10/2007.

- The inclusion of an ability to nominate an Exit Capacity Booking Agent;
- Some variations in the provisions for relinquishing enduring capacity.
- Provisions to allow Users to apply for additional enduring flat capacity (whether at new or existing exit points) outside of the Annual Application Window. For existing capacity, this ability only applies for large scale increments (>125% of the prevailing baseline and obligated incremental capacity or >10 GWh/day);
- The allocation of annual flat capacity via the July Application Window rather than through a pay-as-bid auction; and
- The inclusion of a requirement on NGG to publish (on D+1 and update on D+6 and subsequently if more accurate information becomes available) the quantity of gas offtaken by all users between 06:00 and 22:00; the quantity of gas offtaken by all users for the whole day; opening linepack and actual closing linepack by Linepack Area.

These arrangements would be introduced from the 2012/13 gas year[5].

Modification proposal 0195AV

2.18. On 21 February 2008, E.ON UK raised an alternative modification to 0195. This modification was subsequently varied and re-submitted as 0195AV. The main difference from 0195 is that NGG NTS would be required to make available daily interruptible capacity on all days when demand is forecast to be less than 80% of the 1-in-20 peak day demand (Off-Peak NTS Exit (Flat) Capacity). Under 0195 (and the 0116 set of proposals – except 0116A under which the current arrangements would remain), NGG NTS would have discretion over when and how much daily interruptible capacity was released.

2.19. The volume of interruptible capacity that NGG NTS was required to make available at an exit point would be determined by subtracting from the maximum theoretical offtake rate for that exit point all the firm capacity holdings for that exit point (enduring, annual and daily). Existing Users would be able to relinquish some or all of their prevailing rights entitlement if they were prepared to rely on obtaining off-peak capacity. Overruns by Users of off-peak capacity would be treated in the same way as overruns for other flat capacity except that the User would be required to apply for a volume of Enduring NTS Exit (Flat) Capacity equal to their maximum overrun for the subsequent 4 years.

Processes associated with the two sets of offtake modifications

2.20. Although the two sets of modification proposals have been separately considered by the UNC modification panel and separately consulted upon, the industry has had an opportunity to comment jointly on the two sets of proposals. For example, respondents to the 0195/0195AV consultation were specifically asked to provide a ranking of their views on both sets of proposals.

[5] The proposal original referred to the 2011/12 gas year but made provision for this to be postponed by one year if UNC 0198, which extends the transitional arrangements for one year, were to be approved by the Authority and this has happened.

2.21. We are not, therefore, 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

2.22. In this 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

2.23. 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 GDN operators (who have entered into transportation arrangements with other relevant transporters) and relevant shippers.

2.24. 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

2.25. 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 (e.g., but not exhaustively, Directive 2003/55 and Regulation No 1775/2005).

Principal objective

2.26. 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 chapter sets out Ofgem's views on the quantifiable benefits and costs for consumers arising from the implementation of the different variants of UNC Modification Proposal 0116 and UNC Modification Proposal 0195

Question box

Question 1: Do you agree that user commitment should lead to more efficient investment signals and have we appropriately quantified the likely benefits associated with this effect?
Question 2: Do you agree that there should be a reduced incidence of ARCAs with user commitment and have we appropriately quantified the likely benefits associated with this effect?
Question 3: Are there any quantifiable benefits associated with the various modification proposals that we have not included in our assessment?
Question 4: Do you think that the cost data presented represents a realistic view of the incremental costs likely to be incurred if one of the modification proposals is implemented?
Question 5: Do you agree with NGG's view that flexibility capacity is likely to become scarce by around 2013? What are the reasons for your position?

Overview

3.1 In our February 2007 IA, we derived an estimate of the potential (quantifiable) customer benefits for modification proposal 0116V, relative to the current (transitional) offtake arrangements, of £72.4m in present value terms. We also estimated costs of between £43.9m (using the lowest four shipper cost submissions) and £64.1m (using all the shipper cost submissions). This resulted in an estimate of the net benefits to customers of between £8.3m to £28.5m. Similar calculations for the other proposals showed that there would be net benefits of £12-14m associated with 0116BV and £47m from 0116CVV.

3.2 In our decision letter, we amended our cost-benefit analysis to include the on-going operational costs of gas transporters which we had previously excluded. This change resulted in our finding that there would be net costs to consumers from implementing 0116V, 0116BV or 0116VD of £20-28m but net benefits to implementing 0116CVV of around £16m.

3.3 In its decision upholding E.ON's appeal, the CC criticised some of the assumptions made in the February 2007 IA and the Authority's decision letter. In this IA we have re-visited some of our previous analysis and assumptions. Ofgem has

also carried out a further consultation on the costs of the proposals for Shippers, TCCs and storage sites[6] and obtained further information from NGG NTS on the likely availability of flexibility over the medium term.[7]

3.4 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, 0116VD, 0195 and 0195AV against the baseline of alternative modification proposal 0116A which provides for the continuation of the transitional offtake arrangements.

3.5 In presenting the costs and benefits data in this chapter, Ofgem considers that it is important to emphasise the role that this analysis will play in the Authority's decision-making process. We consider that significant uncertainties are associated with the quantification of the costs and the benefits associated with the modification proposals. For example, the potential benefits associated with promoting competition and (by implication) well functioning markets are, for practical purposes, diffuse and inherently difficult to quantify or predict.

3.6 This is because the most significant benefits associated with competitive processes are usually associated with *dynamic* efficiency and innovation by companies in response to the discovery of new information and the creation of new business processes. This is particularly relevant when assessing the potential benefits associated with introducing competitive processes to the allocation and pricing of system flexibility. The information received from NGG and the response from shippers shows that there is a great deal of uncertainty about whether, in future, there will be a scarcity of flexibility as it will depend on a number of factors. The most important of these factors is the geographic spread of gas supply and demand, which is inherently difficult to forecast without wide margins of error.

3.7 By contrast, the transaction costs of markets including the implementation of costs of the reforms considered in this document are more easily quantifiable and can be directly measured with much lower margins of error.

3.8 The Authority must also consider the domestic and European legislative framework. If through the course of our analysis it becomes apparent that existing (or a proposed set of) arrangements are unduly discriminatory or carry a significant risk that they could have this effect, this may require reforms to be implemented. This would be the case even if these reforms could give rise to a net cost when the benefits and costs are quantified because of the need to ensure compliance with European and domestic legislation prohibiting network companies from unduly discriminating on the terms on which access to the network is offered to different users.

[6] Pro forma questionnaire on the cost impacts of enduring gas offtake and incentives - 45/08.

[7] UNC 0116: Enduring Offtake - Information request on the availability of NTS exit flexibility capacity, published 29 January 2008 on Ofgem's website

3.9 We noted in our March 2008 guidance on impact assessments[8] that qualitative factors should not be given any reduced degree of importance in impact assessments. Further, the March 2008 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.

3.10 This was recognised by the CC in their decision: "*benefits need not be quantified in order for them to be reflected in a CBA, and that non-quantified benefits may be as important, or more important, than quantified benefits*" but it noted that "*if a CBA is to be transparent, benefits should be quantified where possible. For the same reason, qualitative benefits should be explained clearly and in detail, so that it can fairly be seen whether there is any potential overlap between the qualitative and quantitative benefits.*"[9]

3.11 We have therefore taken account of these uncertainties, wherever relevant, throughout this IA but sought to explain our thinking on these issues in greater detail than in the previous IAs. We consider that qualitative effects will be a highly relevant consideration for the Authority when it comes to make its decisions on the modification proposals.

3.12 A summary of the results of our quantitative assessment of the benefits and costs to customers of each of the options is presented in Table 3.1 below. Recognising the uncertainty surrounding the estimates of costs and benefits, the table presents numbers for a central case together with a high case and a low case.

Table 3.1: Summary of quantifiable benefits and costs for implementing the UNC sets of modification proposals 0116 and 0195

NPV (£m, 08/09)	0116V	0116A	0116BV	0116CVV	0116VD	0195	0195AV
Benefits							
Central case	32.0	0	32.0	32.0	32.0	32.0	32.0
High case	61.0	0	61.0	61.0	61.0	61.0	61.0
Low case	18.3	0	18.3	18.3	18.3	18.3	18.3
Costs							
Central case	97.6	0	95.0	48.8	97.9	48.0	47.1
High case	114.1	0	111.1	51.8	114.7	50.6	49.9
Low case	81.0	0	78.8	45.8	81.1	45.3	44.2
Net benefits range	-20.0 to -95.8	0	-17.8 to -92.8	+15.2 to -33.5	-20.1 to -96.4	+15.7 to –32.3	+16.8 to –31.6

3.13 As can be seen, the ranges on benefits are quite wide, reflecting the significant degree of uncertainty around the quantifiable costs. Generally, the proposals involving the flexibility product have a negative range, while the proposals

[8] 'Guidance on impact assessments', Guidance, Ofgem, 31 March 2008, Ref: 33/08.
[9] Paragraph 6.159, 'E.ON UK Plc and GEMA and British Gas Trading Limited, Decision and Order of the Competition Commission', CC 2/07, 10 July 2007.

without that product (excluding 0116A) have a range which spans positive and negative values. In considering the overall impacts of each of these groups of proposals, there will be differing impacts from the qualitative benefits which will have to be factored in to the Authority's evaluation.

3.14 In estimating the present value (PV) of benefits and costs, a (pre-tax) discount rate of 6.25 per cent has been applied over the period from formula year 2008/9 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 Proposals.[10]

3.15 In the February 2007 IA, we identified a number of benefits and disadvantages to consumers that might arise from the implementation of the various modifications, namely:

- more efficient NTS investment signals;
- a reduced incidence of ARCAs;
- more efficient operation of the NTS;
- more appropriate allocation of risks;
- reduced simplicity but increased transparency;
- improved security of supply; and
- less potential for undue discrimination.

3.16 We have attempted to quantify the impact of the first two of these benefits; our analysis is discussed in the subsequent sections of this chapter. The qualitative nature of the remaining benefits is described in the subsequent chapter.

3.17 For each type of potential benefit, in this IA we set out:

- the conclusion reached in our February 2007 IA or decision letter with regards to each of the identified benefits in respect of UNC modification proposal 116V and its variants;
- views expressed by the CC where relevant; and
- our current view on the likely benefits of each modification proposal i.e. considering proposals 0195 and 0195AV as well as the 0116 set of proposals.

[10] "Transmission Price Control Review: Final Proposals", Ofgem ref 206/06, 4 December 2006

Quantitative analysis of benefits

More efficient NTS investment signals

February 2007 IA

3.18 In February 2007 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.

3.19 We estimated the potential scale of such efficiency savings as having a present value of £42.3m, which was based on a reduction of 6.5 per cent[11] of the capital expenditure over the period from 2009/10 to 2026/27. We argued that this figure was appropriate on the basis of historical assumptions used by Ofgem in other impact assessments.

CC report

3.20 The CC report raised no specific objections to Ofgem's analysis in this area, and rejected E.ON's criticisms. However, we note that it was not in the CC's remit to perform independent quantitative analysis of Ofgem's results. Rather, the CC commented on the reasoning behind Ofgem's analysis. Therefore the CC's decision should not be interpreted as agreeing with Ofgem's precise quantitative estimate in this or any other area of the analysis.

Ofgem's current view

3.21 All the modification proposals except 0116A involve the introduction of essentially the same firm user commitment framework for flat capacity. This 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 customers yet are not ultimately economically justified or necessary, despite previous forecasts.

3.22 By requiring parties seeking access to the NTS to underpin investment through financially backed user commitments, NGG NTS will receive more robust information about current and future demand for network capacity to inform its planning process and investment decisions than is currently the case. In particular, the introduction of long term user commitment models should encourage parties

[11] 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.

seeking access to the NTS and triggering investment to consider more carefully their decision to purchase capacity relative to the current arrangements.

3.23 We note that the benefits to customers from the introduction of user commitment models have already been demonstrated in the gas entry capacity regime; the entry capacity regime has resulted in identifiable savings (see below). We believe that to date, financially backed user commitment has worked in the gas entry regime to deliver only the investment that is required by system users and has reduced the probability that consumers will have to pay for stranded assets. There have been a number of significant incremental capacity projects that have been signalled by the auction regime (eg Garton, Milford Haven, Isle of Grain, Fleetwood and Easington) which are underpinned by long-term user commitment. This is a significant transfer of risk away from consumers to those shippers who are best placed to manage the risks. For example, in some of these projects the shipper has had to bear the risk that if their gas delivery facilities are unable to operate or the facilities are operating at below capacity from the time for which they signalled the commitment to flow, the shipper still picks up the capacity charges.

3.24 It is also striking that a lack of user commitment for electricity transmission rights have led to a number of problems. It has been difficult for NGET to predict where, and how much, new capacity may be required and the result is that there is now a large queue of new generators seeking access to the system and insufficient network capacity at a number of different locations on the network. This is having a negative impact on competition in the wholesale electricity and the environment as many of the generators in the queue are renewable and would lower carbon emissions from the electricity sector if they could connect sooner. Our concerns regarding the consequences of a lack of commitment, which are also shared by the Department for Business, Enterprise and Regulatory Reform (BERR), has lead to the recently completed Transmission Access Review, which includes proposals for user commitment in electricity transmission.[12]

3.25 In the 2002 – 2007 price control period, Ofgem disallowed £17 million of transmission capital expenditure at the St Fergus entry point, out of a total allowed expenditure on entry capacity of £475.9m[13]. This is equivalent to 3.6% of the total allowed capital expenditure. The basis for this decision was a lack of market signals of a need for additional capacity at this entry point, as indicated by the results of long-term entry capacity auctions. We consider that without the long term auction regime at entry it would have been more difficult to determine whether or not there was a need for further investment. Therefore, we regard 3.6% of total capital expenditure as a reasonable basis for estimating capital expenditure savings on exit capacity which all the proposals (except 0116A) could generate as a result of improved investment signals.

[12] Transmission Access Review – Final Report, Ofgem, 26 June 2008 (Ref: 89/08).

[13] Transmission Price Control Review - Final Proposals, Ofgem, 4 December 2006 p.33. Capital expenditure of £475.9 is NGG's load-related entry capacity capex between 2002 and 2006 inclusive. Although £19 million was disallowed, £2 million of this disallowance was due to inefficient contracting strategy. Since entry auctions were not responsible for identifying this inefficiency we do not include the £2 million in our estimate above.

3.26 We recognise that the figure of 3.6% is, in effect, based on a single data point, but, absent any other information, we consider this to be the best datum available. We also note that this assumption is more conservative than that which we adopted in the previous IAs related to both the 0116 set of proposals and the sale of the GDNs (6.5% efficiency savings) which was based on a broad brush consideration of potential savings.[14]

3.27 We have assumed that incremental NTS exit capital expenditure averages £97.7m per annum from 2012 onwards. This figure is in 2008 money, and is based on the average of the TPCR exit projects during the 2008-12 period.[15]

3.28 The proposals would first generate investment signals for NGG in October 2012. Hence we include savings from this date in our calculations.

3.29 Combining the TPCR capital expenditure forecasts with the estimated 3.6% cost savings from the proposals from October 2012 yields an average saving of £3.5m per year between in 2013 and 2027 inclusive, and a present value benefit of £28.4m in 2008/09 money. These savings are equally valid for all the modification proposals except for 0116A and we take this as our central estimate case. For our alternative scenarios we consider the figure adopted in the previous IA which related to the 0116 set of proposals (a 6.5% saving) as the High Case; this would yield a present value benefit of £51.3m. In our Low Case we adopt a more conservative saving of 2% pa which would yield a saving of £15.8m.

3.30 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 and which contribute to the need for long term user commitment. 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; and
- better insulation of people's homes which could reduce gas demand.

3.31 For example, the relatively short-lived gas-price shock in the winter of 2005/06 caused the load factor of gas-fired plants to reduce substantially: total power station gas demand was only around 64% of the level that it had been in the two previous years.[16] Consequently, it is not unreasonable to assume that some gas-fired plants might mothball their plant at short notice in response to price

[14] For example, the potential costs associated with reinforcement for one gas fired power station over a ten year period and the 5% contingency margin currently included in network planning calculations.
[15] The CAPEX forecasts are from the Gas Transmission Model, available on the Ofgem website (spreadsheet tab ExitRev Driver). The figures in the model are in 2004/05 money. We have inflated thee figures to March 2008 money by inflating by changes in the RPI, which results in an increase of about 8% relative to 2004/05. Note that although inflation for gas infrastructure costs has outpaced inflation as measured by the RPI, the original CAPEX forecasts already included an appropriate allowance for project-specific inflation. However, we note that to the extent which the use of RPI underestimates actual project-specific inflation, our approach underestimates the benefits of the proposed modification proposals.
[16] Figure A.3, 'Winter 2006/07 Consultation Document, Annex A', NGG NTS, May 2006.

signals. If gas-fired plants with firm capacity are mothballed, NGG must recover the costs it incurred in connecting the plant from the remainder of its customers. The proposed modifications could avoid or reduce these costs for other consumers. For example, we estimate that the mothballing of about 1.1 GW of gas-fired plants would create a revenue shortfall for NGG of around 50% of the annual savings discussed above.[17] At present, NGG would need to recover this shortfall from other customers and the mothballing generators would be able to return their plants to service, when conditions improved, without paying any costs. However, with user commitment the mothballing generators would continue to pay for their capacity for 14 months and so would have to factor these costs into their mothballing decisions. Requiring generators to factor capacity costs into their mothballing decisions is clearly more efficient than simply making other consumers pay them.

Reduced Incidence of ARCAs

The February 2007 IA

3.32 In our February 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.

3.33 We assumed that the transparency of terms within the UNC and the regulatory framework governing the release of incremental capacity would 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.

3.34 Our analysis of the savings from the avoidance of disputes provided a present value benefit of £9.7m.

CC report

3.35 The CC disagreed with E.ON's view that 0116V would not avoid the cost of ARCA disputes (or disputes of a similar nature). However, as we note above, it was not in the CC's remit to comment on the magnitude of the savings Ofgem estimated.

Ofgem's current view

3.36 We continue to consider that there will be benefits associated with the reduced incidence of ARCA disputes under all the modifications except 0116A. This should produce benefits both in terms of cost and in the time taken to resolve any dispute. However, we recognise that there are uncertainties regarding the number

[17] This estimate assumes an average CCGT efficiency of 55%, an exit tariff of 0.01084 p/peak-day kWh/day and a peak-day load factor of 90%.

of disputes that might occur in future. Moreover, we recognise that no ARCA disputes have occurred since the February 2007 IA was carried out. Therefore, we propose to set our central case of the benefits identified from avoided ARCA disputes to £0.45 million per year between 2012/13 and 2026/27.

3.37 This annual benefit equates to £3.6m (2008/09 money) in present value terms. In a report on our previous initial IA (June 2006) for the Gas Forum[18], the view as stated that a reduction in ARCA disputes was likely to generate a net benefit of £0-5m. Our revised view is, therefore, broadly in line with this view.

3.38 Again, we have adopted the previous base case of a £9.7m saving as our High Case in this IA, and a Low Case of £2.5m (which is the mid-point of the range previously identified by the Gas Forum report).

3.39 We note 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 exists under the present offtake regime and should not increase under the proposed enduring regime. Further, Network Exit Agreements (NExAs) are bilaterally negotiated and also have the same propensity for disputes now as in the future.

Analysis of costs

3.40 To understand the costs to customers of the various modification proposals, we issued a cost pro forma to industry participants.[19] 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.

3.41 We received 25 submissions in response to our cost survey, comprising:

- 14 TCC shippers (including 6 shippers from outside GB);
- 3 storage operators;
- 5 Gas Distribution Networks (GDN) (including 1 GDN from outside GB);
- a response from NGG NTS;
- a response from Xoserve; and
- a response from the Moffat interconnector agent.

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

[18] 'Reform of NTS Gas offtake Arrangements – Report for the Gas Forum', NERA Economic Consulting, December 2006.
[19] Pro forma questionnaire on the cost impacts of enduring gas offtake and incentives - 45/08.

Shipper costs

The February 2007 IA

3.43 In the February 2007 IA, we concluded that the cost to customers arising from costs incurred by shippers for implementation of the 0116V/BV/VD modifications would be between £34.9m and £40.9m, while the 0116CVV proposal would cost £8.5m (all in 05/06 prices).

3.44 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. This was done by scaling up the average of the figures provided by the respondents to account for users in each category that had not provided responses.

Ofgem's current view

3.45 Responses indicate that there are two main sources of implementation costs for Modification Proposals 0116/0195 and their variants (excluding 0116A):

- Initial IT system development costs, required to integrate the new flat and flexible capacity booking arrangements with users existing trading systems; and
- Ongoing staffing costs to enable around the clock participation in flexible capacity auctions (excluding 0116CVV, 0195 and 0195AV).

3.46 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.

3.47 Table 3.2 below presents a summary of the responding shippers' data. For the purposes of calculating a present value of the costs, we assume that implementation costs are evenly spread over the years 2009/10-2011/12, and the ongoing costs last from 2012/13 to 2026/27. As in the benefits part of this analysis, the discount rate used is 6.25 per cent.

3.48 Eight out of the 17 shippers actively operating on the NTS provided an estimate of the costs they would face from the implementation of the various modification proposals. Shippers indicated that the majority of the costs incurred are largely invariant to the number of exit points. Therefore, we have scaled up the total shipper costs by 17/8 to obtain an estimate of costs to shippers as a whole[20]. This scaled-up cost data is presented in Table 3.2.

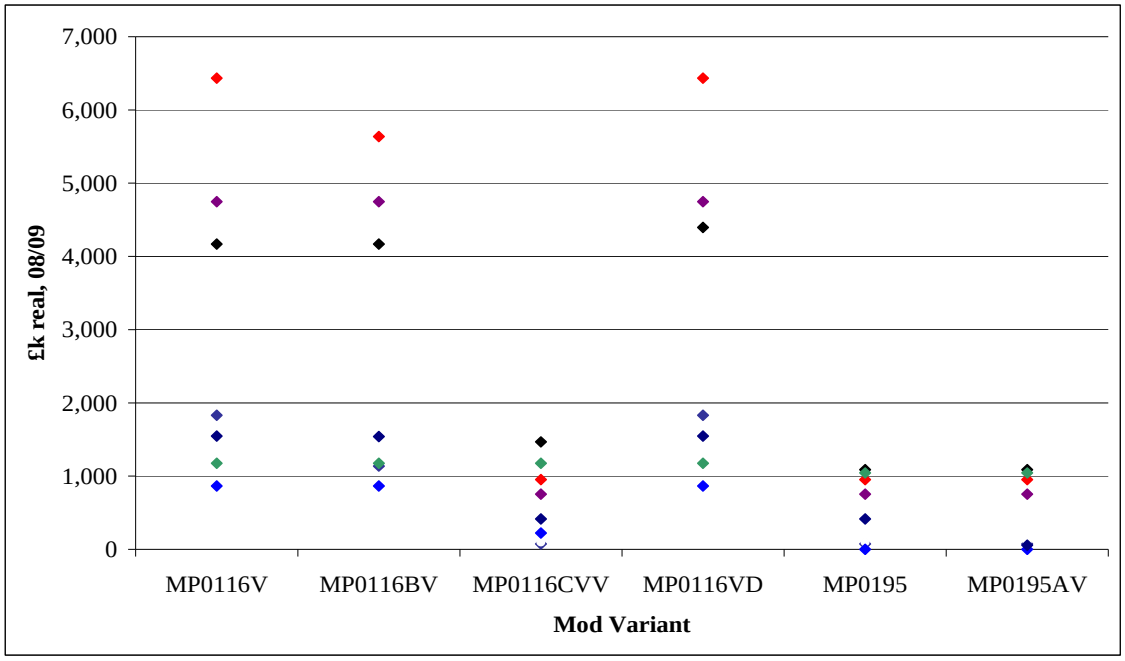
[20] Where respondents did not reply explicitly on Modification 0116VD, costs are taken to be the same as for Modification 0116BV

Table 3.2: Summary of shipper cost responses for the UNC sets of modification proposals 0116 and 0195

NPV (£m, 08/09)	0116V	0116A	0116BV	0116CVV	0116VD	0195	0195AV
Respondent total	22.0	0	20.5	5.2	22.2	4.4	4.1
Scaled-up total	46.7	0	43.5	11.0	47.1	9.4	8.6

3.49 Figure 3.1 below shows the range of costs varies markedly between shippers for each modification proposal. For example, the estimated implementation costs of modification proposal 0116V vary between £0.8m and £6.4m for individual shippers. In particular, the responses seem to diverge in into two distinct groups, with three shippers having significantly higher costs than the other five shippers. Using only the estimates of the lower-cost group of five shippers, the costs arising from Modification Proposal 0116V would be reduced to £22.5m.

Figure 3.1: Range of shipper costs for the 0116 and 0195 sets of proposals



3.50 Some shippers included costs that relate to the additional risks that they would bear under the new regime. 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, amounting to £1.8 million. We have excluded these costs from the figures presented in Table 3.2. This is because this sum represents a transfer between different customers, rather than an incremental cost.

3.51 Another shipper requested the inclusion of the cost of CCGT delay, brought about by the requirement for a user commitment under the modification proposal.[21] 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 agree that this would be the case, in that the user commitment means that the shipper would be required to pay transmission charges from the agreed date regardless of whether it had connected to the NTS. However, our view 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. We have therefore excluded these costs.

3.52 It is possible that the figures presented in Table 3.2 represent an overstatement of the costs that shippers and ultimately, customers will incur. Some shippers have argued that a significant driver of costs is the need to have an additional trading desk that has to be manned full time for 24 hours a day, every day of the year, to trade flexibility. However, the need for such an investment will depend on the extent to which flexibility is scarce: if there is sufficient flexibility, all shippers will be able to continue to submit offtake profile notifications in the same manner as now and there would be no need for an additional trading desk. As discussed elsewhere in this report, NGG does not expect a shortage of flexibility until about 2013 and, in their responses, many shippers argued that this view was pessimistic. We would welcome views on this position.

Cost to Transmission Connected Customers

The February 2007 IA

3.53 In the February 2007 IA, the total cost to TCCs (power stations, large industrial loads and storage sites), was calculated as £23.2m for modification 0116V/BV/VD and £6.5m for 0116CVV. This was estimated using data provided by a TCC representative organisation (the Gas Forum) and stand alone storage operators. Some responses included costs which had already been included in shipper costs and so were removed to avoid double counting.

Ofgem's current views

3.54 As we commented in the previous IA, we do not understand why TCCs should face additional costs from the introduction of a flexibility product – many will not require flexibility and those that do will rely on their shipper to provide it. Nonetheless, we have not excluded any costs from our base case analysis to account for this view.

[21] It should be noted that this cost was reported as £500,000 but entered into the pro forma response as £5 million. We assume that this value was simply mis-entered.

3.55 We received responses from 3 storage sites, and one TCC who is also a shipper. The costs submitted by the self-shipping TCC were associated with its shipping activities, and so we excluded them from our analysis of TCC costs. As we received no responses from non-storage pure TCCs, we have had to rely upon the Gas Forum data used in the February 2007 IA to estimate costs for this set of Users.

3.56 We estimate that there are 50 directly connected sites that would be affected by the implementation of an enduring offtake regime (excluding storage). However, because there are companies who use several NTS offtake points, there are only 28 companies that take gas from the NTS directly (TCCs)[22]. Our view is that the costs associated with the implementation of the modifications for a company would not vary with the number of NTS offtake points it uses. This is consistent with the view stated by one of the shipper respondents. Therefore, scaling up the costs for each of the 50 NTS offtake points site would significantly overestimate the costs. It is more accurate to scale the responses by the 28 separate TCCs who take gas directly from the NTS.

3.57 We used the average costs for TCCs included in the February 2007 IA, inflated at 2% for two years to bring costs in line with the basis of our calculations. We have multiplied this value by 28 to arrive at the total costs for TCCs. The resulting cost estimates are shown in Table 3.3.

3.58 Modifications 0195 and 0195AV were raised after the February 2007 IA, and so we have no applicable TCC costs from the Gas Forum. To estimate TCC costs for these modifications, we assume that the TCCs' costs would vary between the different proposals in the same way that the shippers' costs do. Specifically, if shippers' costs are X% higher/lower for proposal 0195/0195AV than for 0116CVV, TCC costs will also be X% higher/lower.

Table 3.3: Summary of TCC cost responses for the UNC sets of modification proposals 0116 and 0195

NPV (£m, 08/09)	0116V	0116A	0116BV	0116CVV	0116VD	0195	0195AV
Total cost	8.9	0	8.9	1.8	8.9	1.5	1.4

3.59 With regards to the storage operator data, one of the three respondents had an estimate for IT and staff implementation costs which was an order of magnitude greater than the others. It seems likely that this respondent is self-shipping and has included its shipper costs though, as this was not made clear in the information provided by the respondent, we have included these costs as we did in the previous analysis. One storage operator did not provide any figures for modifications 0116CVV, 0195V and 0195AV. These costs were estimated by assuming they would scale proportionally to the costs provided by another storage operator. The resulting cost estimates are shown in Table 3.4.

[22] For example, a firm that took gas at four separate NTS offtake points would only count as one TCC.

Table 3.4: Summary of storage operator cost responses for the UNC sets of modification proposals 0116 and 0195

NPV (£m, 08/09)	0116V	0116A	0116BV	0116CVV	0116VD	0195	0195AV
Total cost	4.8	0	4.8	1.7	4.8	1.7	1.7

3.60 Based on the respondents' data, the estimated costs for TCCs and storage operators are given in Table 3.5 below.

Table 3.5: Summary of TCC and storage operator cost responses for the UNC sets of modification proposals 0116 and 0195

NPV (£m, 08/09)	0116V	0116A	0116BV	0116CVV	0116VD	0195	0195AV
Total cost	13.7	0	13.7	3.5	13.7	3.2	3.1

3.61 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 the TCC level, as the TCCs' shippers will be the primary interface with the new regime and will change their systems and procedures to cope accordingly. Therefore, the inclusion of significant ongoing costs probably represents a degree of duplication.

Cost to gas transporters and their Agency

The February 2007 IA

3.62 In the February 2007 IA, from data provided by the respondents, we concluded that the present value of the on-going costs that may be incurred by GTs (including those incurred by their agent, Xoserve) would be between £56m and £57m for modifications 0116V, 0116BV and 0116VD, and £49.9m for 0116CVV.

3.63 We assumed that the costs and risks associated with the implementation of enduring offtake reform should have been reflected by the purchasers of the GDNs in the prices paid for the businesses under any due diligence process and by NGG when agreeing to the terms of the GDN sales process. Therefore, whilst we recognised that there are indeed costs to transporters from the 0116 set of proposals, we concluded that they should be excluded from the cost-benefit analysis.

3.64 However, in our decision letter, we amended our cost-benefit analysis to include the on-going operational costs of gas transporters which we had previously excluded. We made this change as a result of the concerns expressed by a number of respondents to the February 2007 IA and a review of previous statements we had made on the treatment of operational costs of GDNs in a divested industry structure. We took the view that the operational costs of GDNs should be subject to comparative analysis and benchmarking in future price controls in the normal

manner. On this basis, we included the ongoing operational costs that have been submitted.

The CC report

3.65 The CC's main concern with regard to our treatment of GT costs related to upfront costs. The CC were concerned that we had failed to set out a principled and consistent basis for excluding these costs. This concern arose from the fact that we stated in the February 2007 IA, that we would give little weight to such costs provided that they were not manifestly disproportionate.

Ofgem's current view

3.66 Ofgem's current view is that both upfront and on-going gas transporter costs should be included as a conservative estimate of costs, since we cannot be sure that the costs of the possible modifications were adequately reflected in the sale prices as the matter was not explicitly discussed in any of the GDN sales consultation documents.

3.67 The gas transporters and their agency have now provided updated estimates of the costs of implementing these Modification Proposals, and these are presented in Table 3.6 below.

Table 3.6: Summary of cost responses from NGG NTS, GDNs and xoserve for the UNC sets of modification proposals 0116 and 0195

NPV (£m, 08/09)	0116V	0116A	0116BV	0116CVV	0116VD	0195	0195AV
Respondents' data	52.5	0	52.6	36.6	52.6	37.3	37.4

3.68 Nearly 50% of these costs are attributable to NGG NTS, with NGG Distribution accounting for nearly a further 25% of the costs.

Industry participants and customers in other jurisdictions

The February 2007 IA

3.69 In the February 2007 IA 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.

3.70 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. 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.

The CC report

3.71 The CC concluded that we took a "pragmatic and reasonable decision to focus on Great Britain", since this is main object of our responsibilities, and that we acted within the limits of our discretion in adopting this approach. They did not accept that European law, and the existence of a single gas market, requires a different approach to be taken.

Ofgem's current view

3.72 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. Responses received from jurisdictions downstream of Moffat have indicated that the 0116V/BV/VD modifications would impose a cost of c.£12m in NPV terms, and the equivalent figure for the 0116CVV/0195/0195AV proposals would be about £6m. However, we still consider that it is not appropriate to include the costs incurred by respondents operating in areas outside of the Authority's jurisdiction in this Impact Assessment.

3.73 Ofgem has had discussions with the parties downstream of Moffat to discuss the potential developments of the offtake regime. We believe that with the advent of Gaslink as the new system operator for the Irish market, there are viable solutions to their concerns regarding security of supply without having to enact exceptions for their regime. We expect these discussions to continue and are hopeful that a solution will be found that is acceptable to all parties.

Summary of cost analysis

3.74 Given the potential costs that may be incurred by shippers, TCCs (including storage operators) and gas transporters, as detailed above, we estimate that the upper bound to the total potential present value costs to customers are as shown in Table 3.7 (based on a 6.25% discount rate). We have used these costs in our High Case scenario.

Table 3.7: PV of shipper, TCCs and gas transporter costs

NPV (£m, 08/09)	0116V	0116A	0116BV	0116CVV	0116VD	0195V	0195AV
Total costs	114.4	0	111.1	51.8	114.7	50.6	49.9

3.75 As noted above, it is likely that the costs set out above have been overestimated. In view of this and the general level of uncertainty surrounding the costs, we have also analysed the impact of scaling up the average costs of the lowest five shipper submissions and removing the costs submitted by TCCs, on the basis that we consider these could represent an element of double counting. We set out the impact of this on the overall cost analysis below in Table 3.8. In summary, using the lowest five shipper cost submissions reduces the total cost impact of the 0116V, 0116BV and 0116VD proposals by approximately £24m, and removing the TCC costs would further reduce costs by between £1.4 – 8.9m. We have used these estimates in our Low Case scenario.

Table 3.8: PV based on lowest five shipper submissions, plus all of gas transporters & storage site costs

NPV (£m, 08/09)	0116V	0116A	0116BV	0116CVV	0116VD	0195V	0195AV
Total cost	81.0	0	78.8	45.8	81.1	45.3	44.2

3.76 Our Central Case is constructed as the mid-point between the upper bound and lower bound costs.

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 and UNC Modification Proposal 0195. The chapter focuses on undue discrimination – where like parties are treated differently without objective reasons – distorts competition and is unlawful. The elimination of undue discrimination is one of the main benefits of both sets of modification proposals with respect to competition.

Question box

Question 1: Do you agree that the proposed modifications should, to varying extents, led to more efficient system operation?
Question 2: Do you agree with NGG's view on the likely scarcity of flexibility from 2011/12 onwards?
Question 3: To what extent do you consider that entry flows materially affect the availability of flexibility?
Question 4: Do you consider that there are ways in which the requirement for flexibility capacity could be managed without having to introduce a flexibility product of the type proposed by 0116V and its variants?
Question 5: Do you agree that there is the potential for the proposed modifications to lead to increased competition both in the provision of interruptible services and in relation to access to flexibility?
Question 6: Do you agree that under the current arrangements there is the potential for undue discrimination between (a) interruptible and firm users, (b) TCCs and GDNs and (c) existing and new users? Would the proposed modifications reduce this potential?
Question 7: Do you agree that the proposed modifications might increase the potential for undue discrimination between entry and exit but reduce the potential for undue discrimination between IDNs and RDNs?

Overview

4.1 In addition to the quantitative issues identified in the previous chapter, there are a number of qualitative issues related to the implementation of the modification proposals that need to be addressed. These are:

- Efficient system operation;
- Promotion of competition;

- The prevention of undue discrimination;
- The more appropriate allocation of risks;
- Simplicity and transparency; and
- Improved security of supply

The following sections address each of these issues in turn.

Efficient system operation

Flexibility

The February 2007 IA

4.2 Our February 2007 IA noted that the proposals for enduring offtake could be expected to provide potential system operation benefits. In particular, we argued that under 0116V, 0116BV and 0116VD the allocation of flexibility by auction would ensure that, in the event of scarcity, capacity is allocated to those that value it most. These modifications would also target the costs of offtake flow variations to TCCs and GDNs, which could reduce the costs that may be incurred by NGG NTS in its role as residual balancer. Similar arguments apply to all the 0116 set of modifications (except 0116A) in respect of the auctioning of short term flat capacity products.

4.3 The February 2007 IA also stated that the proposed requirement under all the 0116 set of modifications (except 0116A) 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 should assist NGG NTS in identifying spare capacity on the network, which would avoid the need for investment.

The CC report

4.4 The CC report accepted that the modifications could potentially provide the benefits that Ofgem described, for example in the efficient allocation of flexibility. However, the CC report noted that the benefits were contingent on there being a shortage of flexibility – that is, demand for flexibility exceeding its supply. In the absence of a scarcity of flexibility there would be no efficiency benefit to the modifications with respect to flexibility allocation. The CC report found that Ofgem had not demonstrated the likelihood that a scarcity of flexibility will occur and did not sufficiently identify the nature and extent of the benefits which would accrue to consumers in the event of a scarcity.

Ofgem's current view – scarcity of flexibility

4.5 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, but accept that these benefits mostly arise when there is a scarcity of flexibility or when prices indicate a likely scarcity of flexibility in the future. However, it can also be argued that benefits may also arise when there is no

scarcity of flexibility, since a very low or zero price for the flexibility product would indicate to GDNs with greater certainty than is currently the case that it is more efficient to book NTS flexibility than to build flexibility on their own networks. Absent the reassurance that there is no scarcity of flexibility for the next few years, they might otherwise choose inefficiently to invest in their networks.

4.6 We also note that, in one sense, flexibility is always scarce. Recent workshops held by NGG with respect to the Network Planning Code have highlighted that the contingency approach that NGG NTS takes when planning network investments involves applying a "flow margin" of 5% to the 1 in 20 scenario peak day. The flow margin could be reduced if there were no requirement for flexibility. (We accept that the flow margin does not only relate to flexibility concerns and hence that it may be in reasonable to assume that the flow margin could be completely removed). Under this view, flexibility is always scarce but the scarcity is masked by including flexibility as a component of the flow margin. Based on the TPCR4 total capex allowance of £1.1bn (which includes revenue-driver triggered capex), a reduction of the flow margin from 5% to 4% equates to a potential annual saving of £2.2m.

4.7 Ofgem has also sought to establish if and when a shortage of flexibility might occur, ignoring the flow margin effect. The point in time when a shortage of flexibility occurs is relevant to this IA, because it is from this point in time that we would expect there to be the most significant benefits from a market mechanism for allocating flexibility. In the rest of this discussion, we define a shortage of flexibility as the point at which the price of flexibility reaches a level sufficient to prompt investment in new GDN infrastructure.

4.8 To determine when a shortage of flexibility might occur in November 2007 Ofgem requested further details from NGG on its views on the availability of flexibility for the period 2007 – 2017.[23] In January 2008 Ofgem consulted on NGG's response.

4.9 Based on a projection forward of actual flexibility capacity usage to date, NGG's analysis indicates that the current National Maximum Flexibility Capacity of 22 mcmd is likely to be exceeded by Winter 2012/13.[24] NGG described a number of scenarios, which it deemed plausible, where the current National Maximum Flexibility Capacity could be exceeded before 2012/13.

4.10 NGG identified the following factors that could affect the supply and demand for flexibility:

[23] 269/07 UNC116: enduring offtake - information request on the availability of NTS exit flexibility capacity – 01/11/2007.
[24] National Grid Gas response to information request on the availability of NTS exit flexibility capacity.

- The distribution of gas supplies in GB – for example NGG estimates that without gas imports at the Isle of Grain, flexibility would reduce from 26.5 mcmd to 22.5 mcmd.

- The distribution of the demand for flexibility – with an allocated flexibility product NGG can determine the distribution of allowed flexibility across the system so as to maximise total flexibility. However, under the modifications involving a flexibility product (0116V, 0116BV and 0116VD) this would no longer be possible, and NGG argues that the pattern of Users' demands for flexibility could result in less flexibility being available in total. We note that this may still be a more efficient outcome, since the flexibility will be allocated to Users who value it most, which is not necessarily the case under the present arrangements.

- The capacity and load factor of gas-fired generation – gas-fired plants may vary their level of generation over the day, which creates demand for flexibility. NGG forecast a significant increase in the capacity of gas-fired plant, which it expects to replace retiring nuclear and coal-fired plant. A change in the relative price of coal and gas could also increase demand for flexibility – if gas prices increase relative to coal, Combined Cycle Gas Turbine (CCGT) plants would move from base load operation with a relatively constant demand for gas to a more variable operation where significantly more gas is required in the middle of the gas day, when demand for electricity is highest. The expected increase in generation from wind farms could compound the issue, since CCGTs may need to increase production rapidly to replace lost output from wind farms following a drop in wind speeds.

- Storage – There are currently a large number of proposed storage projects under development. A proportion of the new storage sites could be expected to be developed with 'fast response' capabilities that will potentially require greater use of flexibility capacity on the NTS. However, NGG also notes that storage operations could also be a source of additional flexibility.

- Back-loading and front-loading at entry – if the rate of injection into the NTS varies over the day, this can also influence the availability of flexibility. Back loading – where shippers deliver more gas in the second half of the gas day – reduces flexibility. Front loading (delivery of more gas in the first half of the day) also affects the availability of flexibility.

- Entry capacity substitution – Although not mentioned in its response, NGG has in subsequent discussions at Transmission workstream meetings stated that the implementation of entry capacity substitution could impact on both the geographical availability of flexibility at exit and also the amount of discretionary flexibility capacity that might be available.

- Severe weather – on a very cold day there will be a much higher level of swing and hence a much greater demand for flexibility.

4.11 Respondents to our consultation on NGG's assessment generally considered that NGG's views on the likely scarcity of flexibility were over-pessimistic and reflected a "worst case" scenario that was not very credible.

4.12 Some respondents noted that the reported shortage of flexibility was likely to be contractual rather than physical, since in reality not all GDNs would use their flexibility at the same time.

4.13 Respondents also considered that NGG had over-estimated the demand for flexibility from 2011/12 onwards. This, respondents claim, is because NGG has not accounted for increases in the level of distribution storage that will be available to GDNs as a result of investments allowed in the latest Gas Distribution Price Review.

4.14 One respondent claimed that no shortage of flexibility should arise provided the GDNs invest adequately in their systems, and criticised NGG for failing to recognise that additional compression on the NTS could increase the availability of flexibility. In our view, it would be possible to avoid a shortfall of flexibility if the GDNs invested heavily in diurnal capacity – but it may not be the least-cost method of securing flexibility. A market-based mechanism for flexibility would allow GDNs, NGG and market players to establish whether it was optimal to invest in more GDN diurnal storage, or alternatives such as flexibility investments in the NTS or even a reduction in the demand for flexibility from CCGTs. The current mechanism does not allow for such trade-offs, and hence does not facilitate an efficient, least-cost outcome for the provision of flexibility.

4.15 One respondent claims that the proposals in 0116V, 0116BV and 0116VD are not intended to provide signals for investment in NTS exit flexibility capacity, because flexibility is a by-product of investment in NTS exit flat capacity. We accept that flexibility and flat exit capacity are clearly related but consider, as explained above, that it is unclear whether the level of flexibility currently provided as a by-product is efficient since the value of its inclusion is not measured in any way. The introduction of a flexibility product would provide valuable signals of the value of in investing in flexibility measures.[25]

4.16 The same respondent asserts that the question is not between investing in the transmission or distribution networks because it is 'generally accepted' that investment in the NTS to provide new linepack flexibility is more expensive than investing within the GDN. However, in our view this point is not self-evident, and the cheapest source of flexibility may change over time – a market-based price for flexibility will help reveal the optimal choice.

4.17 One respondent claimed that the predicted shortage of flexibility was driven by the GDNs' fears of having their own flexibility investments disallowed, and that

[25] The respondent making the point that the modifications are not intended to provide investment signals does acknowledge that investment in additional compression would increase flexibility. However, the respondent does not appear to appreciate that it is very difficult to determine whether such investment would be efficient without being able to place a value on flexibility.

this situation had only arisen since the GDN sales in 2005. Another respondent noted that GDNs may have over-estimated their future need for flexibility. However, we note that NGG's prediction of shortage in flexibility is based on a trend established from 2001 onward – well before the GDN sales. NGG also identified that a significant factor exacerbating the risk of a scarcity of flexibility is the increase in CCGT and renewable capacity – a factor independent of the GDN's demand for flexibility. Hence, we do not consider it likely that NGG's results could be driven solely by a relatively recent (hypothetical) issue of an 'excessive' demand for flexibility by GDNs.

4.18 One respondent put forward the idea that changes in the need for flexibility are more likely to be a step change – as gas holders close and CCGTs close down or start up – and that the demand for flexibility is 'bounded' by these issues. The respondent noted that the change in flexibility demand is more likely to be a one-off event that could be handled by planning rather than a market mechanism. However, while we accept that this view has some merit, we note that the addition of CCGTs and the associated increase in flexibility demand is likely to be an ongoing process, rather than a 'step-change'. In both cases a market mechanism seems more appropriate.

Ofgem's current view – competition for flexibility

4.19 The CC report noted that competition for flexibility would take place between GDNs whose revenues the Authority controls, and TCCs who are not subject to revenue control. The CC considered that this could affect the nature of competition for flexibility.

4.20 We note that GDNs will not be able simply to pass through all of their costs to customers – GDNs are subject to cost incentives which allow GDNs to retain a portion of the difference between a target level of cost and actual costs. Hence, GDNs have an incentive to procure flexibility in the most cost-efficient way. Moreover, GDNs would procure the same amount of flexibility, regardless of whether they are allowed to keep 100% of the savings or 10%. With appropriate incentive schemes in place, we do not believe that there would be a distortion of competition as a result of price controlled and non-price controlled businesses competing for the same flexibility products.

Ofgem's current view – consumer benefits

4.21 The CC report also commented that Ofgem could give a clearer example of how consumers might benefit from the modifications in the event of a scarcity of flexibility, which we attempt to do below.

4.22 Currently, GDNs do not bid against each other for flexibility capacity or pay for the flexibility capacity, but are required to request this capacity on an administrative basis. TCCs can also request offtake flexibility from NGG, although NGG is not obliged to accommodate all of the TCCs' requests. However, historically NGG has been able do so because of spare flexibility capacity on the NTS. NGG can

nevertheless impose restrictions on the right of TCCs to vary their rate of offtake under Network Exit Agreements.

4.23 In the event of a shortage of flexibility, such arrangements would be inefficient compared to an alternative where TCCs and GDNs bid against each other for flexibility, as would be the case under 0116V, 0116BV and 0116VD because, for example, NGG would not necessarily be able to allocate flexibility in an optimal (cost-efficient) manner. Suppose NGG allocated more flexibility to GDNs and less to gas-fired power stations (who represent the majority of TCCs). Gas-fired plants would have to curtail peak power production, increasing electricity prices and possibly increasing electricity balancing costs. Gas-fired plants would have no opportunity to bid for flexibility, however much they valued it. It could be that a cheaper solution is to give more flexibility to gas-fired plants and less to the GDNs, who would use their own flexibility or diurnal storage instead, subject to their obligations to meet 1 in 20 firm peak demand. An auction for a flexibility product would reveal this solution, since gas-fired plant would (in this example) be prepared to pay more for flexibility than the GDNs.

4.24 Moreover, establishing a market price for flexibility could increase its supply. For example, NGG notes that the volume of flexibility available is very sensitive to the amount of gas injected at the Isle of Grain entry point. If a market price for flexibility were established, NGG could (if it chose) offer shippers at Grain payment to inject more gas and create more flexibility, based on the value of flexibility. (In this respect, we note that NGG has financial incentives to increase the level of flexibility in response to demand.) Grain shippers would be able to trade-off NGG's offer against other considerations such as the value of keeping gas in storage and an efficient outcome would be reached. Under the current transitional arrangements, such trade-offs would be much more difficult because the market value of flexibility is unknown i.e. NGG would have little basis for determining what price to offer the Grain shippers.

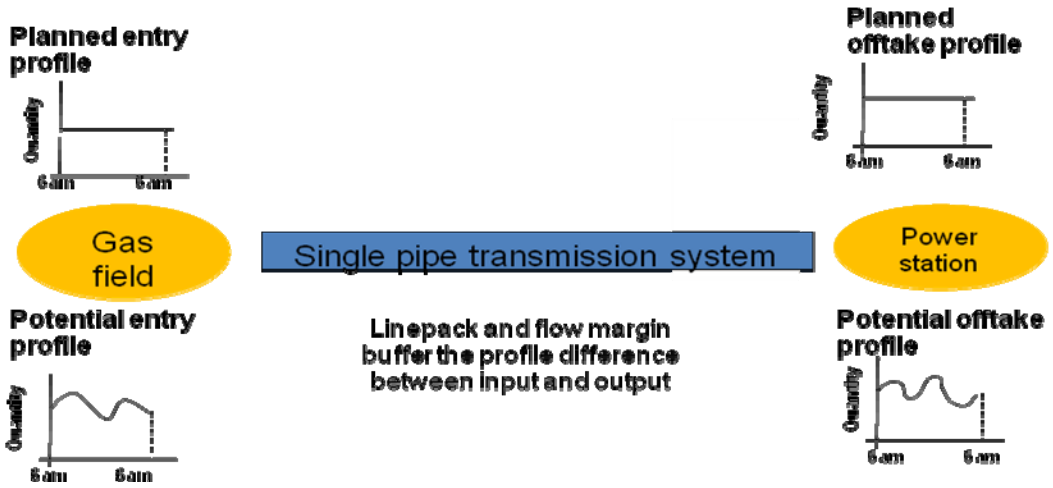
Ofgem's current view – potential problems with the proposed arrangements

4.25 Whilst there are a number of reasons to suppose that the introduction of a new flexibility product would have benefits, as we have just outlined, we also recognise that the scale of such benefits is very uncertain. Moreover, we accept that there are a number of potential problems (other than costs) associated with the proposed arrangements.

4.26 Perhaps the most important of these problems is the fact that the abundance or scarcity of demand does not just depend on the behaviour of Users at exit – it is significantly affected by the variability of entry flows. As a consequence, it may not be efficient or effective to address flexibility issues only at exit.

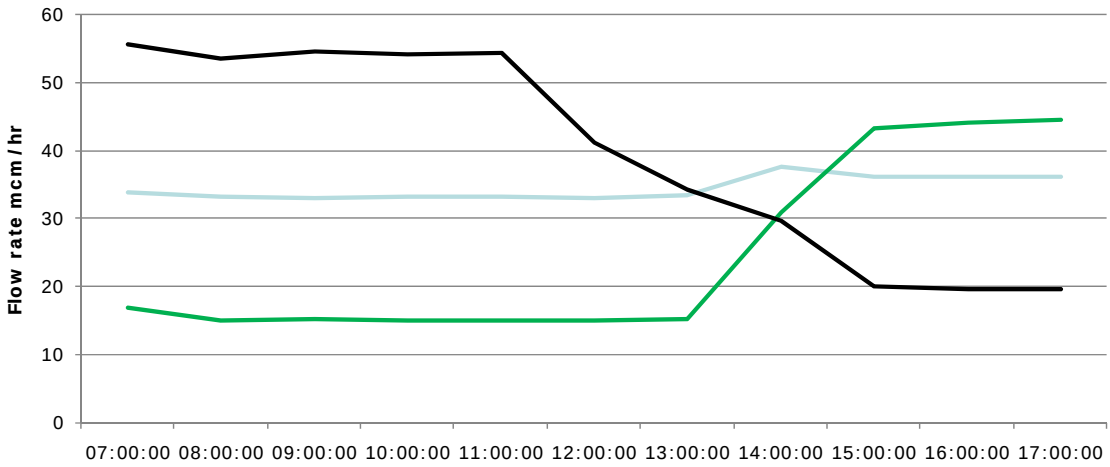
4.27 The NTS was originally designed for a flat entry and offtake profile. We consider that behaviour at entry has an impact on the availability of flexibility at exit. The figure below provides the simplest representation of the system, where there is a single entry and exit point. In recent Transmission workstream meetings NGG has

highlighted that entry profiles can vary substantially both throughout the day and between days, and so there must be consequential effects on the availability of flexibility at exit. On the basis of the response to workstream questions by NGG, it would seem likely that the current changes in the entry capacity regime (eg the introduction of transfer and trades, substitution) could have a negative impact on the availability of exit flexibility capacity.



4.28 Whilst there is considerable variation in the extent to which entry flows vary across the day, some variations have been seen at almost all entry points over time. As an example, the figure below shows three different flow profiles from the Easington entry point that are typical of the flows seen during 2007/08. More generally, if there are technical problems offshore these frequently lead to variable flow profiles.

Examples of typical flow profiles at the Easington entry point during 2007/08



4.29 We have always recognised the role that entry flows play in determining the level of flexibility required and have explored a number of different ways in which flexibility might be appropriately valued. For example, we have proposed and consulted extensively on introducing both a "linepack service" (which would have involved NGG selling the flexibility provided by linepack on the system to shippers) and on moving to an hourly gas balancing regime with sales of linepack allowances to allow shippers to manage any within day imbalances. We eventually decided not to pursue either option at that time but to monitor a range of indicators that could indicate that further reform in this area was necessary.

Addressing flexibility concerns

4.30 Given our statutory duties, we cannot ignore concerns expressed by the TSO that flexibility might become scarce in the future. Were we to adopt a "wait and see" approach (as advocated by many respondents), we would need to be confident that there would be sufficient warning of an impending scarcity of flexibility to enable mechanisms to address the problem to be developed and implemented before flexibility actually became scarce.

4.31 Given the disparity of views expressed on the topic by NGG and the respondents to our consultation, we are currently considering if there is a way to manage the requirement for flexibility capacity without having to introduce a flexibility product of the type proposed by 0116V and such variants.

4.32 One potential option would be to establish operational arrangements and an incentive scheme for National Grid so that they can a) manage any flexibility constraints that do emerge by taking actions, in a non-discriminatory way either at entry or at exit and b) have an incentive to move to more commercial arrangements to manage any emerging problems by introducing flexibility (or linepack) services in future should this be justified.

4.33 Such an approach would first involve clarifying and simplifying NGG's existing operational tools to limit shippers' ability to vary their gas flows within day at either entry or exit points. Currently, NGG can limit end of day flows through commercial buy-back of entry capacity. NGG can also curtail entry flows through the use of a Terminal Flow Advice (TFA) but this is primarily a safety tool to prevent pressure excursions. Currently, NGG has no tools to limit within day flow variations at entry. At exit, there are tools that can be used to limit within day flow variations; the enforcement of ramp rates and notice periods in the NExAs and GDN Offtake Arrangement Documents, and GDNs can be asked to switch offtake loads to different exit points.

4.34 We could consider establishing an incentive scheme for NGG for the management of flexibility on the system Eg, we could set NGG a cost target and allow NGG to benefit if it was able to beat the target or suffer penalties if it needed

to curtail flows. We would also make clear that we would allow NGG to keep the benefits under the incentive scheme for a period if they were able to reduce the costs of managing any flexibility issues by developing and implementing flexibility services. We would also allow NGG to keep a proportion of the revenue associated with any sales of linepack/flexibility.

4.35 We would welcome views on the issues raised in this section.

Interruptibility

4.36 There is another way in which all the proposed modifications (except 0116A) might contribute to more efficient system operation and this is through the new arrangements for interruption. At present, there is no competition to provide interruptible services to NGG – anyone can ask for and receive interruptible terms.

4.37 Under the proposed modifications, Users who had formerly relied on interruptible capacity will generally have the choice of relying on the release of interruptible capacity at the day-ahead stage, or paying firm exit capacity charges. There may, however, be one other option available to them if they are located in an area where NGG expects there to be significant constraints and seeks to manage these by entering into long term firm capacity buy-back arrangements. Interruptible customers might well be interested in competing to sign such contracts with NGG since they would effectively provide some rebate on their firm capacity charges whilst guaranteeing them a given level of access to the NTS (as specified in terms of the maximum number of days on which NGG would be able to interrupt them). To the extent that there were a number of Users all able to provide the same benefit to NGG, it should be possible for NGG to obtain interruption rights at a lower cost than is currently the case.

4.38 We note that the extent to which such system operation benefits would be realised would probably be lower under 0195AV than under the other proposed modifications because Users would have more certainty regarding the availability of interruptible capacity at the day-ahead stage. Nonetheless, by entering into long term buy-back contracts, Users would reduce the transaction costs that they would otherwise face from having to buy capacity on a daily basis and so we consider that there might still be some limited system operation benefits under 0195AV.

4.39 We believe there are two issues regarding interruptible capacity that need further consideration from the industry. First, all of the modifications deal with the release of interruptible capacity on a nodal basis. Typically, exit points have only a single user. This is likely to undermine effective competition for interruptible capacity. Zonal arrangements, akin to the interim trade and transfer regime which was developed for entry, could overcome this problem. The fact that the development of zonal arrangements has proved possible for entry may indicate that NGG's original concerns regarding the technical problems associated with zonal release of interruptible capacity have been resolved.

4.40 Secondly, one of the proposed modifications (195AV) would set rules to determine the volume of interruptible capacity that NGG would have to make available at the day-ahead stage whilst all the other proposals would leave it to NGG's discretion. In principle, if NGG is appropriately incentivised to release interruptible capacity, it would be better to leave it to NGG's discretion. However, there may be merit in having rules as a transitional measure whilst the new arrangements bed down, since it would provide the industry with confidence that interruptible capacity would be made available.

4.41 We would be interested in views on how the modification proposals affect the availability of interruptible capacity and the issues we have raised in the preceding two paragraphs.

Promotion of competition

4.42 In this section we consider the potential impact that the various proposed modifications might have on the extent of competition. We consider these possible effects first in relation to the proposed changes in the interruptibility arrangements, which broadly apply to all the modifications except 0116A.

Interruptible capacity and competition

The February 2007 IA

4.43 In our February 2007 IA we considered that all the 0116 set of proposals (except 0116A) might be expected to have a positive impact on competition because, unlike under the current arrangements, all Users would have access to the same products. We also pointed out that the current arrangements could distort competition because some Users were able to obtain effectively firm capacity whilst only paying for interruptible capacity, since the chance of their being interrupted was extremely low. Under the proposals for change, we argued that there should be competition for long run interruption services and in the pay as bid auctions for capacity in the medium / short term so that overall competition would increase.

The CC Report

4.44 The CC accepted that the proposed changes to interruptibility were capable of delivering competition and efficiency benefits. However, the CC noted that proposal 0116V withdraws the current long-term interruptible product, and may increase charges to users who place a low value on capacity. Faced with an increase in prices, such customers may reduce their use of the NTS which, given that the system is capable of accommodating their flows, would be inefficient. In theory, NGG could continue to offer such customers interruptible capacity under short-term auctions, but the CC raised doubts as to whether NGG had appropriate incentives to offer interruptible capacity to this type of user. The CC also questioned whether the Authority had given due regard to the transaction costs of buying interruptible

capacity by auction on a daily basis, as opposed to the current long-term arrangements.

Ofgem's current view

4.45 We maintain the view that the 0116 set of proposals (except 0116A) would, at least to some extent, increase the efficient use of the NTS. This view also applies to the 0195 set of proposals, particularly 0195AV. Also, as discussed previously, both sets of proposals (except 0116A) should provide benefits in terms of lower system operation costs, although these benefits might be small in the case of 0195AV.

4.46 The CC's first concern is that, if forced to pay for firm capacity, some customers that are currently using interruptible capacity may chose not to use the NTS at all, which could reduce competition and be inefficient. We do not believe that this should be a problem because current interruptible customers should be able to obtain access to interruptible capacity on a daily basis and avoid paying firm capacity charges, except if they impose costs on the system which they have, so far, been inappropriately avoiding. If a situation did occur where a user chose not to use a service because its use was uneconomic, then this would be the most efficient outcome either because the service had been allocated to another user who valued it more highly or because NTS investment in uneconomic assets had been avoided.

4.47 We also note that domestic customers do not have the option of requesting interruptible capacity. To the extent that the current interruptibility regime leads to undue discrimination and/or unwarranted distributional effects, it is domestic customers (and any other small customers who are required to be NDM customers) that will be most adversely affected. This is because such customers do not have the option of choosing to be interruptible and so pay any costs that interruptible customers might impose on the system.

4.48 Under all the proposals for change, NGG would offer 'unused' firm capacity as interruptible capacity on a day-ahead basis. NGG could also offer additional amounts of interruptible capacity at its discretion. Neither the 0116 set of proposals nor 0195 specify how NGG would determine the additional amounts of exit capacity to make available. Under 0195AV, the amount of interruptible capacity that NGG has to make available is regulated – precisely because the proposer wanted the certainty that NGG would offer for sale all the interruptible capacity that is physically available.

4.49 In theory NGG has strong incentives to sell all the interruptible capacity that it is efficient for it to do so, since under its System Operator incentives NGG will be able to retain the profits from sales of interruptible capacity. However, as we have previously noted, NGG will offer interruptible capacity on a nodal basis, which means that in many instances only one shipper will participate in each auction for capacity, and these will have a zero reserve price. Accordingly, we expect that the price of interruptible capacity will generally be zero, which means that, in practice, NGG will have little incentive to offer discretionary interruptible capacity for sale.

Nonetheless, the required sale of 'use it or lose it' firm capacity means that, in general, some interruptible capacity should be available.

4.50 Under all the proposals for change, all demands for firm capacity would have to be met before any interruptible capacity was made available. However, given that there will be no competition between Users to acquire interruptible capacity, at least some Users will still be able to avoid paying capacity charges whilst facing little risk that they will be interrupted. The risks will be greater than under the current arrangements, because there will be less certainty that interruptible capacity is available – particularly on high demand days when capacity has most value – but for many supply points they may still be low. In this respect, the competition benefits of the proposals may be limited.

4.51 On the other hand, NGG will be able to explore different options for buying back firm capacity, including entering into long term buy back contracts. These contracts may prove attractive to Users who currently book interruptible capacity and hence there may be competition to obtain such contracts, although this may be local in nature. Such an outcome is less likely under 0195AV, because Users will have greater certainty of being able to obtain interruptible capacity at the day-ahead stage and so be less interested in a long term buy back contract. However, even under 0195AV there could still be some benefits associated with long term contracts – they would remove the need to trade every day and thus reduce Users' transaction costs.

4.52 With respect to the CC's concern regarding the extent to which the Authority considered the cost of buying interruptible capacity in daily auctions, we note that in our pro forma questionnaire on cost impacts we invited shippers and TCCs to report all costs involved with the modifications including IT costs and staffing costs. Accordingly, we expect that shippers and TCCs will have reported any costs associated with buying interruptible capacity in daily auctions.

4.53 The fact that 0195AV regulates the amount of interruptible capacity that has to be made available means that this proposal, in some respects, better addresses the CC's concerns. Not only would Users effectively be guaranteed continued access to interruptible capacity in the short to medium term, except on very high demand days, but also the transaction costs associated with acquiring the capacity should be relatively low, albeit because there would be no competition for the capacity. In other words, Users would not have to consider on a daily basis what price to offer for interruptible capacity but could simply submit a standing bid.

4.54 Conversely however, the existence of a long term regulated interruptible product that is offered as a standing product on most days other than very high demand days, may not adequately address the problems discussed above. As with the current arrangements, the possibility of an interruptible capacity holder being interrupted is potentially extremely low. As such, the existence of a regulated interruptible product that is available on most days does not represent a significant departure from the existing interruptible arrangements and is unlikely to address the concerns set out above regarding the impact of the product on firm capacity prices.

Flexible capacity and competition

The February 2007 IA

4.55 We argued that the proposed flexibility auction arrangements under 0116V, 0116BV and 0116VD 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 to which market participants flexibility should be allocated.

The CC Report

4.56 The CC report did not accept the arguments that we made in respect of the effect of auctioning flexibility capacity on competition. This was largely because, as discussed previously, the CC did not consider that we had sufficiently demonstrated that there was a risk of flexibility being scarce.

Ofgem's current view

4.57 We remain of the view that flexibility auctions (as envisaged under 0116V, 0116BV and 0116VD) would have competition benefits if there were to be a scarcity of flexibility. In the preceding section we have discussed the diverging views of NGG NTS and market participants as to the likelihood that such a scarcity will materialise and accepted that it is difficult to reach a definitive conclusion on the matter. Nonetheless, we remain concerned about the potential consequences of adopting a "wait and see" approach particularly given our statutory duties.

Preventing undue discrimination

4.58 This section deals with various issues relating to discrimination. Specifically, we consider the potential for undue discrimination between:

- Firm and interruptible capacity;
- TCCs and GDNs;
- New and existing Users;
- Independent and Retained Gas Distribution Networks; and
- Exit and entry capacity.

Preventing undue discrimination between firm and interruptible sites

The February 2007 IA

4.59 In the February 2007 IA we noted that under the existing arrangements, a firm customer is able to choose to become interruptible once it has connected to the NTS, irrespective of whether NGG needs to be able to interrupt that customer. 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. We concluded that this was potentially unduly discriminatory.

4.60 We also concluded that the discount provided to interruptible network users is largely unrelated to the probability or frequency of interruption, and that under the transitional offtake arrangements interruptible users may be exposed to different levels of service whilst receiving the same discount to NTS exit capacity charges. We noted that the practical maximum physical capacity baseline data indicated that the majority of interruptible customers can be provided with firm capacity, that these customers are not needed for interruption on the 1 in 20 peak day, and that the probability of such sites being interrupted would be at, or close to, zero.

The CC Report

4.61 The CC report noted that for treatment to be unduly discriminatory, interruptible and firm users would have to be treated differently even though they imposed the same cost on NGG. Hence, the argument on whether the existing arrangements are unduly discriminatory or not hinged on whether interruptible and firm customers imposed the same costs on NGG. The CC concluded that "*GEMA's argument that interruptible users may impose capacity costs on the system, but will not necessarily do so, tends to suggest that the two types of user may impose different costs on the system*" and that "*the material contained in the Decision, and the submissions made to us on this appeal, do not adequately support GEMA's conclusion that the existing arrangements are in fact discriminatory, or potentially discriminatory.*"

Ofgem's current view

4.62 For ease of exposition, in this section we differentiate between 'notionally' interruptible customers, "genuinely" interruptible customers and firm customers. We define notionally interruptible customers as customers who have chosen to buy interruptible capacity, but who face a very low chance of being interrupted. In contrast, genuinely interruptible customers have a much high chance of interruption, and provide a valuable service to NGG.

4.63 NGG will not make investments to serve new interruptible customers. However, under the present arrangements, a user can request new firm capacity, and if investment is required the customers signs an ARCA with NGG. After the commitment period in the ARCA, the user can then switch to being interruptible.

4.64 Therefore the cost of supplying a given capacity of gas to a firm customer, or a customer that was firm but is now notionally interruptible, is the same within a

given geographic area.[26] NGG incurs the same costs in building pipes to serve both types of customer. The issue is whether notionally interruptible customers provide an offsetting benefit to NGG by virtue of being interruptible, so that their net cost to NGG (costs less benefits) is less than that of firm customers. By definition, notionally interruptible customers provide no offsetting benefits to NGG, since NGG will effectively never need to interrupt them. Therefore, the net cost to NGG of serving notionally interruptible customers is the same as the net cost of serving firm customers. Accordingly, the current arrangements discriminate between notionally interruptible customers and firm customers. We accept, however, that the net costs to NGG of genuinely interruptible customers are different to those for firm or notionally interruptible customers and that it is difficult to be certain how many interruptible customers are actually only notionally interruptible.

4.65 Under the modification proposals, all customers would have to choose whether to buy firm capacity or rely upon being able to obtain daily interruptible capacity. However, NGG might choose to negotiate interruptibility agreements with genuinely interruptible customers, if doing so was likely to provide a cost advantage. Consequently, the costs and risks faced by at least some of these customers might not change significantly. However, either the costs or the risks faced by notionally interruptible customers would increase. If they chose to buy firm capacity their costs would increase whereas if they chose to rely on daily interruptible capacity they would face the risk that this would not be available when they needed it. Hence, the scope for there to be undue discrimination between genuinely interruptible customers and notionally interruptible customers would be reduced.

4.66 On the other hand, the nodal nature of daily interruptible capacity means that the actual risks of interruption (both from being unable to acquire interruptible capacity and from having that capacity interrupted) faced by notionally interruptible customers choosing to rely on this method of acquiring capacity may not be much greater than under the current arrangements. This is particularly likely to be the case under 0195AV, where the volume of daily interruptible capacity to be released is regulated.

4.67 Table 4.1 shows actual data from February 2008, a recent peak month with high demand. The table shows that, after GDN demand is accounted for, the system would still have been able to supply 132 mcmd of firm capacity. Only 97 mcmd of firm capacity was booked, so that 35 mcmd of additional firm capacity could have been supplied. Since 48 mcmd of interruptible capacity was booked, this suggests that there was only 13 mcmd of booked interruptible capacity that was likely to be interrupted, even on a 1:20 demand day. In other words, there was 35 mcmd of interruptible capacity that had almost no chance of being interrupted. Clearly this analysis is somewhat simplified since it takes no account of locational constraints but it provides a broad brush indication of the levels of notionally interruptible capacity that have been seen in the recent past.

[26] Note that NGG's tariffs already recognise that users in different geographic locations impose different costs on the system.

Table 4.1: Data on NTS capacity supply and demand for February 2008, mcmd

1:20 Peak Day	541
GDN 1:20 demand	409
Remaining firm capacity	132
NTS Firm Booked	97
Spare firm	35
NTS Interruptible Booked	48

4.68 To the extent that the various proposals would remove the availability of notionally interruptible capacity, they offer some scope for the undue discrimination between customers who are notionally and genuinely interruptible to be reduced. As discussed above, it is likely that notionally interruptible capacity would remain available under 0195AV and so this modification would have significantly less impact on discrimination than the other modifications (except, of course, 0116A).

4.69 There is also an issue about whether there is undue discrimination between GDN shippers and TCCs in respect to the availability of interruptible capacity. If it becomes apparent that part of the network is relatively unconstrained – which could be a real risk given reductions in gas demand we have seen and loss of some loads in response to high prices – that TCCs can effectively purchase a cheap firm product but GDN shippers cannot as their GDN may be unwilling to rely on interruptible capacity. The issue about whether shippers or GDNs should book exit capacity for shipper customers on the GDN was discussed as part of the GDN sales process but was rejected at the time. If it became apparent that there is a problem, it would be open to a GDN shipper to raise a modification to allow them to book their NTS exit capacity direct and opt out of the GDN booking system. They could then choose to take the risk of relying on interruptible capacity and paying higher charges/overruns in the event of interruption if they thought this was more efficient.

Preventing undue discrimination between TCCs and GDNs

The February 2007 IA

4.70 We considered that under modification proposals 0116V, 0116BV, and 0116VD benefits should accrue to customers through the elimination of potential discrimination between GDNs and TCCs as a result requiring all classes of Users to purchase a flexibility product.

4.71 Under the current arrangements the two classes of user are required to purchase different capacity products. TCCs (or their shippers) purchase a bundled NTS exit capacity product that allows them unlimited use of flexibility whilst GDNs book two separate capacity products for flat and flexible capacity. The flexibility product restricts the extent to which GDNs can utilise flexibility.

4.72 Ofgem's view was that both classes of user impose the same costs on NGG NTS's pipeline system. Whether NGG provides flexibility to a power station (TCC) or a GDN makes no difference to the cost of providing flexibility. If a TCC uses 1 mcmd

of flexibility, this is 1 mcmd of flexibility that a GDN cannot use. Even where there is no current shortfall of flexibility, its use brings forward the day that investments will need to be made to provide more flexibility. The acceleration and hence cost is identical whether a TCC or a GDN is using the flexibility. Given that TCCs and GDNs impose the same costs on NGG for using flexibility, and that under the current arrangements TCCs do not pay for flexibility but GDNs do, we concluded that the current arrangements are unduly discriminatory between TCCs and GDNs. We considered that the proposed modification 0116V– where TCCs and GDNs both pay for flexibility – would eliminate this undue discrimination.

The CC Report

4.73 The CC accepted that the use of flexibility by GDNs and TCCs imposes the same costs on the NTS and hence that it is relevant to consider whether there is undue discrimination between these classes of Users. As with other aspects of our analysis of the proposed changes to flexibility arrangements, the CC's main concern was that we had not adequately demonstrated the likelihood of there being a scarcity of flexibility and hence that the proposals might be disproportionate. The CC stated that "*the points made by GEMA in the Decision, and the additional points it made on this appeal, do not adequately explain why GEMA regards the risk of future scarcity, and therefore the risk of future discrimination, as sufficient to support the conclusion that there are benefits to consumers from action now, given the current excess of flexibility capacity.*"

Ofgem's current view

4.74 Our view on this issue has not changed, particularly given the fact that NGG NTS has produced forecasts that suggest there could be a shortage of flexibility from 2011/12 onwards. However we acknowledge that the flexibility proposals under 0116V, 0116BV and 0116VD may introduce a new form of undue discrimination, namely between entry and exit (see the discussion below, "Discrimination between entry and exit with regard to flexibility").

Existing versus new users

The February 2007 IA

4.75 We noted that the 0116 set of modification proposals (except 0116A) provide 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.

The CC Report

4.76 The CC did not address this issue

Ofgem's current view

4.77 We remain of the view that there is the potential for undue discrimination between new and existing users under all the modification proposals except 0116A i.e. 0195 and 0195A as well as the 0116 set of proposals. However, we consider that the potential for discrimination between new and existing users is reduced by the fact that existing users are required to provide greater commitments to capacity than is currently the case.

4.78 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 under pin 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. The enduring capacity arrangements proposed under all the modifications (except 0116A) would remove some of the potential for undue discrimination that is inherent in the transitional arrangements e.g. in respect of differing levels of commitment for ARCAs, but would still provide existing Users with "evergreen" rights.

4.79 Nonetheless, we have some remaining concerns that the requirement for parties seeking incremental rights to provide greater levels of user commitment than existing capacity holders could potentially distort competition between new and existing users of the network. Similarly, the fact that Users will keep their existing rights could lead to circumstances where new users are denied the opportunity to compete with existing holders for existing capacity and thus reduce competition. This has been a particular problem in relation to entry capacity to the electricity transmission system. However, we recognise that the prevailing rights model incorporated in all the modifications (except 0116A) has been subject to significant industry consultation and that few concerns have been raised in this context by parties seeking or potentially seeking incremental capacity.

Non-discriminatory allocation of capacity products

The February 2007 IA

4.80 In the February 2007 IA, we noted that under the transitional arrangements, there is the potential for NGG NTS to favour the NGG retained distribution businesses (RDNs) over independent distribution businesses (IDNs) in the allocation of long and short term NTS exit capacity products. We argued that the modification proposals (except 0116A) 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 and hence reduce the potential for discrimination. 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.

4.81 Our view was that under the transitional arrangements there is potential for the retained GDNs to gain under their incentives with respect to the purchase of NTS exit capacity[27]. 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 implementation of the comparative efficiency regulation of GDNs upon which the GDN sales transaction was predicated.

4.82 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 £20.4m in 2005/06 prices over the evaluation period[28].

The CC report

4.83 The CC criticised Ofgem's approach to assessing the incremental benefits of reduced discrimination between IDNs and RDNs in the allocation of capacity. The CC noted that the existing arrangements go some way to ensure that there is no discrimination between RDNs and IDNs, and that although the 0116 set of modifications (other than 0116A) made the allocation process more transparent, it was not clear that Ofgem had appropriately quantified this benefit. However, the CC did not find it necessary to reach a conclusion as to whether the Authority erred on this point.

Ofgem's current view

4.84 We continue to believe that the potential for NGG NTS to treat IDNs and RDNS differently under the transitional arrangements may undermine some of the benefits of GDN Sales. Our concern remains that investment may be undertaken by IDNs that would be unnecessary if there had been a fair allocation of capacity.

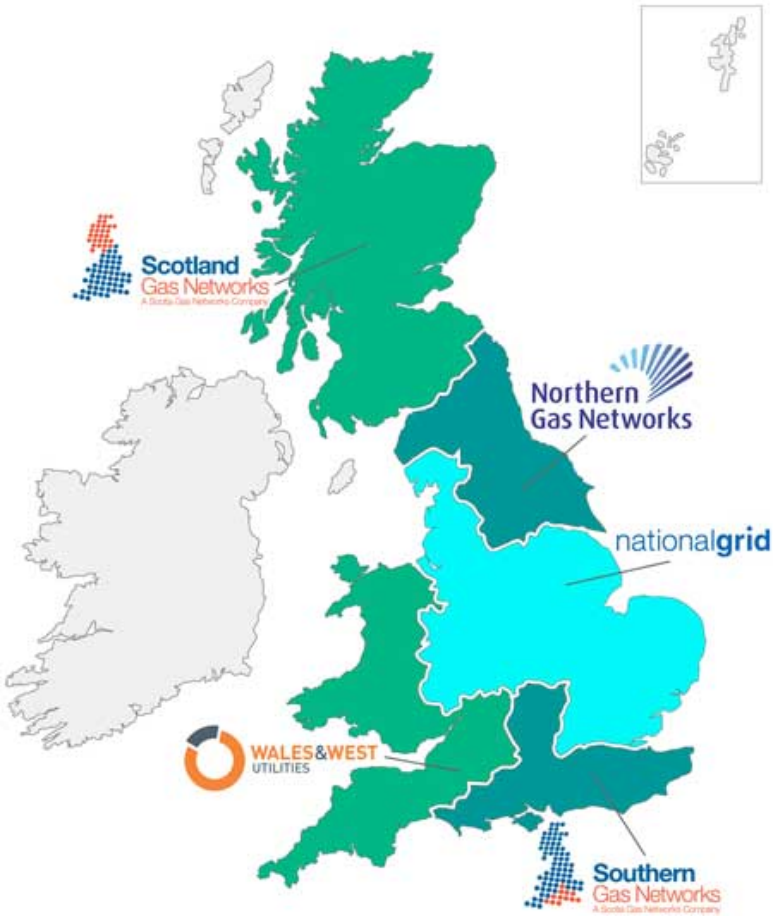
4.85 However, we accept that the potential for such discrimination may be smaller than we had previously considered for two reasons. First, the IDN and RDN arrangements have been in place for around three years, and so far there have been

[27] It was 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.
[28] 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 GDPCR period, 2018/19 to 2022/23, of 3.09 per cent, will continue to apply to 2026/27.

no allegations of discriminatory allocation of capacity. While this does not mean that such issues could not arise in future, it does reduce the weight that we place on the issue.

4.86 Second, even under the 0116 and 0195 sets of modifications, there is still scope for undue discrimination. For example, while some NTS Exit (Flat) Capacity will be auctioned (a more transparent process than the current allocation mechanism) it will be auctioned on a nodal or supply point basis. Figure 4.1 illustrates that RDNs (owned by NGG) and IDNs are not well mixed geographically. Therefore, the possibility still exists for NGG to offer less flat exit capacity for sale at the nodes or supply points of IDNs – outside of the Midlands and the East of England for example – relative to the nodes of RDNs.

Figure 4.1: Distribution Network Companies



Discrimination between entry and exit with regard to flexibility

4.87 Since the February 2007 IA, we have reached the view that modifications 0116V, 0116BV and 0116VD might introduce the potential for discrimination between the treatment of entry and exit points. These proposals would mean that users at

exit points pay for flexibility whereas users at entry points do not – at least when flexibility is scarce. This could lead to claims of undue discrimination.

4.88 For example, two different shippers may use the same amount of flexibility at exit. However, one of the shippers may match its entry and exit flows over the day, while the other has a flat entry profile. Consequently, the first shipper would not create flexibility costs whereas the second shipper would. Nonetheless, both shippers would pay the same for flexibility.

4.89 The extent to which this form of discrimination is likely to be a problem depends on the extent to which flexibility at entry is likely to be required. It is NGG NTS's view that the demand for flexibility at exit is generally higher than the demand at entry but that this situation could change when entry substitution is introduced.

Appropriate allocation of risk

The February 2007 IA

4.90 In the February 2007 IA Ofgem expressed the view that that the introduction of market rules which require all users to make financially backed long term commitments in order to guarantee commercial rights for future network access would allocate risk more appropriately between industry participants and consumers. We considered 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. Risk would be transferred away from consumers to NTS users and shippers. We considered 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. These benefits would be realised under all the 0116 set of proposals except 0116A.

The CC Report

4.91 The CC report agreed with Ofgem's assessment of improved risk allocation, noting that *"[w]e also see no grounds for criticism of the Decision in relation to the question of allocation of risk. It does not seem to us to be inappropriate for NTS users who trigger investment in the network, rather than consumers generally, to bear a higher proportion of the risk associated with any new investment which they trigger than they do at present."*[29]

[29] The CC Report ¶6.24.

Ofgem's current view

4.92 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 therefore consider that the proposed arrangements set out in modification proposals 0116V, 0116BV, 0116VD and 0116CVV, 0195 and 0195AV have greater qualitative benefits in terms of risk allocation than those available currently or under 0116A.

Simplicity and Transparency

The February 2007 IA

4.93 We recognised that the reform of the NTS offtake arrangements would result in increased complexity relative to the transitional offtake arrangements and, hence, 0116A. We also noted that the degree of additional complexity associated with modification proposals 0116V, 0116BV and 0116VD was likely to be higher than that associated with 0116CVV (which does not include the introduction of a flexibility product). In terms of the flexibility regime, the proposed changes would enable flexibility rights to be allocated through existing OPN processes without the need for an auction provided there is sufficient flexibility capacity available. Consequently, there would only be additional complexity associated with these arrangements at times when the system was under stress.

The CC report

4.94 The CC report made no particular comments on this issue.

Ofgem's current view

4.95 We maintain the view expressed above 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 0195 and 0195AV should have the same level of additional complexity as 0116CVV i.e. they would be less complex than 0116V, 0116BV and 0116VD.

4.96 However, while the proposals are more complicated than the current arrangements, they are also more transparent. In general, Users would be allocated entry capacity by an auction mechanism, in which it would be clear why each party was allocated their capacity. In contrast, the current mechanism involves NGG allocating capacity via an internal and opaque mechanism.

4.97 We conclude that increased complexity may increase costs to system users and could, at an extreme level, reduce incentives for market entry. However, the proposals would increase transparency, which might lower the barriers to entry.

Overall, therefore, it is not obvious to us that there any net advantages or disadvantages in this area associated with any of the proposals. However, we acknowledge that to the extent there are any net advantages these are most likely to be associated with proposals 0116CVV, 0195 and 195AV, since these are less complex than the other proposals (except 0116A).

Ensuring security of supply

The February 2007 IA

4.98 We considered that all the 0116 set of proposals (except 0116A) should enhance security of supply. Our view was based on the fact that the proposals would improve user commitment and provide greater clarity to parties seeking to increase their offtake capacity holdings or to enter the market. The arrangements and the provision of financially firm user commitments should provide better information on the need for investment to NGG NTS than is currently the case.

4.99 We also considered that the introduction of auction arrangements to manage the allocation of flexibility in the event of network constraints (as envisaged under 0116V, 0116BV and 0116VD) should further facilitate security of supply in the electricity sector, because the arrangements would enable generators that value flexibility capacity the most to access flexibility.

The CC Report

4.100 The CC Report had no specific comments on this issue.

Ofgem's current view

4.101 We retain the view expressed in the February 2007 IA that 0116 set of modifications (except 0116A) would enhance security of supply and consider that this benefit would also be achieved under the 0195 set of modifications. However, this benefit cannot easily be quantified.

5. Other Impacts

Chapter Summary

This chapter sets out Ofgem's views on other impacts arising from the implementation of the different variants of UNC Modification Proposal 0116 and UNC Modification Proposal 0195

Question Box

Question 1: Do you agree that the proposed modifications should results in a more appropriate distribution of costs and benefits?
Question 2: Do you agree that the proposed modifications should have no material impact on small businesses?
Question 3: Do you agree that the proposed modifications should have no material impact on sustainable development?
Question 4: Do you agree that there may be HSE implications associated with the implementation of the proposed amendments?
Question 5: Are there any risks or unintended consequences associated with the proposed modifications that we have not included in our analysis?

Introduction

5.1 Apart from the issues discussed in the previous chapters, there are a number of other factors that need to be considered when assessing the impacts of implementing one of the modification proposals. These are:

- Distributional impacts;
- Impacts on small businesses;
- Sustainable development;
- Health and safety; and
- Risks and unintended consequences.

Distributional impacts

The February 2007 IA

5.2 As part of the previous IA, we considered that the 0116 set of proposals (except 0116A) would lead to a number of improvements in the distribution of costs and benefits. Specifically, the modifications would allocate costs more accurately to those that create them, and reduce the 'randomness' of cost allocation. We identified distributional effects between:

- Customers holding firm capacity and customers holding interruptible capacity (under all the 0116 set of proposals except 0116A);
- NTS customers (GDNs and TCCs) who make greater use of flexibility than others (under 0116V, 1116BV and 0116VD).

The CC Report

5.3 The CC did not directly consider whether the 0116 set of proposals would have distributional effects. This is because it considered most of the arguments we made in this area in the context of its discussions on discrimination. Inevitably, there is some overlap between the two discussions, since the issues of distributional impacts and discrimination are inherently intertwined.

Ofgem's current view

5.4 We remain of the view that the 0116 set of proposals (except 0116A) and the 0195 set of proposals would have benefits in terms of distributional impacts. Under the current arrangements sites can opt to become interruptible, and avoid paying the NTS exit capacity fee, even when NGG NTS does not place value on being able to interrupt the customer. As result, the capacity of interruptible connections appears significantly to exceed the capacity of interruptible connections NGG needs for system operation. This suggests that many customers holding interruptible capacity in fact have very little chance of being interrupted – their capacity is in effect firm – as discussed in the preceding chapter.

5.5 The revenue that NGG loses from interruptible customers (as measured by the capacity fees they avoid) must be recovered from firm customers. To the extent that interruptible customers impose costs on the system, for example by initially triggering investment requiring firm capacity and then switching to interruptible status, firm customers may cross-subsidise some interruptible customers. Since non-daily metered (NDM) customers including domestic customers can only be firm, this amounts to a cross-subsidy from NDM customers to larger industrial customers.

5.6 All the modification proposals (except 0116A) would reduce this cross-subsidy, because customers would no longer be able to nominate themselves as interruptible. Under the proposals, many existing interruptible customers will face higher charges through having to paying exit capacity charges without receiving payments of an equivalent value from being interrupted while existing firm customers who remain firm should pay a lower charge. The only way in which existing interruptible customers could avoid paying exit capacity charges is if they rely upon obtaining exit capacity from the auctions of daily interruptible capacity or (implicitly) if they enter into a long term interruption contract with NGG.

5.7 The fact that this possibility remains means that some potential for cross-subsidy may continue. This is particularly the case since all the proposals incorporate the release of daily interruptible capacity on a nodal (supply point) basis.

5.8 Also, under the current arrangements, NTS customers that use greater offtake flexibility (within their System Offtake Quantity) than other equivalent customers do not face higher charges. Customers using more flexibility will impose costs on the NTS, if only by accelerating investments required to add more flexibility. Hence, the current arrangements represent a cross-subsidy from customers using less flexibility than average to those using more. Proposals 0116V, 0116BV and 0116VD TCCs would be able to vary their flexibility capacity requirements and so, depending on the charging methodology adopted, those using more flexibility might face higher charges. Equally, the balance of charges between GDNs and TCCs might change, if the two groups of Users require different levels of flexibility. However, since the precise nature of the potential distributional effects associated with flexibility depends on charging methodology decisions that have not yet been taken, we do not consider that much weight should be attached to them.

Impact on small businesses

5.9 Previously, our view was that none of the 0116 set of proposals would have a significant direct effect on small businesses. The CC did not address this issue.

5.10 Our view remains that the modification proposals (including the 0195 set of proposals) would not have a significant direct impact on small businesses except to the extent that they are so small that they have to be NDM customers, in which case the points made above in relation to domestic customers also apply to them.

Sustainable development

5.11 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 BERR guidance regarding the attainment of social and environmental policies.

5.12 Our initial view is that the modification proposals 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. All new transmission projects are subject to environmental legislation and potentially to various environmental taxes. By making the user of the service pay, the user also has to pay the environmental taxes. A user commitment model makes it more likely that appropriate environmental costs are factored into users' decisions with regard to gas demand. If users are not required to pay the cost of a particular project they may reject more

environmentally beneficial projects where they would have to pay the relevant tax. As we discussed in the preceding chapter, user commitment could enhance access to the system for new, more efficient and less polluting power plants.

We do not expect there to be any detrimental impact on the sick, disabled or customers in fuel poverty. Indeed, all other things being equal, increasing efficiency should help the fuel poor.

Health and Safety

5.13 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.

5.14 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, GDN and NEC safety cases. The safety assessment of these proposals has not yet been completed.

5.15 We also acknowledged, when approving UNC 090 (Revised DN Interruption Arrangements), that the HSE had indicated that they would have concerns if the Mod 90 proposals resulted in the GDNs having access to a different volume of interruptible capacity than they do currently. Since all the modification proposals could affect the volume of interruptible capacity available to NGG NTS, it is reasonable to suppose that the HSE would wish to examine the impact that this might have on security of supply in emergency gas supply circumstances. Nonetheless, given that the new interruption arrangements would not be introduced until 2012/13, there should be plenty of time to take any remedial actions, including further UNC Modifications if necessary, to deal with any concerns raised by the HSE.

Risks and unintended consequences

5.16 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.

5.17 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.

5.18 One possible unintended consequence of enduring offtake reform could be that the increased complexity of the arrangements could have negative implications for competition in gas supply. Increased complexity could constitute a barrier to entry into the shipper market. Equally, it might increase the difficulty that customers face in switching shippers since shippers might find it harder to deal with changing levels of customer demand and hence be less willing to accept new customers (or charge more for accepting new customers).

6. Conclusion

Chapter Summary

This chapter summarises Ofgem's views on the quantitative and qualitative costs and benefits arising from the implementation of the different variants of UNC Modification Proposal 0116 and UNC Modification Proposal 0195

Question box

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

Overall outcome of quantitative benefits and costs analysis

Overview of results of benefits analysis

6.1 The total central case estimates of benefits to customers associated with the implementation of both the 0116 and 195 sets of proposals are shown in Table 10.1 below.

Table 6.1: Overview of central case on quantitative benefits - 6.25 per cent discount rate

Present value benefits (£m, 08/09)	0116V	0116A	0116BV	0116CVV	0116VD	0195	0195AV
Efficient NTS investment signals	28.4	0	28.4	28.4	28.4	28.4	28.4
Reduced incidence of ARCAs	3.6	0	3.6	3.6	3.6	3.6	3.6
Total PV benefits	32.0	0	32.0	32.0	32.0	32.0	32.0

6.2 The following table (Table 10.2) presents the overall benefits and costs associated with the implementation of the both the 0116 and 0195 sets of proposals. It is worth noting that this is just one aspect that the Authority will consider in relation to its decision on the modification proposals.

Table 6.2: Summary of sensitivities around the quantitative benefits and costs

NPV (£m, 08/09)	0116V	0116A	0116BV	0116CVV	0116VD	0195	0195AV
Benefits							
Central case	32.0	0	32.0	32.0	32.0	32.0	32.0
High case	61.0	0	61.0	61.0	61.0	61.0	61.0
Low case	18.3	0	18.3	18.3	18.3	18.3	18.3
Costs							
Central case	97.6	0	95.0	48.8	97.9	48.0	47.1
High case	114.1	0	111.1	51.8	114.7	50.6	49.9
Low case	81.0	0	78.8	45.8	81.1	45.3	44.2
Net benefits range	-20.0 to -95.8	0	-17.8 to -92.8	+15.2 to -33.5	-20.1 to -96.4	+15.7 to –32.3	+16.8 to –31.6

6.3 Table 10.2 indicates that, *on the basis of the items quantified*, there is likely to be a net cost of around £18-96 million in present value terms for those proposals that introduce a flexibility product (0116, 0116BV, 0116VD). The large range highlights the significant uncertainty around the various elements that contribute to the benefits.

6.4 However, we note that there are several important benefits that we have identified but been unable to quantify. Nonetheless, the Authority considers that such benefits are a relevant and material consideration in considering the various proposals, particularly because of the uncertainties associated with quantifying the benefits.

6.5 The most significant potential qualitative benefit is that GDNs and other market players will be able to make more efficient decisions regarding flexibility investments. There is the possibility that if GDNs are exposed to the costs of flexibility, they will take measures to reduce their demand for flexibility.

6.6 In this context, we have investigated the percentage reduction in flexibility demand that would be required to offset the net costs shown in the above table. As part of the Gas Distribution Price Control Review (GDPCR), PB Power produced estimates of the efficient capital cost of flexibility (diurnal storage) of between £50 and £100 million/mcm/d.[30] Using the lower figure, we find that the cancellation of 1.6 mcm/d of new flexibility capacity would offset the net costs of the proposals incorporating flexibility.

6.7 The net benefits associated with 0116CVV, 0195 and 0195AV are significantly lower at around £17 to -34 million, although of course there is no potential for

[30] 164i/07 - PB Power Capex and Repex Report - East of England, Appendix 5

flexibility savings under these proposals. Nonetheless, there are other unquantifiable benefits associated with these proposals such as a reduction in discrimination and increased efficiency.

6.8 As well as requesting views on both the quantitative and qualitative benefits and costs, we would also welcome views on the issues raised in relation to the introduction of incentives on NGG to manage flexibility(see paragraphs 4.31 - 4.34), and the nodal/zonal and rules/discretion elements of allocating interruptible capacity (see paragraphs 4.39 – 4.40).

6.9 Ofgem will be holding a workshop on this IA on 22 July 2008, to allow interested parties to gain clarification on the issues raised so that their responses can be more focused. Interested parties can register for this by sending an e-mail with the attendee's name to gas.transmissionresponse@ofgem.gov.uk.

Appendices

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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 29 August 2008 and should be sent to:

Stuart Cook
Director, Transmission
Ofgem
9 Millbank
London
SW1P 3GE
0207 901 7009
Email: gas.transmissionresponse@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 November 2008. Any questions on this document should, in the first instance, be directed to:

Paul O'Donovan
Head of Gas Transmission
Ofgem
9 Millbank
London
SW1P 3GE
0207 901 7414

Email: paul.odonovan@ofgem.gov.uk

CHAPTER: One

There are no questions in this chapter.

CHAPTER: Two

Question 1: Are there any key features of the modification proposals which have not been incorporated in the descriptions below and which might have a material bearing on the outcome of the analysis?
Question 2: Are there any aspects relating to either the validity of the current proposals or the process being followed for this assessment that are a cause of concern?

CHAPTER: Three

Question 1: Do you agree that user commitment should lead to more efficient investment signals and have we appropriately quantified the likely benefits associated with this effect?
Question 2: Do you agree that there should be a reduced incidence of ARCAs with user commitment and have we appropriately quantified the likely benefits associated with this effect?
Question 3: Are there any quantifiable benefits associated with the various modification proposals that we have not included in our assessment?
Question 4: Do you think that the cost data presented represents a realistic view of the incremental costs likely to be incurred if one of the modification proposals is implemented?
Question 5: Do you agree with NGG's view that flexibility capacity is likely to become scarce by around 2013? What are the reasons for your position?

CHAPTER: Four

Question 1: Do you agree that the proposed modifications should, to varying extents, led to more efficient system operation?
Question 2: Do you agree with NGG's view on the likely scarcity of flexibility from 2011/12 onwards?
Question 3: To what extent do you consider that entry flows materially affect the availability of flexibility?
Question 4: Do you consider that there are ways in which the requirement for flexibility capacity could be managed without having to introduce a flexibility product of the type proposed by 0116V and its variants?

Question 5: Do you agree that there is the potential for the proposed modifications to lead to increased competition both in the provision of interruptible services and in relation to access to flexibility?
Question 6: Do you agree that under the current arrangements there is the potential for undue discrimination between (a) interruptible and firm users, (b) TCCs and GDNs and (c) existing and new users? Would the proposed modifications reduce this potential?
Question 7: Do you agree that the proposed modifications might increase the potential for undue discrimination between entry and exit but reduce the potential for undue discrimination between IDNs and RDNs?

CHAPTER: Five

Question 1: Do you agree that the proposed modifications should results in a more appropriate distribution of costs and benefits?
Question 2: Do you agree that the proposed modifications should have no material impact on small businesses?
Question 3: Do you agree that the proposed modifications should have no material impact on sustainable development?
Question 4: Do you agree that there may be HSE implications associated with the implementation of the proposed amendments?
Question 5: Are there any risks or unintended consequences associated with the proposed modifications that we have not included in our analysis?

CHAPTER: Six

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.[31]

1.3. Duties and functions relating to gas are set out in the Gas Act and those relating to electricity are set out in the Electricity Act. This Appendix must be read accordingly[32].

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

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

- The need to secure that, so far as it is economical to meet them, all reasonable demands in Great Britain for gas conveyed through pipes are met;
- The need to secure that all reasonable demands for electricity are met;
- The need to secure that licence holders are able to finance the activities which are the subject of obligations on them[33]; and
- The interests of individuals who are disabled or chronically sick, of pensionable age, with low incomes, or residing in rural areas.[34]

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:

[31] entitled "Gas Supply" and "Electricity Supply" respectively.
[32] 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.
[33] 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.
[34] The Authority may have regard to other descriptions of consumers.

- Promote efficiency and economy on the part of those licensed[35] under the relevant Act and the efficient use of gas conveyed through pipes and electricity conveyed by distribution systems or transmission systems;
- Protect the public from dangers arising from the conveyance of gas through pipes or the use of gas conveyed through pipes and from the generation, transmission, distribution or supply of electricity;
- Contribute to the achievement of sustainable development; and
- Secure a diverse and viable long-term energy supply.

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

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

1.8. The Authority has powers under the Competition Act to investigate suspected anti-competitive activity and take action for breaches of the prohibitions in the legislation in respect of the gas and electricity sectors in Great Britain and is a designated National Competition Authority under the EC Modernisation Regulation[36] 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.

[35] or persons authorised by exemptions to carry on any activity.
[36] 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:

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

1.2. Please send your comments to:

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London
SW1P 3GE
andrew.macfaul@ofgem.gov.uk