Promoting choice and value for all gas and electricity customers

Transmission Price Control Review: Initial 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 initial proposals for the transmission price controls that will apply from 1 April 2007. It represents a key milestone in the Transmission Price Control Review (TPCR) as it sets out our initial thinking on the allowances that we intend to provide to fund efficient expenditure of the transmission licensees over the period 2007 - 2012.

We present our initial findings from our historic and forecast cost assessments of the transmission companies, which, together with our initial financial assumptions, allow us to calculate revenue allowances for each company. We have also set out further information and more detailed proposals in relation to the design of the price controls

Contact name and details: Robert Hull, Director Transmission

Tel: 020 7901 7050

Email: robert.hull@ofgem.gov.uk

Team: Transmission Directorate

Office of Gas and Electricity Markets, 9 Millbank, London, SW1P 3GE
www.ofgem.gov.uk

Context

Transmission networks play a key role in facilitating the competitive electricity and gas markets in Great Britain. Timely investment in the networks is essential to ensure their efficient operation.

There have been a number of changes in the external environment since the current transmission price controls were set and there is significant uncertainty concerning the future development of the networks. This uncertainty arises, in particular, from:

- changing patterns of gas supply resulting from the decline of UK gas production and its replacement by imports;
- changes in the electricity generation mix, largely relating to the development of renewable generation; and
- changes in wider energy policy, especially concerning environmental issues.

Against this background, the objectives of the review will be to develop incentives for investment in gas and electricity infrastructure, to promote efficient and timely investment in our transmission networks and to allocate risk appropriately.

Associated Documents

- TPCR Initial Proposals, June 2006 (104/06)
- Access Reform in Electricity Transmission: Working group report and next steps, May 2006 (Ref No. 83/06a)
- A framework for considering reforms to how generators gain access to the GB electricity transmission system: A report by the Access Reform Options Development Group April 2006, May 2006 (Ref No. 83/06b)
- TPCR 2007-2012: Third Consultation, March 2006 (Ref No. 51/06)
- TPCR 2007-2012: Third Consultation, Supplementary Appendices, March 2006 (Ref No. 51/06b)
- TPCR Capital Expenditure Projections 2007-2012 (open letter), 1 February 2006 (Ref No. 21/06)
- TPCR Second Consultation, December 2005 (Ref No. 277/05)
- TPCR Initial Consultation, July 2005 (Ref No. 172/05)

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

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Appendix 17 - Draft enduring offtake impact assessment

Introduction

1.1. This draft impact assessment considers the potential costs and benefits associated with the proposals for reform of the enduring offtake arrangements and associated incentives, drawing upon the arrangements described in the Third TPCR Consultation and discussions of the Enduring Offtake Working Group (EOWG).

1.2. Since the preliminary qualitative impact assessment was published in Annex 2 to Appendix 12 of the Third TPCR Consultation, we have gathered further quantitative information from parties that may be affected that has allowed us to develop the cost benefit analysis contained in this Appendix.

1.3. This is a draft impact assessment (IA) only. Nothing in this assessment can fetter the discretion of the Authority with respect to any future UNC modification proposals raised.

1.4. In the Third TPCR Consultation, we outlined high-level proposals for enduring offtake arrangements and incentives. Following the publication of this document, we issued pro forma questionnaires on the potential costs of implementing such arrangements. These questionnaires were accompanied by a document which provided guidance on the completion of the questionnaires ("the guidance document") and a document that detailed the framework of arrangements that should be assumed by respondents in assessing the cost implications ("the assumptions document"). The documents, as well as the cost survey proformas can be found on Ofgem's website at www.ofgem.gov.uk.

1.5. In this Appendix, we present the results of these questionnaires as well as our draft assessment of the benefits that may result from potential reform. The remainder of this Appendix is structured under the following headings:

- Options - an overview of the proposals for reform that this impact assessment seeks to assess as well as of the transitional arrangements which represent the counterfactual (i.e. the status quo) for this assessment
- Analysis of benefits - considering the potential quantitative and qualitative benefits of our proposals relative to continuation of the transitional arrangements
- Analysis of costs - considering the potential costs to a number of different industry parties (including shippers and TCCs) of our proposals relative to continuation of the transitional arrangements
- Results of cost benefit analysis - providing an overview of the potential net benefits of reform given the benefits and costs analysis presented
- Potential competitive, environmental and social impact, and
- Risks and unintended consequences.

1.6. In Annex 1 we consider the NERA/TPA report, commissioned by the Gas Forum, which reviewed Ofgem's original enduring gas exit arrangements proposals and was published in June 2005.

Options

1.7. It is assumed that, absent enduring reform, the transitional arrangements would continue to apply beyond 1 October 2010. This impact assessment therefore considers the potential costs and benefits of enduring offtake reform relative to the continuation of the transitional arrangements, which represents the counterfactual for this assessment. The assumptions document therefore provided an overview of both the long term user commitment model assumed to be implemented as part of enduring offtake reform as well as the transitional arrangements that it is assumed would continue absent reform.

1.8. We provide a brief overview of both the transitional arrangements and our proposals for reform, as presented in the assumptions document, below.

Overview of transitional arrangements

1.9. The transitional arrangements are the arrangements and associated incentives currently in place in relation to capacity released between 1 October 2008 and 30 September 2010. As the transitional arrangements affect NTS users differently, the following high-level characteristics are described by NTS user type:

Gas Distribution Networks

- Product definition: For GDNs, NTS exit capacity is defined and booked as two, independent products:
    - NTS exit flat capacity, which gives the holder the right to offtake a volume of gas during the day at a constant hourly rate, and
    - 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.
- Long term allocation of existing capacity: Under the transitional arrangements, GDNs are required to make requests for both the retention of existing capacity and the addition of new capacity in annual tranches at the three year ahead stage, with the ability to revise such requests each year during June / July.
- Long term allocation of new capacity: Where incremental capacity requests from GDNs are judged by NGG NTS to trigger additional investment, GDNs must enter into an Advance Reservation of Capacity Agreement (ARCA) with NGG NTS. The terms of this agreement are a result of bilateral negotiations between NGG NTS and the relevant connectee. However, Ofgem has an important role in settling any disputes that may arise on the terms of the ARCAs.

GDN shippers

- Payment Flows: GDN shippers pay separately for transmission and distribution exit capacity charges with such charges being levied by NGG NTS and the relevant GDN.

TCC shippers

- Long term allocation of existing capacity: Under the transitional arrangements, TCC shippers purchase a bundled "NTS exit capacity" product on behalf of their customers. Capacity is allocated in respect of NTS daily metered (DM) supply points on an "evergreen" basis with no renewal process required. Capacity booking processes for NTS connected system exit points (CSEPs), including interconnectors, is on a 12 monthly rolling basis, with proactive renewal of existing capacity required.
- Long term allocation of new capacity: Where TCC shippers wish to reserve incremental capacity that requires additional investment, they must enter into an ARCA with NGG NTS.
- Interruptions Arrangements: NTS interruptible status is available to TCC shippers on request.

TCCs

- Long term allocation of new capacity: Where TCCs wish to reserve incremental capacity that requires additional investment; they must enter into an ARCA with NGG NTS.

Overview of proposals for enduring offtake reform

1.10. The Third TPCR Consultation provided a qualitative assessment of a number of high-level long term user commitment models that could form the basis for reform of the offtake arrangements and associated incentives upon NGG NTS. In this consultation, we reiterated our view that user commitments should be at the heart of enduring offtake reform, with user signals provided sufficiently far in advance to allow NGG NTS to invest in the necessary system developments. Furthermore, in order to achieve robust signals and reduce the likelihood of asset stranding, such signals should be backed by an appropriate financial commitment from users.

1.11. The qualitative assessment in the Third TPCR Consultation concluded that Option Ex2A - a nodal product, nodal baseline model with a substitution obligation on NGG NTS, was the most appropriate model for further development and it is this model that was developed for quantitative assessment following publication of the Third TPCR Consultation.

1.12. This impact assessment assumes, consistent with the assumptions document, that enduring offtake reform would have the following high-level characteristics, common across all NTS user types:

- Product definition: a consistent framework of firm access products for all parties offtaking gas from the NTS. The base case assumption is that this would consist of a single, nodal capacity product that recognises the inter-relationship between flat and flexible capacity through an "expanding" flexibility model. However, we have also sought to understand the costs that may be implied by a two product, expanding flexibility model.
- Long term allocation of existing capacity: existing capacity will be made available at regulated prices, with existing users assumed to have “prevailing rights” for such capacity, unless sufficient notice of a reduction in requirements is provided.
- Long term allocation of new capacity: new or incremental capacity will be made available at regulated prices on a non-discriminatory basis, between all classes of network users, with requests submitted consistent with investment planning timescales. Before taking the decision to invest, it is assumed that NGG NTS will consider the extent to which unsold baseline capacity at other nodes could be transferred to the node where incremental capacity is requested. NGG NTS would also need to consider the extent to which there are opportunities for long-term contracting for interruptions that could avoid the need for investment.
- Medium / short term capacity allocation: allocation mechanisms that provide for the efficient allocation, through pay as bid auctions, of access products in the event that the supply of such products is insufficient to meet demand for such products in the medium / short term.
- Capacity buy-back: It was assumed that NGG NTS will need to buy back users' firm capacity rights in the event of planned or unplanned outages.
- Interruptions arrangements: interruption will be managed by NGG NTS through the sale of a day-ahead interruptible product, as well as through the long term contracting for the interruption of firm offtake rights where this is of value to NGG NTS.
- Payment flows: GDNs pay NGG NTS directly for NTS exit capacity charges and GDNs recover these costs from GDN shippers (i.e. akin to an “Option 2A” approach as outlined in the Final Impact Assessment (Final IA)[1]).

1.13. If this model is adopted, it is assumed that the details of the arrangements will be finalised by December 2006, with long term capacity requests being made in late summer 2007 with respect to capacity for 1 October 2010 onwards.

Analysis of benefits

1.14. Our base case estimate of the total potential benefits to customers associated with the implementation of the proposals for enduring offtake reform, relative to the transitional offtake arrangements, is £68.5m in present value terms. Furthermore, a number of qualitative benefits have been identified within this section which should also be considered when comparing the transitional and enduring offtake arrangements.

[1] National Grid Transco, Potential sale of gas distribution network businesses, Final Impact Assessment. Ofgem, November 2004, 255/04a

1.15. This section describes the analysis performed to derive these benefits, including:

- our estimate of the quantitative benefits to customers of the proposed model (including a discussion of the derivation of our base, high and low case assumptions), and
- an overview of the qualitative benefits identified.

Quantitative analysis of benefits

General assumptions

1.16. As with all IAs conducted by Ofgem, the focus of this IA is on the costs and benefits of reform that may be passed through to current and future customers, consistent with the Authority's principal objective.

1.17. In estimating the present value (PV) of benefits to customers of the current proposals for enduring offtake reform, a (pre-tax) discount rate of 6% has been applied to the annual benefits realised over the period from formula year 2006/7 up to and including formula year 2026/27. This rate is consistent with the post-tax cost of capital assumed for financial modelling as described in Chapter 7. In evaluating both present value benefits and costs, we have also applied the social discount rate of 3.5%, recommended in the HM Treasury Green Book[2].

1.18. The evaluation of the benefits covers the period up to and including the third complete price control period following implementation of enduring reform. This period therefore ends on 31 March 2027. All costs and benefits are provided in 2005/6 prices. Furthermore, in order to recognise the uncertainty associated with the benefits that may result from adoption of the proposals, we have considered for each benefit, a high, base and low case present value, described in more detail below.

Overview of results of benefits analysis

1.19. As Table 17.1 below shows, the total base case estimate of benefits to customers is £68.5m in present value terms, based on a 6% discount rate.

[2] http://greenbook.treasury.gov.uk/chapter05.htm#discounting

Table 17.1: Overview of quantitative benefits - 6% discount rate

Present value benefits (£m) 2005/6 prices 6% discount rate	**High case**	**Base case**	**Low case**
Efficient NTS investment signals	44.9	37.6	30.3
Non-discriminatory allocation of capacity products	25.2	21.0	16.8
Reduced incidence of ARCAs	14.8	10.0	7.5
Total PV benefits	**84.8**	**68.5**	**54.6**

1.20. Alternatively, if evaluated using a 3.5% social discount rate, the total base case estimate of present value benefits to customers is £90.7m, resulting from the adoption of the proposals. This is shown in Table 17.2 below.

Table 17.2: Overview of quantitative benefits - 3.5% discount rate

Present value benefits (£m) 2005/6 prices 3.5% discount rate	**High case**	**Base case**	**Low case**
Efficient NTS investment signals	59.1	49.3	39.4
Non-discriminatory allocation of capacity products	34.5	28.8	23.0
Reduced incidence of ARCAs	18.7	12.6	9.6
Total PV benefits	**112.3**	**90.7**	**72.0**

1.21. In the remainder of this section we describe the analysis undertaken to evaluate these benefits.

Efficient NTS investment signals

1.22. The adoption of a model in which all NTS users, including existing users, are required to make a significant financial commitment to guarantee ongoing access to

the NTS may have a number of significant benefits for customers. In particular, we consider that the improved investment signals provided by users under a user commitment model may increase the efficiency of NTS investments and reduce the risk of stranded assets emerging on the network.

1.23. In this instance stranded assets are defined to be assets that are built by NGG NTS, paid for by the generality of customers, yet are not required (in part or in full).

1.24. Given the proposals for enduring reform outlined in the Third TPCR Consultation and the assumptions document, we believe that more efficient NTS investment and reduced risk of stranded assets would result from:

- signals required in advance of capacity needs (with the notice period required informed by investment lead times and the cost profile of investment) to inform investment decisions (including the removal of the ability of NTS users to opt for long term interruptible status at short notice)
- long term signals backed by financially firm commitments, therefore providing more robust information
- application of the 1 in 20 obligation such that there is greater clarity of responsibility between NTS users and NGG NTS and unambiguous investment causality, incentivising NTS users to provide long term investment signals
- implementation of a capacity substitution obligation to ensure that possibilities to migrate existing baseline capacity from elsewhere in the network are considered before new capacity is built, and
- incentivisation of efficient trade-offs between network investment, long term interruption contracting and the use of constrained LNG.

1.25. We note that, by their nature, and as a result of informational asymmetries, such historical investment inefficiencies have been difficult to identify. Indeed, were they easy to identify ex post then the same benefits would be achievable via appropriate ex post adjustments by Ofgem at subsequent price controls and absent enduring offtake reform. However, we believe that the reforms proposed would help to reduce such informational asymmetries and the consequential efficiencies could therefore be significant.

1.26. We consider the potential scale of such efficiency savings to be 6.5% of capital expenditure associated with the enduring period. In doing so, we have considered assumptions made in this regard by Ofgem historically, the benefit that could be generated if the investment in a single power station were avoided, and the scale of the margins typically applied by NGG NTS to the 1 in 20 peak day flow scenario in making its planning assessments.

1.27. Whilst we acknowledge that, given the information asymmetries described above, it is difficult to define an exact percentage saving, we believe that the 6.5% assumed by previous IAs[3] remains broadly appropriate:

- such a percentage implies an NTS capex saving of circa £50m over two price control periods, broadly equivalent to avoidance of reinforcement for one gas fired power station over a ten year period, assuming future price controls consider capex requests comparable with the FBPQ figures submitted in this review, and
- as described in Chapter 6, NGG NTS currently applies a "flow margin" of 5% to the 1 in 20 scenario peak day flow when planning future network capacity. It is our view that enduring offtake reform and in particular, the greater clarity that our proposals will provide regarding responsibility for compliance with the 1 in 20 obligation, will reduce the need for such a margin[4].

1.28. Further, we have assumed high case and low case percentage savings of 8% and 4% respectively, acknowledging that, dependent on future uncertainties in demand for incremental capacity, the savings realised could be both greater than or less than those assumed in the base case.

1.29. In evaluating the potential savings to NTS exit capacity investment, we have applied this range of percentage savings to the incremental exit capacity capital expenditure assumed going forward, as shown in Table A19.1.3, which has informed the derivation of the revenue drivers presented in Chapter 11. Beyond the next price control period, we have assumed that the average, annual incremental NTS exit capacity expenditure for the period 2006 - 2012, remains constant at an average £65m per annum[5].

1.30. Table 17.3 shows our assumed forecast of incremental NTS exit capacity related capex for the next price control period as well as 2006/07 and is based on our capex consultants' assessment of efficient capex as presented in Chapter 11.

[3] National Grid Transco – Potential sale of gas distribution networks businesses, Final RIA Appendices, Ofgem, November 2004 - Page 79 assumed a 3.5% saving in annual NTS exit capacity capex from more efficient investment signals and page 86 showed a further 3% saving from the removal of long-run NTS interruption inefficiencies

[4] The capex numbers presented in this document have not been adjusted to reflect any such flow margin reduction.

[5] For capital expenditure incurred before 1 October 2010, the beginning of the enduring period, it is assumed that all capital expenditure in the year immediately preceding the enduring period (year t-1) will relate to investments that will be delivered under the enduring regime and therefore be subject to the efficiencies described above. We have also assumed that 20% of capital expenditure incurred in year t-2 will relate to the enduring period.

Table 17.3: Incremental NTS exit capacity capex forecast (2005/6 prices)

Year ending 31 March	2007	2008	2009	2010	2011	2012	2012 to 2027
Incremental NTS exit capacity capex	£23m	£63m	£102m	£76m	£63m	£61m	£65m per annum
Average per year	£65m						
Base case NTS capex saving	£-m	£-m	£0.7m	£3.0m	£4.1m	£4.0m	£4.2m per annum

1.31. These benefits yield a present value benefit of £37.6m, given a 6% discount rate. Alternatively, when evaluated with a 3.5% social discount rate, the PV benefit to customers is £49.3m. These values, as well as those of the high and low cases, are summarised in Table 17.4 below:

Table 17.4: NTS Incremental exit capacity, PV savings

Present value benefits (£m) 2005/6 prices	High case	Base case	Low case
NTS incremental exit capacity saving	8%	6.5%	5%
PV incremental exit capacity saving 6% discount rate (£m)	44.9	37.6	30.3
PV incremental exit capacity saving 3.5% discount rate (£m)	59.1	49.3	39.4

Non-discriminatory allocation of capacity products

1.32. Under the transitional arrangements, there is the potential for NGG NTS to favour the NG retained distribution businesses in the allocation of long and short term NTS exit capacity products. In particular, the transitional allocation process lacks transparency, places significant reliance on bilaterally negotiated ARCAs and therefore gives NGG NTS a significant degree of discretion.

1.33. This potential for undue discrimination was originally identified at GDN sales, with implementation of common and transparent capacity allocation arrangements at the NTS/GDN interface required as a necessary mitigation.

1.34. In the proposed enduring regime, it is assumed that the criteria for the release of both long term and short term NTS exit capacity will be clear, transparent and common to all NTS users. GDNs will no longer need to enter into ARCAs to reserve incremental capacity in the long term. In the short term, GDNs will need to bid for capacity alongside other NTS users in a pay as bid auction.

1.35. The potential for discrimination under the transitional regime could lead to retained GDNs receiving a favourable allocation of long term exit capacity rights (either in terms of the price levied, the extent of financial commitment required or the volume allocated) and / or the allocation of short term capacity rights through the Offtake Profile Notification process. Such a favourable allocation could lead to the potential for the retained GDNs to gain under their incentives with respect to the purchase of NTS exit capacity[6].

1.36. Furthermore, 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.

1.37. 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.

1.38. The GDN Sales, Final IA presented a base case, comparative efficiency present value benefit of £310m in 2004 prices, when assessed with a 6.25% discount rate. The assessment assumed that four networks would be sold, resulting in the creation of three new GDN businesses and consequently, the ability to use three additional comparators to evaluate the performance of GDN businesses.

1.39. We have assumed in our base case that 5% of the comparative efficiency benefits identified under GDN sales may be compromised by such discrimination. Application of a 6% discount rate generates a present value benefit of £21m in 2005/6 prices over the evaluation period[7].

1.40. Given the conservative nature of the benefits assessment conducted as part of the Final IA, we believe that our assessment of this benefits category is also conservative in nature. We note, for example, that this assessment has not

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

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

considered the potential impact of the potential for discrimination on the comparison of capital expenditure across GDNs.

1.41. We have also considered the benefits that would result if the base case assumption of 5% was varied, applying percentages of 6% and 4% in our high and low cases respectively.

Table 17.5: Non-discriminatory allocation of capacity products, PV savings

Present Value Benefits (£m) 2005/06 Prices	**High Case**	**Base Case**	**Low Case**
Percentage impact to comparative regulation opex improvement	6%	**5%**	4%
PV of Non discriminatory allocation of capacity products 6% Discount Rate	25.2	**21.0**	16.8
PV of Non discriminatory allocation of capacity products 3.5% Discount Rate	34.5	28.8	23.0

Reduced Incidence of ARCAs

1.42. Under the transitional arrangements it is necessary for NTS users to enter into ARCAs on a bilateral basis with NGG NTS to reserve incremental capacity that requires specific system reinforcement.

1.43. Under the enduring regime, NTS users who are signatories to the UNC will no longer need to enter into such ARCAs, saving such industry participants the cost associated with negotiation of, and raising disputes with respect to, these bilateral agreements. It is also assumed that the costs imposed upon Ofgem will be reduced as the number of disputes being raised with Ofgem will fall.

1.44. Whilst NTS users that are not UNC signatories, such as developers, will continue to enter into ARCAs to reserve capacity, it is assumed that the transparency of terms within the UNC for other parties will reduce the incidence of disputes for the remaining ARCAs that are entered into as we would expect the terms of such ARCAs to mirror the terms within the UNC.

1.45. Utilising cost estimates provided to us by NGG NTS, we expect the avoidance of the need to agree ARCAs that do not lead to a subsequent dispute to save negotiating parties £5k each per ARCA. We expect the avoidance of disputed ARCAs would save £300k per party to each dispute, including the two negotiating parties and Ofgem in its role as arbitrator, totalling £900k per disputed ARCA.

1.46. We have assumed that, under the transitional arrangements, NGG NTS and counter-parties may negotiate three ARCAs per year, with one of these leading to dispute. We have assumed that such costs could be avoided under the enduring regime, with an annual saving across all participants of £0.9m, with benefits commencing in 2007/08 consistent with the first sale of incremental NTS exit capacity. This provides a present value benefit of £10m, using a 6% discount rate.

1.47. In the absence of the proposed enduring offtake arrangements, we would expect the numbers of ARCAs required, as well as the consequential amount that result in dispute, to remain relatively constant.

1.48. For our high and low case estimates of potential benefits, we have assumed that, on average, one in two and one in four of the ARCAs required each year could result in dispute, incurring costs on each party involved as well as Ofgem in its role as arbitrator.

Table 17.6: Reduced incidence of ARCAs, PV savings

Present value benefits 2005/6 prices	**High case**	**Base case**	**Low case**
Average number of ARCAs resulting in dispute, per annum	1 in 2	**1 in 3**	1 in 4
Average avoided ARCA negotiation costs, per annum	1.4	**0.9**	0.7
PV of costs saved through reduced requirement fro ARCAs 6% discount rate (£m)	14.8	**10.0**	7.5
PV of costs saved through reduced requirement fro ARCAs 3.5% discount rate (£m)	18.7	**12.6**	9.6

Overview of qualitative benefits

1.49. In addition to the key benefits that we have quantified above, there are a number of additional benefits from the proposed reform that have not been quantified. The following benefits are described in qualitative terms below:

- efficient network development and system operation

- preventing undue discrimination
- promotion of competition
- appropriate allocation of risk
- simplicity and transparency, and
- preservation of security of supply.

Efficient network development and system operation

1.50. The benefits of efficient network development and avoidance of asset stranding have been discussed and quantified above. However, we believe that the enduring offtake proposals will also introduce the potential for system operation benefits as discussed below.

1.51. Should the availability of flat or flexibility capacity be constrained in the medium / short term, the enduring offtake proposals will, via the proposed pay as bid allocation mechanisms in the short term, ensure that capacity is allocated to those that value it most.

1.52. As such, the allocation of scarce unsold flat capacity under the enduring offtake arrangements could, for example, allow an efficient CCGT power station to come on line earlier than it may otherwise have done under the transitional arrangements with consequential electricity market benefits. We also note that the avoidance of delays that may be caused by the ARCA process under the transitional arrangements could yield similar benefits.

1.53. With respect to the allocation of flexibility capacity, we anticipate that enduring offtake reform could allow the costs of offtake flow variations to be targeted to TCCs and GDNs and reduce the need for NGG NTS to take within day gas balancing actions to manage these flow variations. As such, the costs that may be incurred by NGG NTS in its role as residual balancer may be reduced. Furthermore, we consider that enduring offtake reform could lead to more flexibility being offered into the electricity balancing mechanism, which could in turn reduce the balancing costs incurred by the system operator (as it could lead to more efficient and flexible gas fired electricity generators acquiring NTS flexibility over less efficient generators).

Preventing undue discrimination

1.54. It is important that any enduring arrangements reduce the scope for undue discrimination between:

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

1.55. We consider that the adoption of the proposed long term user commitment model will have the benefit of reducing the potential for undue discrimination between NTS users.

1.56. We note that under the transitional arrangements there is the potential for discrimination between firm and interruptible sites as follows:

- there is the potential for a firm customer that has imposed investment related costs to switch to interruptible status. This could lead to firm customers having to fund investments which they may not benefit from.
- users may receive differing levels of service for the same discount to NTS exit capacity charges as the probability of interruption may vary significantly by location, and
- the practical maximum physical capacity baseline data provided by NGG NTS and documented in both the Third TPCR Consultation[8] and the Initial Proposals consultation to which this Appendix relates indicate that the capability of the current network is such that the majority of sites that are "interruptible" could be provided with their System Offtake Quantity (SOQ) on a firm basis. As such, the probability of such sites being interrupted would be at, or close to, zero. Therefore, if interruptible services were to be priced in accordance with the probability of interruption, it would be reasonable to expect that in many instances the services would be priced at or close to the firm price, rather than significantly discounted as is currently the case.

1.57. Under the proposals for enduring reform, NGG NTS will only enter into contracts for interruptible services where the NTS user / shipper already holds firm long term capacity rights and long term contracting for interruption is of value to NGG NTS i.e. the network is constrained. Furthermore, in order to inform investment decisions, it is assumed that these long term contracts will be entered into at least three years ahead. As such, going forward, certain categories of customers will no longer be able to receive discounts for providing services that are not needed by NGG NTS.

1.58. Under the transitional arrangements, there is the potential for discrimination between GDNs and TCCs as follows:

- the two user classes are offered different capacity products - TCCs purchase a bundled NTS exit capacity product that allows unlimited use of flexibility within the SOQ whilst GDNs purchase two separate capacity products for flat and flexibility capacity, and
- the processes for booking capacity vary across user classes with NTS daily metered supply points receiving capacity 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.

1.59. Under the proposals for enduring reform, a common framework will apply to both GDNs and TCCs, with the same capacity products available to all NTS users on the same basis.

[8] Annex 1 to Appendix 12

1.60. The potential to reduce the scope for discrimination between NGG's retained GDNs and the independent GDNs is discussed and quantified above.

Promotion of competition

1.61. We believe that the proposals for enduring offtake reform will promote competition between NTS users in that all participants will be able to secure access to the same defined products in the long and short term. Furthermore, in the event of a constraint, there will be the potential for competition between participants in the following areas:

- long term interruption services, and
- in pay as bid auctions for capacity in the medium / short term, including an annual auction for unsold capacity across nodes proposed in the NGG NTS strawman.

1.62. We note that some participants have expressed concerns regarding potentially negative consequences for shipper market competition given shipper contracting issues and requirements for a longer financial commitment. We note that these concerns have been at least partially mitigated by the proposals, in the NGG NTS strawman, to allow non-UNC parties to reserve capacity in the long term through a process akin to the current ARCA framework. We would welcome further views from respondents about particular concerns in this area.

1.63. We also note that increased complexity of the arrangements could constitute a barrier to entry into the shipper market with negative implications for competition in gas supply. However, we have sought to facilitate the discussion of proposals that maximise simplicity and transparency whilst achieving our high level policy objectives.

Appropriate allocation of risk

1.64. A key benefit of moving to a model that requires long term commitment by NTS users to secure guaranteed access to the network is that there is an improved allocation of risk between industry participants and customers. Those connectees that wish to secure long term rights to offtake from the NTS will be able to do so - but in exchange for these rights, they will be required to make a financially firm commitment.

1.65. We consider that this is an improvement over the transitional arrangements, in which shippers do not have to signal their intention to continue use of the network beyond a 12 month period. We therefore believe that a user commitment model will have clear benefits to customers in terms of an improved allocation of risk between stakeholders. Specifically, this is because we consider that NTS users and shippers are best placed to assess their future needs for NTS offtake capacity services (as opposed to network planners), and are therefore best placed to manage and mitigate the associated risk.

Simplicity and transparency

1.66. We believe an important consideration in the selection of an appropriate model for enduring offtake is that the arrangements and package of associated incentives are as simple and transparent as is possible. We continue to consider that a disadvantage of the proposed user commitment models is that, at least initially, a more complex set of arrangements and incentives are required than under the transitional arrangements.

1.67. However, we have sought to facilitate the discussion of proposals that maximise simplicity and transparency whilst achieving our high level policy objectives. Furthermore, we note that the EOWG has provided a useful forum for highlighting areas where proposals for enduring reform could be simplified or the potential costs to users could be mitigated. We welcome these discussions and hope that policy development will continue to be informed in this way.

Preservation of security of supply

1.68. As discussed above, we believe that the development of a long term user commitment framework should form the foundation for enduring offtake reform and transmission investment going forward. It has therefore been necessary to consider the interaction between a full user commitment framework and NGG NTS's 1 in 20 obligation.

1.69. At present, in the absence of a framework for full user commitments, NGG NTS forecasts demand from the GDNs, and TCCs and invests in its pipe-line system accordingly. However, it is our initial view that, within a full user commitment framework, it would only be appropriate for additional NTS capacity to be provided if NTS users have signalled that such capacity would be of value to them. In particular, in the case of GDNs, it is our view that NTS exit capacity built for GDNs should be consistent with the GDNs' assessment of their NTS exit capacity requirements given their 1 in 20 obligation. As a result there would be greater clarity of responsibility between NTS users and NGG NTS. Furthermore, as the causality for investment would be unambiguous, users would be incentivised to provide long term investment signals. We believe that this increase in clarity and greater incentivisation of long term signals should help to preserve, and may indeed enhance, security of supply.

Summary of base case benefits

1.70. Table 17.7 below shows a summary of the base case quantitative and qualitative benefit assessment of the enduring offtake proposals relative to the transitional arrangements.

Table 17.7: Assessment of base case benefits (6% discount rate)

	Present Value Quantitative Benefits	Additional Qualitative Benefits
Efficient network development and system operation	£37.6 m	✓
Preventing undue discrimination	£21.0 m	✓
Promotion of competition	-	✓
Appropriate allocation of risk	-	✓
Simplicity / transparency	-	✗
Preservation of security of supply	-	✓
Clear and appropriate accountability and responsibility	£10.0 m	-
Total Quantified benefits relative to the transitional arrangements (2005/6 prices)	**£68.5 m**	

Views invited on benefits analysis

1.71. We welcome views on all aspects of this draft IA, including our assessment of the potential benefits associated with the proposals for enduring offtake reform, and in particular:

- whether there are any further benefits (quantitative or qualitative) associated with the proposed framework of arrangements that should be taken into account; and
- the assumptions applied.

Analysis of costs

1.72. Our base case estimate of the total potential costs to customers associated with the implementation of the proposals for enduring offtake reform is £22.5m in PV terms. This section describes the analysis performed to derive this figure, including:

- an overview of the April 2006 cost proforma

- our estimate of the costs likely to be incurred by industry participants, utilising the results of the April 2006 cost survey, evaluated separately for the following stakeholder groups:
    - shippers
    - TCCs
    - gas transporters and their Agency[9], and
    - industry participants and customers in other jurisdictions.

Overview of April 2006 cost pro forma

1.73. To understand the costs to customers that the implementation of the enduring offtake reform proposals would impose, in April 2006, we issued separate cost pro formas to:

- shippers and TCCs, and
- gas transporters and the Agency.

1.74. The pro forma for shippers & TCCs requested information regarding the characteristics of their businesses, including the type and number of customers that they currently provide services to.

1.75. All respondents were asked to provide an assessment of the upfront implementation costs and ongoing annual costs that they would incur with the implementation of the proposed model.

1.76. To assist respondents in the completion of the pro formas, an assumptions document and a guidance document were issued in order to encourage consistency in responses. The assumptions document, which can be found on the Ofgem website, summarised the high level proposals presented in the Third TPCR Consultation document in March 2006 and provided our initial assessment of the key areas in which there may be cost implications for industry participants.

1.77. In the guidance document, respondents were specifically requested to estimate their expected costs on the basis of:

- the potential impact on their business alone
- the potential impact in terms of the incremental costs of implementing the changes proposed only
- the costs incurred relative to the transitional arrangements
- exclusion of the costs of process or system changes that would be required absent enduring offtake reforms
- exclusion of any costs that have already been incurred
- separate cost information for each jurisdiction in which the respondent operates

[9] Xoserve is a separate legal entity, jointly owned by each GDN and NGG NTS, which following the GDN sales transaction, manages the commercial interfaces between these GTs and their customers.

- cost estimates that represent the most likely outcome i.e. base case / median estimates
- separate implementation (one-off) and ongoing costs, and
- costs of introducing new systems and processes only included where the introduction of such measures is efficient and necessary.

Overview of responses to April pro forma

1.78. Responses to the pro forma were requested by 15th May 2006. Fourteen submissions were received in total, comprising:

- 5 TCC shippers
- 1 storage operator
- 1 written response from a TCC representative organisation
- 4 GDN Business responses representing 8 networks
- a response from NGG NTS
- a response from xoserve, and
- a response from an Irish Shipper who is solely active at the Moffat interconnector.

1.79. The remainder of this section analyses the costs submitted in these responses and illustrates several ways in which they can be used to represent the overall cost to customers that may occur on adoption of the proposed enduring offtake arrangements.

Cost to shippers

1.80. This section presents two cases for the estimation of potential costs:

- a shipper case cost estimate that uses the information provided by shippers and presents a number of methods for extrapolation to account for the costs of those that did not respond to the cost survey, and
- our assessment of the costs that may be incurred following the exclusion of outliers through the application of "cluster" analysis.

1.81. Overall, shipper submissions accounted for approximately half of NTS TCC offtakes, including NTS power stations, industrials and storage sites. Alternatively, by share of annual NTS gas throughput, shipper responses accounted for just over half of the market excluding offtake by NTS interconnectors but including flows into NTS storage sites.

1.82. To present an appropriate estimation of the overall level of costs that may be incurred by NTS shippers, we considered that some extrapolation of the respondent estimates obtained would be necessary in order to include an estimate of costs likely to be incurred by shippers that did not submit a response.

Shipper estimates

1.83. Aggregation of the pro formas received from shippers provides an estimate of the costs likely to be incurred by shippers serving approximately half of the NTS TCC market. This calculation results in an estimate of:

- total upfront costs likely to be incurred by shippers of £3.0m;
- total ongoing potential costs of £1.3m per annum.

1.84. In present value terms, this equates to a PV of circa £13.2m using the same assumptions employed to calculate the benefits PV i.e. a discount rate of 6 percent, with prices discounted to 2006 over a timeframe of 21 years. Ongoing costs have been assumed to commence in the formula year 2010/2011, with up front costs divided equally across the three preceding years.

1.85. Following discussions with individual shippers, we have made minor adjustments to the cost submissions to better reflect those costs that we believe would be passed through to customers. These adjustments (which are described further below) resulted in a reduction to the aggregate respondent present value cost of £1.5m (using a 6% discount rate) and are reflected in the figures stated above.

1.86. To calculate the costs that could potentially be incurred by the whole NTS shipper market[10], three possible approaches to extrapolate respondent costs could be employed. They are:

- Method A: to pro rate the average shipper cost per NTS offtake point served[11], implied by the respondent shipper estimates, across total TCC supply points and NTS storage sites (but not interconnectors)
- Method B: more conservatively, to assume some element of the costs incurred by a shipper would be invariant to the number of TCCs served by that shipper. To extrapolate on this basis we assumed that the estimated costs, incurred by the lowest cost respondent of the cluster, are representative of the fixed costs of a non–responding shipper. We assume further that that there were 11 non-responding shippers, which we would expect to incur costs which may be passed on to customers
- Method C: we have pro-rated shipper responses by their share of total NTS throughput, including both firm and interruptible NTS throughput to NTS directly

[10] The throughput and offtakes associated with the respondents to our cost survey plus the assumed 11 non-respondent shippers have been considered here.
[11] Where shipper costs are incurred against NTS shared supply meter points, each instance of a shipper/offtake relationship has been counted separately, conservatively estimating the costs all shippers at a shared offtake may incur. A data set provided by NGG NTS has been used to derive a consistent assessment of offtake points across respondents and non-respondents. The data provided by NGG NTS was for gas year 2005/06 (although data on storage sites was provided for formula year 2005/06).

connected supply points as well as NTS storage sites (and excluding NTS interconnectors)[12].

1.87. We present the initial summation of the shipper costs in Table 17.8 below together with application of the three alternative extrapolation methodologies.

Table 17.8: Shipper estimated cost & extrapolation - 6% discount rate

£ million (2006 prices) 6% Discount Rate	Up front costs	Ongoing costs	Present Value
Respondent Total	3.0	1.3	13.2
Method A: Cost per offtake extrapolation	6.3	2.7	28.1
Method B: Fixed cost extrapolation	7.4	2.4	26.5
Method C: Throughput cost extrapolation	5.9	2.6	26.2

1.88. For information, if we apply the social discount rate of 3.5%, recommended in the HM Treasury Green Book[13], the present value costs to customers increases as per Table 17.9.

Table 17.9: Raw shipper estimated cost & extrapolation - 3.5% discount rate

£ million (2006 prices) 3.5% Discount Rate	Up front costs	Ongoing costs	Present Value
Respondent Total	3.0	1.3	16.9
Method A: Cost per offtake extrapolation	6.3	2.7	36.0
Method B: Fixed cost extrapolation	7.4	2.4	33.6
Method C: Throughput cost extrapolation	5.9	2.6	33.5

1.89. We consider that the cost estimates in Table 17.9 above represent a highly conservative estimate of the cost that shippers are likely to incur. This is principally

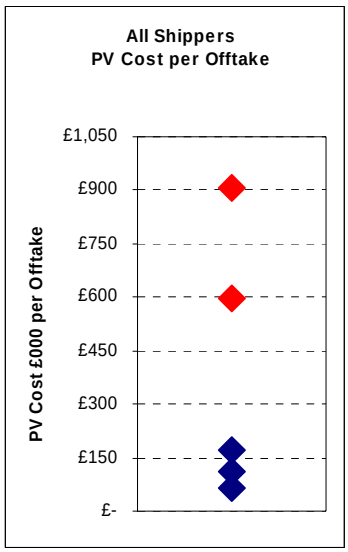
[12] We note that the NERA / TPA report used throughput to extrapolate its cost estimates, using the National Grid ten year statement. However, it is our understanding that this source does not take full account of interruptible (including storage) sites. As such, we used data provided separately by NGG NTS.
[13] http://greenbook.treasury.gov.uk/chapter05.htm#discounting

because analysis of the data shows a broad range of cost estimates with some significant, high cost outliers. In the following section we present our clustering analysis and demonstrate how removing the effects of outliers impacts upon the overall total cost estimate.

Our analysis of data

1.90. To gain the most appropriate estimation of the costs that shippers are likely to incur, we undertook the following cluster analysis:

Figure 17.1 Cluster analysis of present value costs to shippers per offtake



1.91. The figure above illustrates the range of present value cost estimates from each respondent shipper when analysed on a per NTS offtake served basis[14]. In our view, the red points represent two outliers to the "cluster" of PV cost per NTS offtake (indicated by the blue points) incurred by the remainder of shipper respondents. This suggests that the costs submitted by the outlier shippers are unlikely to be representative of the costs that could be passed through to customers because:

- the costs may not be accurately reported by those shippers and could include additional costs that are not directly associated with the enduring offtake proposals, and
- even if these costs are the actual costs that are likely to be incurred by those shippers, it is unlikely, given the extent of the deviation from the other shippers' estimates, that they would be able to pass that level of costs through into the competitive industrial and commercial market. Rather, to sustain its position in the market place, it would only be able to pass through the typical level of costs incurred by an NTS shipper.

[14] Based on information regarding the number of offtake points provided in each response.

1.92. We would also note that the high unit cost per offtake of the two outliers is not merely the result of the absolute size of their business as their absolute cost submissions were also high cost outliers.

1.93. Hence, we have analysed cost data by removing the two outliers shown above, obtaining a new respondent total by multiplying costs per NTS offtake for the remaining cluster by the number of NTS offtakes served for the whole respondent group (including excluded respondents), and then repeating the extrapolation analysis that is presented in the previous section for non-respondent NTS shippers.

Table 17.10: Adjusted shipper estimated costs - 6% discount rate

£ million (2006 prices) 6% Discount Rate	Up front costs	Ongoing costs	Present Value
Adjusted Respondent Total	1.4	0.5	5.7
Method A: Cost per offtake extrapolation	3.0	1.2	12.1
Method B: Fixed cost extrapolation	5.8	1.7	18.9
Method C: Throughput cost extrapolation	2.8	1.1	11.3

1.94. Alternatively, if we apply the social discount rate of 3.5%, recommended in the HM Treasury Green Book, the present value costs to customers increases as shown in Table 17.11.

Table 17.11: Adjusted shipper estimated costs - 3.5% discount rate

£ million (2006 prices) 3.5% Discount Rate	Up front costs	Ongoing costs	Present Value
Adjusted Respondent Total	1.4	0.5	7.2
Method A: Cost per offtake extrapolation	3.0	1.2	15.4
Method B: Fixed cost extrapolation	5.8	1.7	23.9
Method C: Throughput cost extrapolation	2.8	1.1	14.4

1.95. Meetings and discussions with shippers raised a number of issues with regards to the consistency of the estimates provided and the extent to which all of the costs estimated would be driven by adoption of the enduring offtake proposals alone. In the following section, we discuss these issues. However, other than where minor amendments have been performed (listed explicitly below), we have not used these concerns as a basis for any further adjustment of shipper costs. As such, we consider that the numbers presented in Tables 17.10 and 17.11 above may over-state the true costs of adopting the proposed model.

Data issues and methodology

1.96. This subsection sets out the stages that we went through in analysing the data submitted in the pro formas and ensuring that the figures used to provide a final cost estimate were as reflective as possible of the potential costs that would be incurred by NTS shippers. It provides:

- an account of the meetings held with shippers to clarify the assumptions that they had made in completing the pro forma
- a breakdown of the adjustments that were made following the meetings with shippers, and
- an overview of the cost anomalies that, in our view, remain within the data applied and may therefore lead to an over-statement of the level of cost.

1.97. At the end of this section, we outline the concerns raised by shippers in providing their responses, and the key areas of uncertainty that remain.

Shipper meetings

1.98. A series of meetings were held with shipper respondents to clarify the assumptions made in their responses and to gain an improved understanding of the factors driving costs. A summary of some of the issues identified, and the subsequent adjustments performed, are outlined below:

- one shipper noted that the up-front and on-going IT costs had not remained fully consistent following an adjustment to the up-front costs submitted and we made a consequential amendment in this regard
- one shipper recognised that, over the period in which ongoing costs are evaluated, it was likely that their staffing requirements would soon reduce to a lower, steady state, than that which was estimated in their submission, and so we adjusted their submitted figures accordingly, and
- one shipper argued that the requirement to commit to capacity requirements over longer time horizons could lead to a greater tendency for inaccuracy in their long term bookings and submitted a cost estimate in this regard. We have excluded this estimated cost from our analysis on the grounds that only efficiently incurred costs are likely to be passed through to the generality of customers, shippers can manage uncertainty through a combination of long and short term capacity bookings, and shippers are best placed to assess their future capacity needs.

1.99. Together, the above adjustments accounted for a reduction in the raw respondent total present value costs of £1.5m. These data adjustments are reflected in Table 17.8 above.

Remaining cost anomalies

1.100. As a result of our discussions with shippers, we have identified a number of costs which may have been over-stated.

1.101. Whilst these costs could be scaled down, given the timing of this IA and the ongoing work undertaken by the EOWG to refine the proposals, we have not reflected such additional downward adjustments in any of the cost estimates provided in this paper. Instead we describe the following areas for information only at this time:

- three shippers informed us that, as they believe the proposals to be insufficiently detailed at this time, their responses have been considered against a worst case scenario of cost impacts, with contingency and/or over-staffing built into their estimates. By including these high case costs into our analysis above, we believe our cost assessment to be a conservative estimate.
- the majority of shippers that we spoke to noted that, were a variation on the proposed flexibility model to be implemented, as articulated by a shipper presentation given to the EOWG at EOWG 10, the costs incurred by the shipper community could materially reduce beyond those reflected in their submissions.
- two shipper respondents told us that the majority of their up front costs are likely to be incurred close to the 2010/11 gas year, on commencement of the enduring arrangements. As it was not possible to estimate the exact profile in which shippers will incur costs, our assessment assumed an equal amount of up front cost incurred for each of the three years preceding 2010/11. In bringing these costs forward, their present value will have increased, providing a conservative estimate of the overall present value of costs that could be incurred.
- a number of respondents commented that, though it was hard to estimate at this time, they would expect ongoing costs to reduce as the regime matures. In our analysis we have assumed a continual, flat profile of ongoing shipper costs over the period, overstating the actual costs that are likely to be incurred if such reductions take place.
- some shippers included in their staff costs a full share of the cost attributable to staffing overheads, such as HR services, building costs, desktop IT. As the actual cost incurred by shippers, relative to their existing cost base, should only represent incremental staff costs, the inclusion of other overheads potentially overstates the costs likely to be incurred. However, by including in our analysis the full staff costs submitted to us, in both the up front and the annual ongoing costs, we have provided a conservative estimate.
- several shippers provided costs associated with collecting and communicating hourly capacity usage information from TCCs to their respective shipper. On discussion with one shipper, it was noted that these costs could be reduced if NGG NTS was able to provide such a service on NTS shippers' behalf.

- one participant considered a separated flat and flexible capacity model in its cost survey response. This respondent noted that its costs would be reduced should a single product be adopted. However, it had been unable to evaluate such reduced costs at this time. Consequently, whilst the analysis above assumes a single flat and flexible capacity product, we have used this higher cost submission.

Shipper concerns & caveats

1.102. During the follow-up pro forma meetings, and in the pro forma submissions themselves, shippers highlighted a number of areas of concern. The key issues identified are outlined below:

- all respondents placed caveats on their estimates as being both high level and subject to change as the regime develops. We acknowledge these comments and expect that, once business rules have been defined, shipper estimates may be refined for any subsequent impact assessment. Further, one respondent informed us that many of the NTS shippers had not undertaken analysis to understand their TCCs' flexible capacity requirements. The outcome of such analysis could change their estimate of the need to participant in flexible capacity allocation mechanisms and consequently, the ongoing cost of such activity.
- several respondents told us that they were unable to evaluate the credit costs that they could be exposed to under the proposals, requiring greater clarity as to whether they could pass through the commitment to pay future capacity charges in contracts with their TCCs. Furthermore, one respondent stated that to evaluate such a cost would require an understanding of the value of capacity charges to which they would need to commit, requiring a view up front of the unit prices they could be required to pay. Consequently, these respondents excluded credit costs from their submission thereby excluding them from the analysis above.
- two respondents stated that the relationship between flat and flexible capacity, and consequently the amount of flexible capacity that is released to TCCs, will drive their need for trading to procure extra flexible capacity and therefore drive the variable costs associated with this activity. Should the assumed relationship between products change significantly, estimated costs may also change.

Cost to Transmission Connected Customers

1.103. In response to the April cost pro-forma request, we received a written submission by a TCC representative organisation and one submission by an NTS storage operator.

1.104. Following discussion with a small number of its members, the TCC representative organisation did not expect its members to incur increased staff or IT costs as a result of the proposals. However, the TCC respondents noted that they could face significant legal costs if capacity booking was undertaken by a shipper whose contract terms covering shipper transfer were not universally agreed.

1.105. In order to provide a conservative estimation of the cost that such TCCs could incur, we have assumed that each of the 61 TCC sites (i.e. NTS power stations and industrials and storage sites but excluding the NTS interconnectors) may incur some costs associated with the implementation of the enduring offtake arrangements, assumed to be equal to £10,000 a year per TCC[15].

1.106. This equates to a PV cost of £5.1m using the same assumptions employed to calculate the present value benefits and shipper cost estimates i.e. a discount rate of 6 percent, with prices discounted to 2006 over a timeframe of 21 years. Alternatively, if a social discount rate of 3.5% is applied, this yields a PV cost of £6.7m.

1.107. The response received from the NTS storage operator detailed the costs that may be incurred should the storage operator be required to undertake a flat and flexible capacity allocation agent role, allocating capacity usage amongst its shipper customers.

1.108. Consequently, we have assumed that, for each storage operator that manages NTS storage sites with two or more shippers, they may incur fixed costs similar to those submitted by the storage operator respondent. For confidentiality purposes we have not published these costs in detail. Instead, the aggregate, total present value cost that may be incurred by NTS storage users is estimated at £2.0m, using a 6% discount rate and the same 21 year term as other costs and benefits are evaluated. Alternatively, if a 3.5% social discount rate is used, the total PV cost to storage operators is £2.5m.

1.109. Combining the PV cost that TCCs may incur for the negotiation of supply contracts, and the costs that storage operators may incur if they adopt an allocation agent role, yields a total PV cost to TCCs of £7.0m, using a 6% discount rate.

Cost to gas transporters and their Agency

1.110. In considering the costs that NGG NTS, the four GDN businesses and their Agent may incur on adoption of the proposals, we consider that the costs associated with the implementation of enduring offtake arrangements should not be passed through to customers as such costs represent a cost of the GDN sales transaction. Consequently, we foresee that any costs incurred as a result of this commercial transaction should be borne by the relevant GT shareholders rather than the generality of customers.

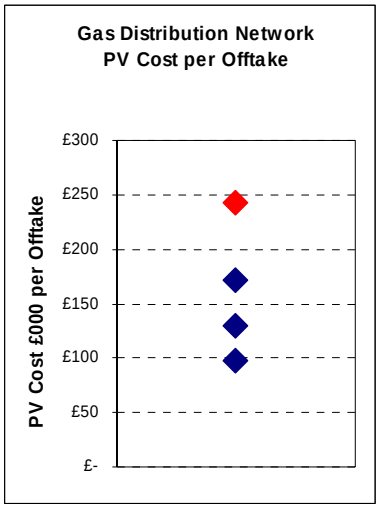
[15] In performing our analysis, we have assumed that were TCCs to incur higher costs than those estimated above, such cost would be offset by an equivalent reduction in shipper costs. We also note that common management of TCCs by single organisations may produce synergies and reductions in legal costs, however we have not estimated these in our assumption here.

1.111. However, we have consulted the GTs on what the cost implications of reform might be should it proceed, in order to understand the factors that may drive their costs. Whilst the individual submissions received from all respondents are confidential, we present some information on the estimated GDN costs below for information.

1.112. Following analysis of GDN cost submissions, it was clear that there was one significant outlier. As Figure A9.2.2 shows, this respondent had implied costs per NTS offtake significantly greater than the other GDN submissions in PV terms (and such a difference can not be explained by the relative sizes of the organisations concerned).

1.113. If this outlier is excluded from the analysis (and the total for the GDNs pro-rated up to generate a total cost based on the average cost per NTS offtake of the remaining three GDN respondents) then the implied present value cost that may be incurred by GTs (including the NTS[16] and GTs' agent, xoserve) is £24.5m. Alternatively, if the costs to be incurred by a GDN are assumed to be invariant to the number of NTS offtakes that feed it, applying a fixed cost pro-ration based on the costs estimated by the second lowest cost network implies a total PV cost of £20.0m incurred by GDNs, NGG NTS and the Agency.

Figure 17.2 - GDN costs per NTS offtake



[16] In evaluating the PV cost for NGG NTS, we applied an annual profile to up front cost as specified in their submission. Additionally, we excluded from this cost profile up front costs that NGG NTS expected to occur in advance of an Authority decision on the proposed reform.

1.114. We would note that the adjusted total stated above is conservatively high as it is not clear that all of the submissions included costs that are necessary and efficient for the following reasons:

- three of the GDN responses and the Xoserve (Agency) response did not revise the cost estimates provided relative to those provided in February, despite the fact that the regime had been described in greater detail and could be argued to be simpler in key areas that are unlikely to have been anticipated in February
- all GDN respondents informed us that they expect to incur additional, ongoing, network planning costs on adoption of the new regime. However, it is our view that the proposals outlined in the assumptions document indicate a regime that should not materially increase (and indeed could decrease) network planning costs. In both the transitional and the enduring regimes, the GDNs will continue to face the same 1 in 20 and safety case obligations, requiring the forecasting of both NTS flat and flexibility offtake capacity requirements. Indeed the proposed prevailing rights model could reduce GDN costs where they wish to maintain existing levels of capacity.
- one network respondent submitted high systems and ongoing costs on the basis of requiring a new system that would replicate functionality of existing systems as well as provide additional functionality for day ahead and on the day capacity transactions. This is based on the assumption that such short term transactions would form a significant part of GDN activity. However, in line with GDN planning obligations, we would expect GDNs to book the majority of their capacity requirements in the long term, thereby not requiring significant short term market participation.
- several networks acknowledged that ongoing costs could reduce as the regime matures, however, at this time, they were unable to estimate by how much. Consequently, such reductions have not been accounted for in the GT cost analysis above.
- on discussion with GT respondents, we note that no synergies were assumed with other forthcoming system changes that may be required, for example, as a result of SOMSA reform.
- several GDN respondents included costs associated with commercial analysis and the optimisation of their commercial position across a number of decision based network activities[17]. Such commercial analysis will be driven by the incentives set in the gas distribution price control review (GDPCR), the implementation of GDN interruption reform, NTS charging reform and the enduring offtake proposals under consideration here. Consequently, we do not foresee GDN costs for such analysis to be wholly attributable to this reform, though we have not adjusted the cost analysis above as a result.
- NGG NTS included costs relating to information provision that may be required by EU regulation 1775/2005 absent reform and, as such, the costs submitted may not be fully attributable to enduring offtake reform, although we have not adjusted the submission in this regard.

17 We note that where one GDN respondent expected to incur additional IT costs for a commercial analysis support tool, it was not able to estimate these costs until the details of the proposals are defined. Consequently, this cost is not included in the analysis above.

Industry participants and customers in other jurisdictions

1.115. As discussed above, the enduring offtake proposals have the potential to impose costs upon GB customers. However, given the existence of the interconnectors connecting the GB system to continental Europe and Northern Ireland, the Republic of Ireland and the Isle of Man, enduring offtake reform may also have implications for customers in other jurisdictions.

1.116. In their responses to previous consultations, Irish respondents have raised concerns with the implications of enduring offtake reform for jurisdictions downstream of the Moffat CSEP in the following areas:

- promotion of competition
- security of supply, and
- implementation costs.

1.117. We have met on a number of occasions with the Irish Commission for Energy Regulation (CER), Ofreg and representatives from the Isle of Mann to understand concerns relating to the offtake of gas at the Moffat CSEP in the event of reform. We have found these meetings cooperative and productive. Indeed Irish market participants are currently considering options that could mitigate many of the concerns that have been highlighted through the possible appointment of a single party that could take responsibility for securing NTS exit capacity at the NTS / interconnector interface.

1.118. We are keen to maintain the valuable dialogue that has already been established with these stakeholders with a view to further developing these potential options.

1.119. However, whilst we are keen to address the concerns of the jurisdictions downstream of Moffat, such involvement needs to be to the extent appropriate and consistent with the Authority's principal objective and general and other duties. Indeed, we note that the Authority's principal objective and general duties under the Gas Act concern the gas industry in Great Britain and gas consumers within Great Britain. As such, we do not consider that it would be appropriate to explicitly include the costs incurred by jurisdictions external to Great Britain within our quantitative impact assessment. Not only does the Authority have no duty to take account of such costs, it would not, in our view, be appropriate to seek to do so. For this reason we have not included the cost estimate provided by one Irish shipper in our assessment[18] or included interconnector offtakes or throughput in the extrapolation methodologies applied.

1.120. However, we found the cost submission received from an Irish participant, and the subsequent discussion on the factors driving their costs, useful and we would welcome further dialogue of this kind.

[18] The cost total is not provided in this section for confidentiality reasons.

Summary of cost analysis

1.121. Given the estimation of the potential costs that may be incurred by NTS TCCs, as well as the shipper costs detailed in Table 17.8 and Table 17.10, the total potential costs to customers are as shown in Table 17.12 below:

Table 17.12: Estimate of total potential PV costs to customers

£ million (2006 prices) 6% discount rate	Present value costs (shipper estimates without clustering analysis)	Present value costs (shipper estimates with clustering analysis)
Respondent total and TCC costs	20.2	12.7
Method A: cost per offtake extrapolation	**35.1**	**19.1**
Method B: Fixed cost extrapolation	33.5	**26.0**
Method C: Throughput cost extrapolation	33.2	**18.3**

1.122. Our estimates of total present value costs that may be incurred by customers under the proposals, for a base case, low case, and high case, are as follows:

- Base case: discussion with several of the shipper respondents revealed that they expected costs to a shipper organisation to be partially fixed and partially variable by the number of offtakes served. Consequently, we have taken the base case to be the average of the offtake cost extrapolation and the higher, fixed cost extrapolation of the cluster analysed respondent total, yielding a PV cost of £22.5m.
- Low case: estimate is £18.3m, present value - this represents the application of the throughput extrapolation methodology (Method C) to our analysis of costs following application of the clustering methodology.
- High case: estimate is £35.1m, present value - this represents the application of the cost per offtake extrapolation methodology (Method A) to the shipper estimates (without any cluster analysis).

1.123. As noted throughout this section, this estimate has been derived on the basis of conservative assumptions and analysis of data received from shippers. As Table 17.13 shows, the base case estimate of costs of is £22.5m in present value terms. This is based on an assumed discount rate of 6%, however, if HM Treasury

guidelines are followed, and a social discount rate of 3.5% applied, the PV of costs in the base case would increase to £28.9m.

Table 17.13 - PV of shipper & TCC costs - 6% & 3.5% discount rate

£ million (2006 prices)	High Case	Base Case	Low Case
Present value of estimated overall shipper & TCC costs **6% Discount Rate**	35.1	22.5	18.3
Present value of estimated overall shipper & TCC costs **3.5% Discount Rate**	45.2	28.9	23.6

Views invited on cost analysis

1.124. We welcome views on all aspects of this draft IA. However, we would particularly welcome comments in relation to the following:

- our assessment of the costs likely to be incurred by shippers, and in particular, the methodology applied
- our assessment of the costs that are likely to be incurred by NTS direct connects, and in particular, the assumptions applied, and
- whether there are any further potential costs to customers that should be taken into account.

Results of cost benefit analysis

1.125. In this section we draw together the analysis set out in previous sections and explain the implications of the results. To this end, this section:

- summarises the outcomes of benefits and cost cases
- sets out the overall results and provides some conclusions
- invites views from respondents on the cost benefit analysis performed

Summary of cost and benefit cases

1.126. Table 17.14 summarises high, base and low case estimates of the gross potential benefits to customers associated with the adoption of the proposed enduring arrangements:

Table 17.14: Total PV of potential benefits

£ million (2006 prices) 6% discount rate	High case	Base case	Low case
Benefits estimates	84.8	68.5	54.6

1.127. Table 17.15 summarises high, base and low case estimates of the potential cost to customers associated with the adoption of the proposed enduring arrangements:

Table 17.15: Total PV of potential costs

£ million (2006 prices) 6% discount rate	High Case	Base Case	Low Case
Cost estimates	35.1	22.5	18.3

Results and conclusions

1.128. Subtracting the low, base and high case PV costs from the gross potential low, base and high case PV benefits, the net potential benefits to customers has been evaluated in Table 17.16 below. By netting costs against benefits in this order, the widest range of estimated net benefit cases can be demonstrated. Under this analysis, the base case net benefits to customers are £45.9m in present value terms, at a 6% discount rate.

Table 17.16: Total present value of net benefits to consumers

£ million (2006 prices) 6% discount rate	High case	Base case	Low case
Net benefits to customers	66.5	45.9	19.5

1.129. Alternatively, if the net benefits to customers are evaluated using the present value cost and benefits derived using a social discount rate of 3.5%, the net base case benefit to customers is £61.8m, as shown in Table 17.17.

Table 17.17: Total PV of net benefits to consumers - 3.5% discount rate

£ million (2006 prices) 3.5% discount rate	High case	Base case	Low case
Net benefits to customers	88.8	61.8	26.8

1.130. We note that in addition to the net benefits highlighted above, there is the potential for additional qualitative benefits to be realised. As such, it is our current view that the progression of enduring offtake reform would be in the interests of GB customers.

Views invited on results of cost benefit analysis

1.131. We welcome views on all aspects of this draft IA. However, we would particularly welcome comments in relation to the following:

- our assessment of the potential costs that are likely to be incurred should the proposals be adopted, and
- our assessment of the potential benefits to customers as a result of the proposals being adopted.

Potential environmental & social impact

1.132. In this section we consider the potential environmental and social impact of the proposals for enduring offtake reform under the following headings:

- environmental impact
- health and safety
- distributional effects, and
- impact upon small businesses.

Environmental impact

1.133. Our initial view is that enduring offtake reform is unlikely to have a major impact, positive or negative, on the environment. However, increased efficiency in capital expenditure as a result of better investment signals, might reduce the need for some investment in new capacity, which could reduce the environmental effects of such additional capital expenditure. However, the materiality of this impact will depend on the nature of the projects, e.g. whether network construction is required in national parks. We would welcome any views that disagree with our initial view that the environmental effects of reform are likely to be relatively small, and mainly positive, arising from more efficient capital expenditure.

Health and safety

1.134. Our initial view is that enduring offtake reform will not have a material impact, either positive or negative, on health and safety. We would welcome any views that disagree with this initial view.

Distributional effects

1.135. Although in the longer term NGG NTS should not build new capacity for interruptible sites, the ability of sites to become interruptible at short notice, even when NGG NTS would not place value on having the customer as interruptible, potentially increases the costs to be recovered from remaining firm users. Given that many interruptible customers are rarely interrupted, and that non-daily metered customers, including domestic customers, can only be firm, this raises questions over the appropriateness and distributional impact of the current arrangements.

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

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

Impact on small businesses

1.138. Our initial view is that enduring offtake reform will have no significant direct effect on small businesses. As discussed above, small businesses might benefit from the distributional impact of charging changes. We would welcome any views that disagree with our initial view that small businesses would not be directly affected by enduring offtake reform and why respondents believe they would be directly affected.

Risks and unintended consequences

1.139. 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, i.e.:

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

1.140. 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 estimation of net benefits.

1.141. One possible unintended consequence of enduring offtake reform could be that the increased complexity of the arrangements could constitute a barrier to entry into the shipper market or increase the difficulty that customers face in switching shippers with negative implications for competition in gas supply. However, we have sought to encourage proposals that maximise simplicity and transparency whilst achieving our high level policy objectives. Furthermore, we note that the EOWG has provided a useful forum for highlighting areas where proposals for enduring reform could be simplified or the potential costs to users could be mitigated. We welcome these discussions and hope that policy development will continue to be informed in this way.

Views invited

1.142. We would welcome views in response to the following questions.

Questions:

Question A17.1 - What are your views on the benefits analysis conducted?

Question A17.2 - What are your views on the cost analysis conducted?
Question A17.3 - What are your views on our assessment of the potential environmental and social impact?

Annex 1: Comments on NERA report

Introduction

1.143. On 28 June 2005, NERA Economic Consulting and TPA Solutions Limited published a review of the "enduring" gas exit arrangements proposed by Ofgem (the "NERA/TPA report"). This report was commissioned by the Gas Forum.

1.144. This Annex considers the NERA/TPA report under the following headings:

- background
- undue discrimination
- areas that required resolution identified by the NERA/TPA report
- possible unintended consequences, and
- benefits and costs analysis.

Background

1.145. As part of the gas distribution network (GDN) sales project, Ofgem issued a number of Regulatory Impact Assessments (RIAs) and consultation documents on the regulatory, commercial and operational arrangements necessary to protect customers within a divested industry structure[19].

1.146. In January 2005, the Authority decided that the GDN sales transaction should proceed, with implementation of the proposed enduring offtake arrangements by 1 September 2005, which would therefore address the long term allocation of capacity from October 2008 onwards (given an assumed three year investment lead time). Following this decision, Ofgem published its "Initial Thoughts" on these enduring offtake arrangements. [20]

1.147. "Interim" offtake arrangements were implemented on 1 May 2005 and Ofgem put in place associated incentives on 1 June 2005. These interim arrangements were put in place to ensure an appropriate capacity allocation process for the period from the GDN sales transaction to 1 October 2008, when the enduring arrangements

[19] National Grid Transco – Potential sale of gas distribution network business, Offtake arrangements, Regulatory Impact Assessment, June 2004
National Grid Transco – Potential sale of gas distribution network business, Offtake arrangements, Conclusions document on framework, Ofgem, August 2004, 199/04
National Grid Transco – Potential sale of gas distribution network business, Interruptions arrangements, Regulatory Impact Assessment, June 2004
National Grid Transco – Potential sale of gas distribution network business, Interruptions arrangements, Conclusions document on framework, Ofgem, August 2004 198/04
National Grid Transco, Potential sale of gas distribution network businesses, Final Impact Assessment. Ofgem, November 2004, 255/04a

[20] 31/05 - *National Grid Transco – Potential sale of gas distribution network businesses: Initial thoughts on enduring incentive schemes supporting the offtake arrangements*, Ofgem, February 2005

would start. The interim arrangements implemented covered a three year period, and, as such, focused on the allocation of capacity within investment lead times. Furthermore, the interim arrangements were based upon an assumption that the NTS was unconstrained and could therefore be expected to meet all reasonable demands for incremental offtake capacity over the interim period on an economic and efficient basis. However, this assumption cannot be assumed to hold beyond that interim period.

1.148. In June 2005, shortly before the publication of the NERA/TPA report, Ofgem issued an open letter[21] stating that the Authority had reviewed its previous decision to require the implementation of the enduring offtake arrangements by 1 September 2005 and that implementation should be delayed until September 2007, thus enabling more time for consultation and further development of the detail of the arrangements as part of the Transmission Price Control Review (TPCR) process. However, the Authority reiterated the importance of the enduring offtake arrangements.

1.149. As a result of this decision:

- "transitional" arrangements and associated incentives to manage the long term allocation of capacity for the two year period from October 2008 to September 2010 have been implemented[22], and
- we have published high-level proposals for the development of the enduring regime and associated incentives[23]. These proposals reconsidered the scope and nature of reforms that may be appropriate, rather than progressing the incentive proposals outlined in the Initial Thoughts document published by Ofgem in February 2005.

1.150. Whilst the report upon which this Annex provides comments was written in the context of the proposed implementation of the enduring offtake arrangements in September 2005, and drew on Ofgem's Initial Thoughts as published in February 2005, the points raised by this report nonetheless warrant consideration.

Undue discrimination

1.151. The NERA/TPA report considered Ofgem's assertions that enduring offtake reform is needed to address the potential for undue discrimination between:

- firm and interruptible customers
- GDNs and Transmission Connected Customers (TCCs)

[21] 151/05, open letter on enduring offtake arrangements, Ofgem, June 2005.
[22] *252/05 – Final proposals on transitional incentive schemes and formal licence consultation under section 23 of the Gas Act 1986 and paragraph 3(a) of Standard Special Condition A2*, Ofgem, November 2005
[23] *277/05 - Transmission Price Control Review, Second Consultation*, Ofgem, December 2005
51/08/ - *Transmission Price Control Review 2007 - 2012, Third Consultation*, Ofgem, March 2006

- National Grid Gas (NGG) Retained Distribution Networks (RDNs) and Independent Distribution Networks (IDNs), and
- new and existing customers.

Firm and interruptible customers

1.152. The NERA/TPA report stated that Ofgem has claimed that, under the current interruptions arrangements, interruptible customers may be "free-riding" and that cross-subsidies are in place.

1.153. The NERA/TPA report asserts that there is no cross-subsidy as shippers pay different prices for different service levels and that those differences in charges are related to the different costs of proving each service.

1.154. We would note that cross-subsidies could exist in at least the short-term i.e. within planning timescales, and also beyond these timescales given the potential for stranded assets and therefore free-riding following the switching of a firm customer to interruptible status. Furthermore, we would note that under the current arrangements, users may receive differing levels of service for the same discount to NTS exit capacity charges as the probability of interruption may vary significantly by location.

1.155. We note the proposal in the NERA/TPA report that NGG NTS should continue to offer interruptible services on the same basis as at present. However, we do not believe that retention of the current arrangements for interruptible services is appropriate for the reasons outlined above.

1.156. Furthermore, we would note that the practical maximum physical capacity baseline data provided by NGG NTS and documented in both the Third TPCR Consultation[24] and the Initial Proposals consultation to which this Annex relates indicate that the capability of the current network is such that the majority of sites that are "interruptible" could be provided with their System Offtake Quantity (SOQ) on a firm basis. As such, the probability of such sites being interrupted would be at, or close to, zero. Therefore, if interruptible services were to be priced in accordance with the probability of interruption, one might expect such services, in many cases, to be priced at or close to the firm price.

GDNs and Transmission Connected Customers

1.157. The NERA/TPA report notes Ofgem's concerns that continuation of the current regime under a divested industry structure could lead to discrimination by NGG NTS between GDNs and TCCs.

[24] Annex 1 to Appendix 12

1.158. However the NERA/TPA report argues that the proposed system of flat and flexibility capacity under the enduring offtake arrangements will offer a number of opportunities for discrimination given that the basis for charging is bound to lack transparency, particularly given the need for separate charges for flat and flexible capacity.

1.159. The NERA/TPA report suggests that instead, the current "interim" arrangements for TCCs (i.e. the purchase of a single capacity product rather than separate capacity products for flat and flexible capacity) should be extended to GDNs by making GDNs book a Maximum Daily Quantity (MDQ) that reflects 24 times their Maximum Hourly Quantity (MHQ) as set out in the Uniform Network Code (UNC).

1.160. We would make the following observations:

- that we have asked NGG NTS to consider the appropriate capacity product definition, and present alternative options for discussion at the Enduring Offtake Working Group (EOWG). Following consideration of alternative models, including the model proposed by the NERA / TPA report, NGG NTS reached the conclusion that an "expanding flexibility" model may be the most appropriate (raising concerns about application of the model suggested by NERA / TPA stating that unfettered offtake flow rate variation would require a bigger system, and/or alternative arrangements to limit offtake flow variations, or certainty that offtake flow rate variations would not exceed capability)
- that, in our Third TPCR Consultation, we stated that a combined, single "expanding" product would have benefits relative to a two product model and encouraged NGG NTS to consider the relative merits of such a model as part of the analysis that it was undertaking, and
- that we agree that transparency of charging is essential, and that NGG NTS has agreed to develop a transparent network model that would be available to the industry.

RDNs and IDNs

1.161. The NERA/TPA report notes Ofgem's concerns that continuation of the current regime under a divested industry structure could lead to discrimination by NGG NTS in favour of the RDNs over the IDNs. However the NERA/TPA report argues that the interim arrangements already in place go some way towards mitigating this risk by introducing a contractual arrangement between all GDNs and NGG NTS.

1.162. In response, Ofgem would note that the interim arrangements cannot be in place on an enduring basis and do not address the longer term allocation of capacity. Instead, the transitional arrangements form an appropriate basis for comparison. Furthermore, as noted in our draft IA, we believe that the transitional arrangements continue to allow the potential for NGG NTS to discriminate between GDNs as the capacity allocation framework currently in place leaves significant scope for NGG NTS discretion, either through the negotiation of Advanced Reservation of Capacity Agreements (ARCAs) or the Offtake Profile Notification (OPN) process.

New and existing customers

1.163. The NERA/TPA report states that identical treatment of new and existing connectees was not necessary to ensure no undue discrimination between them as they are clearly in different situations.

1.164. However, it is our view that any user requiring an increment to current capacity levels, whether that user is "new" or "existing" should be treated the same. As we stated in the Third TPCR Consultation, it is our initial view that a prevailing rights model (which distinguishes between the provision of existing and incremental capacity) is worthy of further development and consideration as a mechanism for introducing user commitment.

Areas that require resolution

1.165. The NERA/TPA report notes a number of areas that still required resolution with respect to the formulation of the enduring offtake arrangements before their postponement in June 2005. These areas include:

- the determination of baseline capacity release levels
- the determination of reserve prices and "price volume curves"
- the treatment of bi-directional points
- nodal versus zonal treatment of capacity
- contractual arrangements with shippers, and
- the determination of exchange rates for capacity transfer.

1.166. We agree that these areas were outstanding in June 2005 and note that a number of these were consulted upon as part of the Initial Thoughts document.

1.167. We would also note that many of the details of the enduring regime are yet to be determined and that views on the detail of the operation of the arrangements are welcomed. However, the Third TPCR Consultation document, the Initial Proposals consultation to which this Annex relates and EOWG discussions have sought to provide clarity on certain issues, including the determination of baseline capacity release levels, contractual arrangements with shippers and nodal versus zonal treatment of capacity. Furthermore, we would note that pricing issues have been the focus of the NGG NTS led Transmission Charging Methodology Forum (TCMF).

Possible unintended consequences

1.168. The NERA/TPA report discusses the possible unintended consequences of the proposed enduring offtake arrangements. These relate to:

- competition in gas supply (largely as a result of a potential lack of transparency in the determination of long run marginal costs (LRMCs) / reserve prices,

uncertainty over the treatment of bi-directional points and shipper contracting issues)
- security of supply (again, issues relating to bi-directional points are raised, as are shipper contracting issues. The report also notes the impact of the 1 in 20 requirement and the fact that signals would not indicate life-time investment needs)
- network efficiency and pricing (again, expressing concerns regarding the determination of cost reflective prices for flat and flexible capacity), and
- interruption (it is argued that the proposed regime would create uncertainty for potentially interruptible customers as they would either need to buy firm capacity in the long term, not knowing how much they would be able to sell back at what price, or participate in the day ahead interruptible auction (assuming that the customer does not exit)).

1.169. We note that in formulating the detail of any regime, it is necessary to ensure that there are not any unintended consequences associated with such a regime. In relation to the high level points raised, we would note that:

- NGG NTS has established the TCMF to discuss pricing issues and has agreed to establish a transparent network charging model that will be made available to industry participants
- NGG NTS proposals allow non-UNC parties to "reserve" capacity and furthermore, it is envisaged that shippers could "back off" any potential exposure with the relevant TCC
- we have been in discussions with the Irish Commission for Energy Regulation (CER), Ofreg and other interested parties downstream of the Moffat CSEP to develop solutions that would mitigate the concerns raised by these parties
- as outlined in the Third TPCR Consultation, we propose to clarify how compliance with the 1 in 20 obligation could be achieved in the context of a full user commitment model being adopted, and
- NGG NTS has indicated, in EOWG discussions, that in the context of long term capacity, it may be possible to enter into a long term interruption contract conditional upon, and in advance of, the acquisition of long term firm capacity.

Benefits and costs analysis

Benefits

1.170. The NERA/TPA report considers the benefits associated with the high-level framework of enduring offtake arrangements, as assessed by Ofgem in previous impact assessments. In reassessing the appropriate level of benefits, the NERA/TPA report assesses benefits in relation to the interim arrangements at a level of £7.3m NPV relative to an Ofgem quoted value of £53.6m. The main reason for this reduction in the benefits case is the argument that the interim arrangements already achieve many of the benefits associated with the enduring arrangements.

1.171. Much of the rationale used to reduce or eliminate benefits previously assessed in Ofgem IAs has already been addressed in this Annex and is not repeated here. Analysis of the benefits associated with the current proposals for reform is provided

in our draft IA in the Appendix to which this Annex relates (relative to the transitional arrangements), and has taken full account of the points raised by the NERA/TPA report.

1.172. Comments on additional points made by the NERA/TPA report, that are not already addressed elsewhere in this Annex, are provided in tabular form below.

NERA/TPA point	**Ofgem comments**
Ofgem analysis regarding potential NTS discrimination between RDNs and IDNs was flawed i.e. Ofgem assessed increase in IDN capex but not decrease in RDN capex.	Would note that the net impact upon capex is not the only cost of undue discrimination between IDNs and RDNs, but further that such discrimination would potentially undermine the benefits of comparative regulation that formed the thrust of the benefits case for GDN sales. This has been considered further in our draft IA.
There may be some potential double-counting of benefits in relation to savings in NTS capex	Do not believe that there was double-counting of these benefits. Each of the benefits stated have a favourable effect on capex, but the drivers are different, for example: improved investment signals and more flexible interruption arrangements.
Flexibility cannot be regarded as a constraint on electricity market balancing	We continue to believe that, in the event of constraints in the availability of flexibility capacity, there may be benefits in this area. This has been noted as a potential qualitative benefit in our draft IA.

1.173. With respect to non-quantified benefits, the NERA/TPA report reiterated the argument that a number of the non-quantified benefits are achieved by the "interim" arrangements already in place.

1.174. It is noted that the NERA/TPA report assumes that the "interim" arrangements represent an appropriate counterfactual. However, Ofgem would note that the interim arrangements were based upon an assumption that the NTS was unconstrained and could therefore be expected to meet all reasonable demands for incremental offtake capacity over the interim period (up to October 2008) on an economic and efficient basis, but that this assumption cannot be assumed to hold beyond that interim period. For example, beyond this period, it is possible that offtake capacity constraints may arise. Further, the interim arrangements do not consider investment timeframes and therefore do not set out mechanisms for investment planning. As such, the interim arrangements do not necessarily represent an appropriate counterfactual. Given the implementation of "transitional" arrangements, our draft IA considers proposals for enduring reform against the baseline of the transitional arrangements.

Costs

1.175. The assessment of costs in the NERA/TPA report relied on a survey of the gas community with regards to the costs of implementing and operating under the flat and flexible products. This survey received responses from 17 parties and one industry association. These parties included shippers, power stations, retail businesses, industrial consumers, an interconnector and storage users, comprising around 37% of daily NTS throughput. The costs estimated were:

- £18.8m NPV for the flat product, scaled up for the whole industry to £50.5m, and
- £16.1m NPV for the flexibility product, scaled up for the whole industry to £45m.

1.176. This therefore resulted in a total cost estimate of circa £100m in present value terms.

1.177. However, Ofgem would note that, in presenting the results of this analysis, the NERA/TPA report does not make any mention of having performed any:

- clustering analysis akin to that performed by Ofgem within its Final IA. Indeed, there is no commentary regarding the range of estimates provided or identification of outliers,
- sense-checking of submissions, or
- interviews with respondents to gain a more detailed understanding of the drivers behind the cost submissions.

1.178. Furthermore, we would note that the separate consideration of costs associated with implementing proposals in relation to the flat product and costs associated with implementing proposals in relation to the flexibility product, may not be appropriate as there are likely to be a number of synergies given that the high level framework applicable to both products is likely to be the same. As such, the structure of the cost survey itself may have led to high cost estimates by failing to recognise the potential for overlap between the two separate estimates provided.

1.179. Ofgem notes that respondents to the NERA/TPA cost survey represented 37% of total NTS throughput accounted for by power stations, NTS industrials and interconnector exports. Ofgem would note that 33% of the throughput relates to the two interconnectors, and that, given the costs of the interconnectors are likely to differ in nature to those of other customer classes, it may have been more appropriate to consider this class of users separately.