Promoting choice and value for all gas and electricity customers

Reform of interruption arrangements on gas distribution networks - An update

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Target audience: This document is addressed to gas transporters, gas distribution networks, gas shippers, gas suppliers and other interested parties.

Overview:

Ofgem considers that the current arrangements for being able to interrupt daily metered customers on the gas distribution networks (GDNs) have a number of significant weaknesses. The weaknesses include a lack of control for GDNs over the quantity of interruptible capacity available, limited product flexibility and poor investment signals for GDNs. The GDNs are proposing a modification to the Uniform Network Code which aims to reform the current arrangements to allow greater contractual freedom and product flexibility, and provide better investment signals. This document considers the issues required to reform the GDN interruption arrangements, including incentives for the GDNs to purchase interruption efficiently, a draft Impact Assessment (IA) and associated charging issues.

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Context

This document sets out the next steps in the consideration of proposals to reform GDN interruption arrangements. The document considers the responses to Ofgem's May 2006 Initial Thoughts consultation on reform of the GDN interruption arrangements, seeks views on the incentives that should apply to the GDNs for purchasing interruption and seeks views on a draft IA of the reform proposals for GDN interruptions. The reform of GDN interruption arrangements aims to create a framework for GDNs to make informed trade-offs between interruptions, network capacity and storage investments, NTS offtake capacity and other forms of flexibility to meet their 1 in 20 planning standard licence obligation.

This consultation only affects GDN nominated interruption. It does not affect agreements between shippers and customers about commercial interruption or reduction in offtake. Gas supply to domestic and small business customers will be unaffected by the issues raised in this consultation.

Under their licence the GDNs are required to use reasonable endeavours to review and develop proposals for the reform of the interruption arrangements within the distribution networks. National Grid Gas (NGG), supported by the other GDNs, proposed Uniform Network Code (UNC) modification proposal 90 "Revised DN interruption arrangements". The modification proposal has been considered by a development workgroup and the modification panel has now voted the proposal for consultation. Ofgem expects to receive the final modification report and the panel's recommendation in late December 2006, and expects to make a decision by the end of January 2007.

- Ofgem has previously committed to carrying out an IA as part of making the decision on the proposal. We have set out a draft IA and would welcome views from all interested parties on this assessment to inform the final IA that will be published alongside the decision on modification proposal 90.

- Changes to the interruption arrangements will have important implications for the GDN price controls from April 2008, including projections for capital expenditure and the setting of operating incentives. This consultation seeks views on the incentives that should be placed on GDNs for purchasing interruption and NTS offtake capacity in 2007 for the gas year starting on 1 October 2010.

Associated Documents

- Initial thoughts on the reform of interruption arrangements on gas distribution networks. May 2006. http://www.ofgem.gov.uk/temp/ofgem/cache/cmsattach/15065_8506.pdf?wtfrom=/ofgem/work/index.jsp&section=/areasofwork/gasdistpol
- Gas Distribution Price Control Review Second Consultation Document. July 2006. http://www.ofgem.gov.uk/temp/ofgem/cache/cmsattach/15829_GDPCR_2CD_FINAL19July.pdf?wtfrom=/ofgem/work/index.jsp&section=/areasofwork/gasdistpricon

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Summary

GDNs reform proposal

NGG, with the support of the other GDNs, raised UNC modification proposal 90 "Revised DN Interruption Arrangements" in July 2006. The key aspects of the proposal are:

- all users in 2007 would be "firm" from October 2010 and pay the appropriate transportation charges;
- GDNs would offer to purchase interruption services up to 3 years ahead[1], i.e. purchases in June 2007 for October 2010. GDNs would offer products with different numbers of days of interruption and contracts for up to 5 years; and
- GDNs' contracts for interruption would be through shippers for specific sites, with customers being paid an option and exercise fee based on the results of the tender.
- Ofgem expects to receive the final modification report and recommendation from the modification panel in December, and will make a decision in January 2007.

Incentives

Ofgem has set out further thoughts on the development of incentives for the GDNs' purchasing of interruption and NTS offtake capacity alongside trade-offs with investment in their own network. Ofgem has proposed a range of options and also considered how potential market power for customers offering interruption services could be addressed in the incentives. Ofgem is consulting on setting a one year incentive for purchases of interruption from October 2010 and then as part of the proposals for the gas distribution price control from April 2008, incentives from October 2011 will be set.

Draft IA

Ofgem has identified a range of benefits of reform, which are better investment signals, security of supply, a more flexible market for the provision of interruption services, increased efficiencies in the wholesale electricity market, dynamic benefits for the wider economy and comparative competition between GDNs to reveal the least cost ways of managing their networks. Ofgem has only attempted to quantify

[1] Ofgem recognises that an application tender in June 2007 for interruption contracts starting in October 2010 entails a lead time of three years four months. For the sake of consistency and simplicity this period will be referred to as a three year lead time throughout the document.

the potential benefits of better investment signals, which will allow the GDNs to make more efficient decisions about the choice between additional capital investment, interruption and purchasing NTS offtake capacity. Over time this could reduce the total distribution charges paid by customers. The benefits that Ofgem has not quantified could be significant enough to justify interruption reform. For example, increased efficiencies in the wholesale electricity market through lower prices could be very considerable at times of relatively tight supply and demand conditions.

From information provided by GDNs and shippers, Ofgem has estimated implementation and ongoing costs for the reform of the GDN interruptions arrangements of about £15m. Ofgem's analysis of the potential benefits of interruption reform suggests that plausible assumptions about investment efficiency could lead to benefits of reform exceeding costs. For example, on the local transmission system investment would only need to be 2 per cent more efficient for benefits to exceed costs.

To improve its understanding of the costs and benefits, Ofgem is seeking further information from shippers and customers about any implementation or ongoing costs they expect to incur as a result of GDN interruptions reform. Ofgem would also welcome views on all the other aspects of the IA before it develops the final IA.

Charging Structure

Following Ofgem's February 2006 conclusions document on the structure of gas distribution charges, the GDNs have carried out more work to develop the charging structure. The GDNs are proposing to remove the element of the customer charge that varies with throughput and replace it with a capacity based charge for domestic customers in line with what is currently adopted for other categories of consumers. Changes are also proposed to the Economic Test and CSEP charge.

Ofgem is also seeking views on whether it would be appropriate to allow GDNs to change their charges in April each year in line with the price control year. This might promote more stable charges as changes to charges would occur at the same time as price control revenue changes. There may be implications for existing contractual timetables and other industry provisions from such a change.

Next steps

Ofgem welcomes comments on all the issues raised in this consultation by 12 December 2006, including any further information that interested parties consider would inform the development of the final IA.

1. Responses to the May 2006 document

Chapter Summary

This chapter summarises respondents' views on the issues raised in Ofgem's May 2006 Initial Thoughts consultation on the reform of GDN interruption arrangements. We have also set out Ofgem's response to the issues raised by respondents.

Question box

There are no specific questions raised in this chapter.

Introduction

1.1. Ofgem received 18 responses to the Initial Thoughts consultation on reform of GDN interruption arrangements. The questions were summarised in Appendix 1 of the consultation. The respondents comprised a broad range of stakeholders including gas shippers, gas suppliers, gas transporters and representatives of large industrial gas users. None of the responses were marked as confidential. All the responses are available in the gas distribution policy section of the Ofgem website (www.ofgem.gov.uk).

1.2. Ofgem's May 2006 Initial Thoughts consultation also asked for information to inform the development of an IA. Appendix 2 set out questions for the GDNs, Xoserve, gas shippers and gas customers to respond to, and also sought more general views to develop the IA, from all stakeholders. Some of the information provided for the IA was marked as confidential. Information provided for the development of the IA is considered in the draft IA in Appendix 2, and summarised in Chapter 4.

1.3. We have summarised respondents' views under the seven questions set out in Appendix 1 of Ofgem's May 2006 Initial Thoughts consultation.

Has Ofgem identified the key weaknesses of the current interruption arrangements for GDNs?

Ofgem's initial thoughts

1.4. Ofgem identified key weaknesses with the current interruption arrangements. These included GDNs' lack of control of the amount and location of available interruption; available interruption capacity has significantly exceeded actual interruption in recent years; uncertain investment signals for GDNs due to the potential to change interruptible status at one year's notice and the lack of flexibility offered by the current standard 45 day interruptible contract. Ofgem considered that

collectively these weaknesses justified the need for reform and sought views on the extent to which stakeholders agreed.

Respondents' views

1.5. A majority of respondents agreed that the GDNs' lack of control over the amount and location of available interruption was a weakness of the current arrangements. Respondents considered that this weakness, along with the lack of flexibility offered by the standard 45 day interruptible contract, prevented customers from signalling the price at which they would be willing to be interrupted and led to inefficient decisions by GDNs about which sites to interrupt.

1.6. A majority of GDNs' agreed that the current system for allocating interruptible capacity did not provide appropriate signals regarding the value of future investment. However, of those who agreed with this view, not all agreed that the opportunity for customers to switch to and from interruptible status at one year's notice had a significant bearing on investment decisions. The general view was that uncertainty over the potential to switch was mitigated by the fact that very few customers regularly changed their interruptible status.

1.7. In general respondents did not agree with Ofgem's view that the current system had led to a greater supply of interruptible capacity than was required. The majority of respondents believed that when GDNs calculated the capacity required for a 1 in 20 peak day they assumed that all available interruption capacity had been interrupted. Respondents considered that it was not possible to conclude that too much interruptible capacity was available until a 1 in 20 peak day was experienced.

Ofgem's response

1.8. Ofgem welcomes the acknowledgement from many respondents that there are a number of aspects of the current regime that could be improved. While Ofgem accepts that the number of customers who switch to and from interruptible status each year is relatively few, GDNs' investments will be location specific, so a switch by one or a small number of customers in a specific location can undermine the economic case for a particular investment.

1.9. The May 2006 Initial Thoughts consultation noted that over recent years interruptible sites have been interrupted on average less than once and that many sites have not been interrupted at all. In addition Ofgem notes that in recent years the GDNs have been able to accommodate a decline in the numbers of interruptible customers they have on their networks. Ofgem considers that both of these factors suggest that more interruptible capacity is currently available than is likely to be required even in periods of tight supply demand conditions. If the current volume of interruption available was a true reflection of the GDNs' needs, Ofgem would have expected a greater incidence of interruptions across the periods of relatively tight supply experienced in recent winters, and would not have expected that the GDNs would have endorsed a reduction in the number of interruptible supply points available to them. The very low level of interruption, and the nature of some of the

sites choosing to be interruptible, e.g. NHS Trusts, also raises concerns about the level of preparedness of some sites to respond if they were interrupted. Ultimately, this could undermine security of supply.

To what extent do interested parties consider the current arrangements have significant strengths, and if so, what are these strengths?

Ofgem's initial thoughts

1.10. Ofgem stated that it was aware that many shippers and large industrial users had previously indicated that they considered that the existing GDN interruption arrangements had significant strengths, including customers' ability to choose whether to be interruptible and the simplicity of the arrangements.

Respondents' views

1.11. A majority of respondents felt that the current arrangements had strengths. The strengths included the provision of a low cost, reliable and readily understood framework for allocating interruptible capacity. Most respondents indicated that a reformed regime should endeavour to retain these strengths as far as possible.

1.12. Respondents were also in broad agreement that the current regime promoted security of supply for firm customers and ensured that in times of extreme system constraint, it would be unlikely that firm customers would need to be interrupted. Some respondents also considered that the current regime promoted efficient investment by the GDNs as the relatively high volume of available interruption reduced the need for reinforcement that would otherwise have been necessary. Some respondents argued that, therefore, the current regime helped lower transportation charges for all customers.

Ofgem's response

1.13. Ofgem agrees that the current arrangements are relatively simple and so inexpensive to administer. However, Ofgem considers that the weaknesses of the current regime outweigh its strengths.

1.14. Ofgem recognises that under the current arrangements security of supply has been maintained, but considers that the volume of interruptible capacity that the GDNs have to pay for may be an inefficient price to pay for this. In addition Ofgem considers that uncertainty over the volume and location of future interruptible capacity has the potential to undermine efficient investment. Both of these factors can be viewed as potentially increasing charges for all customers in the long run. Being unable to determine the optimal volume of interruption inevitably impacts on the efficiency of procuring it, whilst being unable to fully control the location of future interruption has the potential to lead to reinforcements being undertaken which

subsequently might prove unnecessary. The large amount of available interruption might also provide a false comfort about security of supply if some of the sites nominating to be interruptible are not well prepared. We explained above Ofgem's concern that the current arrangements do not provide good investment signals for the GDNs.

Do you agree with Ofgem's key principles for reform?

Ofgem's initial thoughts

1.15. Ofgem considered that the reformed regime should provide GDNs freedom to contract, offer product flexibility, provide GDNs with efficient investment signals, reduce the scope for undue discrimination and promote competition for interruptible services. Ofgem also indicated that the reformed regime should lead to costs that are proportionate to the benefits and that the development of reform proposals should take account of interactions with NTS enduring offtake reform proposals.

Respondents' views

1.16. Gas transporters and a number of other respondents supported the principle that GDNs should have freedom to contract and freedom to determine a range of interruptible products consistent with their requirements to meet their 1 in 20 planning standard. These respondents considered that a more flexible range of products would lead to a more efficient allocation of interruptible capacity and might better harmonise customer and GDN requirements. Some respondents disagreed that giving GDNs control of contracting for interruption should be a principle for reform. It was felt that since some customers have chosen to invest in alternative fuel arrangements to become interruptible they should be given the freedom to determine whether they continue to be interruptible or not.

1.17. A majority of respondents expressed support for the principle of providing GDNs with better investment signals that would promote efficient tradeoffs between interruption, investment in capacity or diurnal storage and the use of NTS offtake capacity. However, a number of respondents expressed doubts about how trade-offs would be achieved. One respondent noted that at the moment transportation charges were not cost reflective and questioned how relevant an investment signal the agreed interruption discount could be.

1.18. All respondents considered that before reform of the arrangements is implemented it was important for the IA to demonstrate that the benefits could be expected to exceed the implementation and ongoing costs.

Ofgem's response

1.19. Ofgem considers that it is fundamental to developing more efficient arrangements for GDN interruptions that the GDNs have control over the amount of interruption they purchase. If GDNs have to accept a given amount of interruption it

is inevitable that the way in which they meet their 1 in 20 planning standard will be less efficient than is potentially possible because GDNs will not be choosing the combination of NTS offtake capacity, interruption and network capacity that GDNs consider would meet the standard at the lowest cost.

1.20. Ofgem accepts that reform of the interruption arrangements would alter the nature of the decisions that customers make about investments in back-up fuel supplies to support being interruptible in the future. Under reformed arrangements customers might have up to 8 years knowledge about their interruption contract with a transporter, but there will be risks associated with whether they are successful in annual tender processes. To the extent that customers have already made such an investment, the costs are sunk, so will not directly affect the price they would consider offering to be interruptible in the future. The draft IA in Appendix 2 considers the potential impact on investment incentives of a change to the interruption arrangements after investments in back-up fuels have been made.

To what extent do respondents consider that the model so far developed by the GDNs meets Ofgem's principles for reform?

Ofgem's initial thoughts

1.21. Ofgem's consultation summarised the main aspects of the model the GDNs were developing to reform interruption arrangements, which subsequently formed the basis of modification proposal 90.

Respondents' views

1.22. A majority of respondents indicated qualified agreement that the model developed by the GDNs met Ofgem's principles for reform, subject to seeing further details about the model. A number of respondents considered that some key issues would have to be resolved before the model could be considered fully developed, including:

- whether the 1 in 20 planning standard obligation will remain for GDNs when they determine the volume of interruptible capacity they contract for;
- the potential market power of some customers (currently Network Sensitive Load (NSL) sites) where there are location specific constraints;
- the form of interruption payments given considerations about changing the capacity: commodity split for distribution use of system charges and the diminishing share of large customers' gas bills made up by transportation charges;
- processes for the transfer of interruptible obligations between shippers in the event that a customer changes supplier; and

- how new connection applications on GDNs will be treated after 2007 and after 2010.

1.23. Several respondents questioned whether shippers' would want to contract on behalf of customers for interruption three years in advance. If this was the case it was anticipated that no long term investment signals would be apparent and the model as described would not function properly.

Ofgem's response

1.24. Many of the issues raised by respondents have been talked about in the development workgroup for modification proposal 90. Some of the issues are not directly within the scope of the modification proposal, but relate to issues such as the incentives that will apply to GDNs' purchases of interruption capacity.

1.25. Ofgem can confirm that GDNs will remain subject to the 1 in 20 planning standard obligations in their gas transporters' licence after reform of interruption arrangements. GDNs will need to decide how much interruption to purchase to efficiently meet this obligation. The issue of potential market power for customers offering interruption services is considered further in Chapter 3 of this consultation. The potential response of shippers and customers to GDNs' requirements for interruption services is an issue to be considered in the draft IA in Appendix 2, and summarised in Chapter 4. Shippers will consider whether offering to contract for interruption services for customers can provide them with a competitive advantage.

Has Ofgem identified all the key interactions with the enduring offtake reforms for the NTS?

Ofgem's initial thoughts

1.26. Ofgem noted that in some cases there is potentially an important relationship between the volume of interruption contracted for by the GDNs and the volume of exit capacity booked from the NTS, where the options can be substitutes for relieving a constraint. Ofgem also considered that since GDNs might have more flexibility in booking exit capacity from the NTS than contracting for interruption on their own networks, it might be desirable for the annual allocation of interruptible rights to precede the booking of NTS exit capacity.

Respondents' views

1.27. No respondents disagreed with Ofgem's view that ideally the allocation of interruptible rights should precede the booking of NTS exit capacity, but the significance of the sequencing was emphasised more by some than others. One respondent explained that ideally there should be six months between the two processes to allow interested parties the chance to evaluate the full significance of the interruption allocation. Several respondents considered that aiming for the first allocation of interruptible rights under the reformed regime in mid-2007 would not

allow sufficient time for shippers to communicate the significance of the reform to customers. These respondents expressed concern that a rushed change could result in a lower response from users than otherwise hoped for.

1.28. A number of respondents agreed that to maximise potential investment signals it would be important for GDN interruption reform and NTS enduring offtake reform to be as compatible as possible. One respondent outlined that a key aspect of this would be to ensure that interruption reform and enduring offtake reform followed the same investment lead times.

1.29. Two respondents commented that under the current NTS enduring offtake reform proposals users will be expected to pay the prevailing price for capacity at the time of utilisation, i.e. with a three year lead time users will not know the price of NTS exit capacity at the time they book it. These respondents considered that this would inhibit direct trade offs between securing additional interruptible capacity and increased NTS exit capacity. Two respondents commented that the extent to which NTS offtake and GDN interruption were substitutable was in danger of being overplayed.

Ofgem's response

1.30. Modification proposal 116 "Reform of the NTS Offtake Arrangements", which was proposed by NGG includes timescales that are consistent with modification proposal 90 for GDN interruptions reform. In particular, GDNs will purchase interruption capacity in June each year, prior to making decisions in July about any changes in their long term NTS offtake capacity, and the investment lead times for the NTS and GDNs are proposed to be just over 3 years[2].

1.31. The adoption of prevailing prices for NTS offtake capacity will affect the GDNs' ability to make trade-offs at least three years ahead. However, the use of prevailing prices will expose GDNs to the costs off NTS offtake capacity products each year. Chapter 3 considers the implications of prevailing prices for NTS offtake capacity for developing incentives for the GDNs' purchasing of interruption capacity.

[2] In this consultation we refer to three year investment lead times, although the precise proposed lead times are slightly longer than 3 years. Based on modification proposal 116, the NTS investment lead time would be 3 years and 2 months.

What is the appropriate form of an incentive on GDNs for the purchasing of interruption?

Ofgem's initial thoughts

1.32. Ofgem explained that as a consequence of NTS enduring offtake reform and GDN interruption reform it was hoped that GDNs would make more efficient long term decisions about the need for investment in additional capacity or diurnal storage. Ofgem explained that an allowance for the purchase of interruption services could be set either within the overall RPI-X price control or alternatively as a cash allowance incorporating caps, collars and sharing factors outside the main price control. Ofgem invited industry views on the most appropriate incentive options.

Respondents' views

1.33. Some respondents said that they would be unable to provide an informed view on these issues until further information about GDN interruption reform was known. Of those who did provide views, a majority favoured an interruption incentive set outside the main RPI-X price control allowance. Respondents noted that interruption reform carried attendant uncertainty and pointed to factors such as locational market power as having the potential to distort the amount paid for interruption. A majority of respondents agreed that a straight RPI-X allowance would be likely to expose GDNs to excessive and unlimited risk.

1.34. A number of respondents commented specifically on the need for Ofgem to take account of instances of locational market power by customers when setting the allowance. Several indicated that they thought it would be appropriate to set a capital expenditure allowance equal to the anticipated cost of reinforcing NSLs. One respondent argued that since GDNs' investment decisions were responsible for the existence of NSLs, separate provision should not be made for them within the interruption incentive allowance.

1.35. A number of respondents considered that given the uncertainty over how interruption reform and NTS enduring offtake reform would interact, any new incentive should be set tentatively and with the opportunity for review at an early stage. One respondent believed that since NTS offtake capacity, interruption, GDNs' diurnal storage capabilities and investment decisions are complex and inter-related to varying degrees, it would initially be more appropriate to report on a suitable range of outputs rather than set an ex ante incentive. This respondent was concerned that setting the wrong incentive could promote inefficient investment decisions by GDNs and that an interruption procurement incentive would be better set after it was clear how different system management services would interact.

Ofgem's response

1.36. The issues raised by respondents in this section have been considered in Chapter 3.

Do respondents support the continuation of a similar incentive to the transitional incentive for GDNs purchasing of NTS offtake capacity?

Ofgem's initial thoughts

1.37. Ofgem outlined that under the transitional NTS enduring offtake arrangements the GDNs are subject to a single "sliding scale" incentive on the costs incurred in purchasing NTS offtake capacity. Ofgem indicated that although it was not minded to change the incentive for the transitional period, it was seeking views on whether it should continue beyond 2010.

Respondents' views

1.38. The majority of respondents said that further development of the detail of the reform proposals would be necessary before a firm view on the structure and nature of the incentive could be offered. A couple of respondents commented that if a strong link between NTS offtake capacity and interruption could be demonstrated it might be appropriate to develop a single interruption/ NTS offtake incentive for GDNs. However, a number of respondents questioned whether this would be workable and the majority view was that separate incentives would be the more practical option.

Ofgem's response

1.39. The issues raised by respondents in this section have been considered in Chapter 3.

2. Interruptions model proposed by the GDNs

Chapter Summary

This chapter describes the model for new interruption arrangements proposed in UNC modification proposal 90 by NGG with the support of the other GDNs. It also highlights some of the issues that were raised in the development workgroup that was set up to review the proposal.

Question box

There are no specific questions raised in this chapter.

Introduction

2.1. Ofgem's May 2006 Initial Thoughts consultation set out Ofgem's views on the key weaknesses of the current GDN interruption arrangements and what it considered to be the main principles that any reform to the interruption regime should address. It also explained the model for reform being developed at the time by the GDNs. The consultation followed extensive discussion of reform which had been ongoing for a number of years.

UNC modification proposal

2.2. On 7 July 2006 National Grid Distribution (NGD) raised UNC modification proposal 90 "*Revised DN interruption arrangements".* The proposal seeks to modify the existing GDN interruption arrangements within the UNC. The modification proposal was developed with the support of all GDNs, and closely matches the model as set out in Ofgem's initial thoughts consultation.

2.3. The modification proposal was considered by a development workgroup that met most weeks from mid-August to early October 2006. The October meeting of the UNC modification panel voted for the proposal to go to consultation.

Purpose of the modification proposal

2.4. The purpose of the modification proposal is to introduce revised GDN interruption arrangements that will allow:

- GDNs to determine the quantity and location of any interruption they require; and
- users the flexibility to offer interruption on their preferred terms.

2.5. The GDNs consider that implementing the proposal would better facilitate the achievement of the relevant objectives of the UNC as set out in Standard Special Condition A11.1 of the gas transporters' licence. The relevant objectives being:

- the efficient and economic operation of the pipeline system;
- effective competition between shippers; and
- take account of developments in the transportation system.

Key features of the proposal

2.6. The key features of the proposal are:

- the existing Firm Exit Capacity booking arrangements will not be changed;
- the existing arrangements for requesting a switch from Interruptible to Firm status will continue to apply outside the annual process described in the modification proposal;
- arrangements for requesting a switch from Firm to Interruptible status will only be available via the interruptible application process;
- applications for interruptible capacity and management of interruption will continue on an individual supply point basis. This means that agreements to provide interruptible services would transfer between shippers if a supply point switched shipper;
- applications for interruptible capacity will take place each year, at least three years ahead of the applicable Gas Year. For example, June 2007 for the Gas Year starting October 2010;
- GDNs will be permitted to tender for Interruptible rights in timescales shorter than three Gas Years, where, for instance, demand patterns change significantly;
- through their shipper, customers will be able to apply for interruption contracts of up to five years length;
- interruption payments made by GDNs to shippers will be based on an option and exercise scheme where the option fee will be an upfront payment for being available to be interrupted and the exercise fee will be payable for each day of interruption. The amount paid will be independent of transportation charges, and the pricing methodology used will be distinct from the transportation charging methodology. The interruption pricing methodology will either be set out as an appendix to each GDN's Transportation Charging Methodology or alternatively it will be set out as a stand alone document;
- each GDN will publish its interruption requirements on a location by location basis and offer to purchase interruptible capacity for a range of maximum interruptible

days, such as 5, 15, 30 and 45 days. Prices for interruptible rights would be dependent on the permitted number of days of interruption. Each number of days of interruption will attract an option/ exercise scheme dependent on the pricing methodology of the relevant GDN;

- shippers will be able to apply for interruptible capacity in respect of all daily metered supply points;

- the GDN will be permitted to reject an application for interruptible capacity if the application was not required to maintain its required transportation capability

- after October 2010 new supply points that want to go firm will be allowed to go firm when the capacity becomes available. Otherwise, they will be allocated the minimum number of interruptible days that the GDN believes it must have available to continue to meet its obligations to other supply points. Providing firm capacity is available, after October 2010 new supply points who want to be interruptible can only become interruptible via the interruption application process; and

- in the context of interruption reform the period between June 2007 and September 2010 will be referred to as the transition period. New supply points that want to go firm within this period will be allowed to go firm where the capacity is available. Otherwise, they will be allocated the standard 45 day interruptible contract that other interruptible supply points will operate on until October 2010. New supply points that request to be interruptible within the transition period will also be awarded the standard 45 day interruptible contract.

Main issues raised in the development work group

2.7. All of the main aspects of the modification proposal were considered at the workgroup. The revised business rules continued to be based around the main principles outlined above. However, a number of issues were raised during the development workgroup discussions that required more detailed consideration and debate. Aspects of some of these issues fell outside the original scope of the modification proposal. A discussion of the main issues is given below.

Appropriate governance for publication of information

2.8. The development workgroup asked Ofgem to provide views on the appropriate governance for publication of information by GDNs about their purchases of interruption services and the offers they received to provide interruption services. Ofgem was asked whether the obligations should be incorporated in the UNC or the gas transporters' licence. Ofgem considers that the overall principles and behavioural approach to information and transparency can be covered by the existing provisions of Standard Special Condition D5 of the gas transporters' licence, as it sets out the overall requirement to operate an efficient and economic pipeline system. This licence condition requires GDNs to have procurement guidelines for system management services, which could cover interruptible services without the need to modify the licence. It is expected that the detail of the information to be published by the GDNs would be set out in the UNC, and the final modification

proposal includes a list of information that would be published by the GDNs for each tender.

Provision of information by GDNs

2.9. Under modification proposal 90 the GDNs will specify their interruption requirements in advance of the tender and then the results of the tender will be published. The development workgroup debated extensively the level of disaggregated information regarding the price, terms and volume of interruption that the GDN would be obliged to publish.

2.10. Shippers wanted GDNs to release information comparing the volume of interruption contracted for with the volume of interruption offered by location. GDNs were reluctant to disclose such information because they were concerned it could be used to indicate instances of market power in locations with only a small number of sites. If instances of market power were revealed the GDNs were concerned that this might lead to sites tendering for interruption at very high prices. One suggestion to mitigate this risk was only to reveal information for locations which had a minimum number of users.

2.11. Determining the appropriate definition for interruptible location also provoked significant discussion. To mitigate against instances of locational market power GDNs had a preference for defining location as widely as possible. Conversely shippers explained that in order to avoid tendering for interruption on behalf of sites that the GDN could not interrupt to manage a particular constraint, they would prefer location to be defined as narrowly as possible. The GDNs recognised that avoiding this outcome would be desirable and explained that it was their intention to define location by postcode. Using this method, shippers would know not to bid on behalf of sites whose postcode was not included in the published list.

2.12. The final modification proposal requires the following information to be published following each allocation of interruption rights: number of successful applications; interruptible LDZ capacity offered; interruptible LDZ capacity allocated; highest and lowest price bid; and the highest and lowest price accepted. This information would require to be published on a locational basis providing three of more users successfully applied for interruptible capacity at that location.

Publication of information to incoming shippers

2.13. The provision of information to shippers considering taking on a new customer or making an offer for a new customer in the supply point transfer process was raised by shippers. It was argued that the terms of an interruptible contract would only be known by the shipper which had been in place at the time the contract was originally agreed. As such, this made it extremely difficult for any other shipper to agree in advance contractual terms with customers without first knowing the terms of the interruption contract. It was suggested that this would place other potential incoming shippers at a competitive disadvantage, but this could be avoided if the detail of the interruption contract was made available to all shippers.

2.14. It is Ofgem's view that it should be left to the discretion of the customer to decide what information it releases to an incoming shipper, in the knowledge that the quality of offers it receives from shippers/ suppliers may be affected by how much information the customer reveals.

Pricing options for GDN interruption reform

2.15. Although outside the scope of the UNC modification proposal, the issue of the mechanism by which interruption should be priced was considered during the workgroup discussions. The options were subsequently published by the GDNs in an informal pricing discussion paper in order to ascertain the views of all interested parties. The main considerations focused on the setting of an appropriate pricing mechanism and the form that the interruption payment should take. The discussion of pricing issues during the development workgroup raised concerns about the matrix approach originally proposed by the GDNs, so a range of other options were developed for consideration.

2.16. The GDNs put forward the following three options for pricing interruption services:

- Administered prices - The GDNs would specify the price per volume of interruption and shippers would tender a quantity of interruption based on the offer price. If the process did not provide the quantity of interruption hoped for, the GDNs did not envisage returning to the market for a second tender, but would instead interpret this as the signal to reinforce the network to meet the 1 in 20 obligation;

- Open tender - Shippers would tender a price per volume of interruption without the parameters of a matrix to guide them. The GDNs would allocate interruption contracts on a competitive basis and would be able to consider interruption offers up to the relevant discounted cost of reinforcement; and

- Hybrid – Tender with guide prices - Under this process, the GDNs would offer interruption within a range of guide prices.

2.17. A number of participants considered that in contrast to the open tender approach the administered approach might offer a simpler process to customers bidding for interruption since it potentially removed some of the complexity involved in calculating the rate at which to tender. Another advantage of the administered approach was that it could be used by the GDNs to guard against extreme prices being offered by customers with market power looking to rent seek.

2.18. A disadvantage identified with the administered approach was that by publishing ex-ante the maximum price at which the GDNs would be willing to accept interruption, the ability of shippers to indicate the full range of prices at which they would value interruption would be inhibited. This weakness was seen as potentially compromising efficiency, with investments being triggered that might not have been necessary had interruption contracts been available at slightly higher prices.

2.19. Guide prices under the hybrid approach are viewed as supplementing many of the benefits associated with an open tender. In addition, the hybrid option avoids one of the biggest drawbacks of an open tender - the potential for extreme prices in zones where there is little competition - by having pre-determined maximum prices. Against these benefits, the hybrid approach could be more costly and complex to operate than the administered approach. It was also highlighted that the open tender benefits hoped for under the hybrid approach might not be realised, as there could be a tendency for bids to cluster around the highest guide price point.

2.20. In a change from the GDNs' previous approach as set out in the Ofgem's May 2006 Initial Thoughts consultation, and in contrast to the existing regime for interruption, where payment is based on a discount to the capacity charge, GDNs envisaged setting a payment for interruption that would no longer be linked to the transportation charge. In this way, all users whether firm or interruptible would pay the full transportation charge, with the latter group receiving a separate payment for interruption services that they provided. The price paid for interruption, in terms of the option and exercise payments would be based on the volume and the number of days of interruption, and would in the first instance be payable to the shipper.

2.21. Breaking the link with the transportation charge would require an amendment to the GDN's transportation charging methodology to remove reference to the discounted element of the capacity charge. The GDNs will have to develop a pricing methodology that is sufficiently flexible to cover longer and shorter term purchasing of interruptible capacity without the need for amendments prior to each round of purchasing. This should be possible as it is a methodology rather than a statement of prices.

2.22. Ofgem considers that it is important that the chosen pricing approach allows customers to reveal the value of being interrupted and provides information that would allow GDNs to make location specific investment decisions. Ofgem will consider specific proposals from the GDNs to amend their transportation charging methodology under Condition 4A of the gas transporters' licence.

Summary

2.23. UNC modification proposal 90 proposed by NGD and supported by the other GDNs is based on the main points of the GDNs**'** model explained in Ofgem's May 2005 Initial Thoughts consultation on GDN interruption reform.

2.24. The discussions in the development workgroup have raised two main issues for further consideration. First, the provision of information by the GDNs about their interruption requirements and the results of the tender processes. Second, the appropriate pricing structure for interruption reforms. The second issue is being taken forward outside the workgroup as it does not directly form part of the modification proposal.

2.25. Ofgem is not seeking views on modification proposal 90 in this consultation as interested parties will have the opportunity to set out their views in the consultation

on the modification proposal, before the final modification report and UNC modification panel recommendation are made to Ofgem.

3. GDN incentives

Chapter Summary

This chapter seeks views on Ofgem's further thoughts about the appropriate form of a one year incentive on the GDNs to purchase interruption and NTS offtake capacity efficiently if reform proposals are introduced.

Question box

Question 1: Which of the options proposed by Ofgem for setting a one year incentive for the GDNs purchases of interruption and NTS offtake capacity do respondents support and why?

Question 2: What are respondents views on the factors that should determine the level at which the interruptions and NTS exit capacity incentives are set?

Question 3: Do respondents agree with Ofgem's proposal to set a one year incentive for GDN's purchases of interruption and NTS offtake capacity from October 2010 and longer term incentives as part of the GDPCR?

Introduction

3.1. The GDNs have a licence obligation to develop their pipeline system to enable them to meet gas demand on their network in the event of a 1 in 20 peak demand day(s). A 1 in 20 peak demand day(s) is defined by reference to weather conditions in the last 50 years. The GDNs can meet this standard through a range of inputs, including booking flat and flexible NTS offtake capacity, purchasing interruptible capacity from customers connected to their network, undertaking new investment on their networks to increase capacity, and utilising diurnal storage facilities within their network. UNC modification proposal 90 to reform GDN interruption arrangements will not change the GDN's planning standard obligations and GDNs will still be required to have a safety case approved by the HSE.

3.2. To take account of the proposed reforms to the interruption arrangements and the arrangements for purchasing NTS offtake capacity, as part of GDPCR Ofgem will set incentives on the GDNs to meet the 1 in 20 peak day demand obligation as efficiently as possible. The incentives will need to recognise the potential trade-offs that the GDNs can make to meet the obligation. The overall package of incentives will seek to encourage the GDNs to make efficient trade-offs, with a particular focus on the most important trade-offs for meeting the planning standard.

3.3. Ofgem's third consultation document for the GDPCR in November 2006 will set out initial thoughts on the overall package of incentives. However, as the new price control will not come into effect until April 2008, Ofgem has to consider the best way to provide incentives for GDNs purchases of interruption and NTS offtake capacity from June 2007 for the gas year starting 1 October 2010.

3.4. This chapter builds on the initial discussion of incentives in the May 2006 Initial Thoughts consultation on GDN interruptions reform and develops Ofgem's views on how the procurement of interruption and other options to meet the planning standard by the GDNs should best be incentivised. The discussion of incentives for GDN's purchases of NTS offtake capacity is based on modification proposal 116, which NGG NTS has raised. Any changes to this modification proposal or the implementation of any alternative modification proposals would require further consideration of the relevant incentives.

GDN incentive options

3.5. Ofgem has initially considered 3 options for incentives to apply to GDN's purchases of interruption and NTS exit capacity for 2010/11.

Option 1 – Separate sliding scale incentive for NTS exit capacity and interruptions

3.6. This option builds on the current approach for the GDNs incentive to purchase NTS offtake capacity. It will not be possible to continue with precisely the same arrangements as we currently have because as part of the introduction of enduring offtake reform, the payment arrangements for NTS offtake capacity will be changed. From 1 October 2010 it is proposed that GDNs pay the NTS for the offtake that is used, and GDNs costs will be recovered from shippers. Currently the NTS charges shippers directly for the costs of providing NTS offtake capacity. Incentives from October 2010 need to take account of the new payment flows.

3.7. Under this option Ofgem would set annual target costs for GDN's purchases of flat and flexible NTS exit capacity and for interruptible capacity. The incentive would be subject to a cap, collar and sharing factors. If the GDNs were able to reduce their costs below the target they would keep a percentage of the savings (depending on the level of the sharing factor) and if its costs were greater than the target it would be exposed to a percentage of the costs, up to the agreed cap and collar. Beyond the cap and below the collar higher and lower costs are passed on directly to customers.

3.8. In setting the NTS exit capacity incentive for the GDNs, there are a number of factors which would require further consideration. These include whether GDNs should have a separate incentive for the purchase of flat or flexible NTS exit capacity; whether GDNs should be exposed to the administered price of flat exit capacity at the time of purchase or at the time of use; and the extent to which the incentive should take account of the profile of capacity bought to ensure that GDNs do not have a perverse incentive to reduce purchases of longer term NTS exit capacity in favour of buying in the short term auctions.

3.9. In setting the incentive for interruption Ofgem would have to take a view on the projected cost of procuring interruption. This would take account of historical information about the demand for interruptible contracts, forecast information regarding 1 in 20 peak day demand conditions, the likely weighted average price

paid for interruptible capacity, as well as any additional amounts that GDNs might pay to procure interruptible capacity at location specific constraints. The target would be for incentive purposes only and would not remove GDNs from their 1 in 20 obligations. However, given that the current interruption arrangements provide very limited signals about the likely price of interruption services under a reformed regime, the initial level of any allowance would have a degree of uncertainty over how it would compare to the outturn costs incurred by the GDNs.

3.10. GDNs are proposing to offer contracts for interruption with an option element (payable irrespective of whether a supply point is actually interrupted) and an exercise element (payable for each day a supply is actually interrupted). If Ofgem sets an incentive for the total costs paid by GDNs for interruption there is a risk that in years where the actual amount of interruption that is used is very low, the GDNs would substantially out perform the incentive, while in years where the amount of interruption actually used is very high, the GDN might make a substantial loss under the incentive (subject to the caps, collars and sharing factors that applied). These large potential gains and losses would be determined principally by weather and system conditions rather than the quality of the GDN's decisions.

3.11. This risk could be mitigated by setting an incentive on the price level of each unit of interruption for which an option is held and each unit that is exercised. The risk of this option is that it encourages the GDNs to offer contracts with a standard balance between the option and exercise elements rather than seeking to be innovative. Ofgem would welcome views on how best to maintain an incentive for the GDNs to be innovative in their pricing, while reducing the size of potential windfall gains and losses for GDNs due to factors outside their control. To varying degrees this issue applies to all the options considered in this chapter.

3.12. A sliding scale incentive with caps, collars and sharing factors would have the advantage of incentivising GDNs to minimise the cost of buying interruption and NTS offtake capacity, assuming that any difficulties associated with setting an initial level for the allowance could be overcome. It could also provide GDNs protection from the price risk associated with movement in prevailing NTS exit charges.

3.13. A possible disadvantage of a separate sliding scale incentive for offtake capacity and interruptions might be that the incentive would distort trade offs between procuring interruptible capacity and offtake capacity, and between procuring interruptible capacity, offtake capacity and other system management tools not subject to an incentive. In the event that the cap was breached the mechanism could incentivise inefficient behaviour, as GDNs would then receive a pass through of additional costs. The significance of this impact would depend on whether the caps and collars where set as "backstops" to mitigate the risk of very large differences between the allowance and outturn costs, or as tighter caps and collars that would be expected to be effective in a reasonable range of circumstances.

3.14. In the event that the GDNs were unable to secure sufficient interruptible capacity through the tender process, to meet the 1 in 20 obligation at a price they considered was good value, they would have to consider alternative options for meeting the planning standard. Ofgem anticipates that how GDNs meet the planning

standard will be dynamic from year to year depending on how the relative costs of interruption, NTS offtake capacity and new investment change. Incentives for efficient capital expenditure are being considered as part of GDPCR. These issues apply for all the options considered by Ofgem.

Option 2 – Set an RPI-X allowance

3.15. Under this option Ofgem would set an allowance for purchasing NTS offtake capacity and interruption within the main RPI-X price control. Under this approach GDNs would not be protected by caps and collars and would be exposed to the full risk of purchases or costs of interruptible capacity and exit capacity to manage their 1 in 20 peak day demand obligation. A number of respondents to Ofgem's May 2006 Initial Thoughts consultation were concerned about the potentially unlimited exposure of GDNs under this option.

3.16. In setting the interruption and NTS exit capacity allowances within the RPI-X price control Ofgem would have to take into consideration the same factors as outlined above for Option 1. As with Option 1 the allowance would be set for incentive purposes only and would not change the GDNs planning standard obligations.

3.17. The advantages of Option 2 would be that the incentive on GDNs to minimise the costs of procuring interruption and NTS offtake capacity would be very strong. As GDNs would not have a cap or collar, they would have an incentive to minimise costs regardless of the price which prevails. Option 2 is also less likely to promote inefficient trade-offs between system management tools as the least cost option should always be chosen by the GDNs. However, given the uncertainty over the total cost of interruption and NTS exit capacity, without some sort of cap and collar this option could lead to windfall gains or losses for the GDNs and would therefore be a riskier approach to take in the first instance.

Option 3 – Cost target incentive for interruption and NTS exit capacity

3.18. Under this option, the GDNs would be given separate cost targets (e.g. price of interruption multiplied by the volume of interruption) for the procurement of interruption and NTS offtake capacity, with the actual costs incurred being passed through to customers. This is different from option 1, where up to the cap and collar, and taking account of the sharing factors, the charges for customers would be the same as the GDN's costs. If the GDN outperformed the cost target they would be rewarded with a pre-determined amount of additional revenue, but if they exceeded the target they would be penalised with a reduction in allowed revenue. Additional flexibility could be added to this model by offering a tiered reward/ penalty structure which offered GDNs bigger rewards and penalties depending on the extent that they minimised or exceeded the target costs. In this scenario the GDN would have full protection from the actual costs of purchasing interruption and NTS offtake capacity.

3.19. The main advantage of this approach is that incentives are in place regardless of the extent to which companies over or under perform the cost target, albeit the total amount of money at risk may be relatively small. This could be particularly important in the first year of the new arrangements where uncertainty over the price to be paid for interruption and NTS offtake capacity may be greater than in future years. As with Option 1, a possible disadvantage of separate incentives for interruption and NTS offtake capacity might be that the incentive would distort efficient trade offs between procuring interruptible capacity and other system management tools.

3.20. This approach could be appropriate where the setting of the initial allowance for an incentive is particularly uncertain, as it reduces the risk of the GDN gaining or losing a large amount of money while at the same time ensuring that there is always an incentive to reduce the amount of interruption and NTS exit capacity purchased. The information gathered from assessing performance against the incentive could be used to improve the setting of incentives in future years. Therefore, this option might be most appropriate where the incentives were only expected to be put in place for one year.

3.21. Ofgem would welcome views on each of the options discussed above.

Locational market power

3.22. In the May 2006 Initial Thoughts consultation, Ofgem raised the issue of potential customer market power for providing interruptible services in certain locations. Under the current arrangements the GDNs can declare a site an NSL and require it to be interruptible. An NSL is declared where the GDN considers that at certain pressures it would require the site to be interruptible to meet its transportation obligations. The number of NSLs varies by network, but has been and is expected to continue to reduce with planned investment in the next few years. There are currently over 100 NSLs, although in many cases Ofgem understands that more than one NSL relates to the same constraint.

3.23. Under a reformed interruptions regime Ofgem recognises that the price that GDNs will receive for interruption will depend on the level of competition for providing interruption services in relevant locations. For locations where only one site can relieve a constraint there is a risk that sites may seek higher interruption payments. Nevertheless where customers' behaviour could be shown to be an abuse of a dominant market position, Ofgem's powers under the Competition Act 1998 could be invoked.

3.24. Where a GDN is unable to contract for interruption at a site formerly designated an NSL, under the reformed interruption arrangements the GDN will have three years' notice to make alternative provision to accommodate the site as a firm load. The GDN will be incentivised to minimise this cost either through procuring interruptible capacity elsewhere on its network or where necessary by reinforcing the network. Ofgem would expect the costs of managing this trade off to be accommodated within the incentive proposal and would not anticipate that use of the

Economic Test for recovering a proportion of reinforcement costs would be an appropriate tool in this context.

3.25. NSLs provide an administered solution to address constraints on the GDNs where there appear to be a limited number of options to address the constraint. Although GDNs have criteria to decide when to declare an NSL, the ability to declare a site an NSL when it meets specified criteria could deter the GDNs from considering other options to relieve the constraint. Ofgem wants to provide a strong incentive on the GDNs following interruptions reform to find the most economic way to meet its transportation obligations in all cases. Irrespective of which incentive option is selected Ofgem would not consider a separate passthrough of costs associated with purchasing interruption at sites formerly known as NSLs as an appropriate long term solution. Before developing firm proposals for how to treat potential examples of limited competition for providing interruption services, Ofgem will meet with each of the GDNs to understand in more detail the nature of such issues and how planned investment might reduce the scale of the issues. Potential options range from specific treatment of the costs of constraints with limited competition (perhaps a 50:50 sharing of risk between customers and the GDNs), to factoring in specific price levels for interruption when setting the overall incentive, but Ofgem will seek to incentivise the GDNs to minimise these costs whichever option is selected.

Timetable for setting the allowances and incentive parameters

3.26. GDNs need to know the incentives they will face prior to having to make decisions about how much interruption and NTS offtake capacity to purchase. For purchases from October 2010, the GDNs need to know prior to the June 2007 tenders for interruption, what incentives they will face for the year starting from 1 October 2010. The timetable for Ofgem's GDPCR is such that the final proposals and licence modifications would not be made in time for incentives to be in place for June 2007. Ofgem therefore intends to consult on initial proposals for a one year incentive in January 2007 with final proposals following at the end of March, ahead of the first interruption application process in June 2007. Ofgem recognises that this approach will increase the risk of inefficient trade-offs for the year starting in October 2010 because the incentives for capital expenditure in the GDNs price controls from April 2008 will not have been finalised.

3.27. Given the need for the incentives for GDNs decisions about purchasing interruption, NTS offtake capacity and investing in their own networks to be set at least three years in advance of the gas year that they affect, Ofgem will need to consider as part of the timetable after the next gas distribution price control the process for setting the incentives. It would not be possible to wait until the next price control review to set incentives from 2013.

3.28. Ofgem would welcome comments on its proposal to set a one year incentive for the purchasing of interruption and NTS offtake capacity by the GDNs to cover the year from October 2010, and for the remainder of the incentives up to 2013 to be set as part of the GDPCR.

Interruption incentives for the transitional offtake period

3.29. There are currently no interruption incentives in place for the period 1 October 2008 to 30 September 2010 (known as the "transitional period" for NTS offtake reform). Ofgem will set an interruption incentive for this period leading up to 1 October 2010 when it is anticipated that the reformed interruption arrangements incentive will begin. One option would be to roll forward the current sliding scale incentive with an updated target incentive for interruption of sites for more than 15 days and a review of the sharing factors, cap and collar on the incentive. Table 3.1 below shows the target costs for interruption greater than 15 days.

Table 3.1 - Current interruption incentives for the GDNs

GDN	2005/06	2006/07	2007/08	2008/09
	Target for cost of interruption (£m)			
Scotland	0.12	0.13	0.13	0.13
North of England	0.22	0.23	0.23	0.24
North West	0.08	0.08	0.09	0.09
East of England	0.82	0.87	0.89	0.96
London	0.05	0.06	0.06	0.06
West Midlands	0.00	0.00	0.00	0.00
Wales and West	0.19	0.20	0.21	0.21
South of England	0.11	0.12	0.12	0.12
Total	1.59	1.68	1.73	1.82

3.30. The GDNs are only required to pay a site if it interrupts it for more than 15 days. In a mild winter the costs under the incentive are likely to be zero and the GDNs would keep 100% of the target. This was the case for 2005/06 where no supply point was interrupted for greater than 15 days. Conversely, in a severe winter the GDN is likely to reach the target cost quickly and once it reaches the collar there is no financial incentive on it to minimise interruption costs.

3.31. One option to address these concerns would be to allow the GDNs to pass through any costs associated with interrupting a site for more than 15 days, but this would remove any financial incentive for it to manage interruptions efficiently. The preferred option would be to set the target to zero so that the GDNs are incentivised to manage the costs up to the incentive collar. This would be consistent with the initial proposal for the NTS interruption incentive during the transitional period, where from October 2008 until the start of the enduring offtake regime it is proposed that the cost target for interruptions of greater than 15 days will be zero. GDNs are likely to raise concerns that under the incentive they are exposed to downside risk with no upside. However, an incentive such as this would be considered as part of the wider package of incentives against which the GDN can earn revenue.

3.32. Ofgem's initial view is to roll forward the existing interruption incentive for the GDNs for the transitional period. Ofgem would welcome views on this proposal.

Summary

3.33. This chapter sets out options for incentives on the GDNs to purchase interruption and NTS exit capacity efficiently following proposed reform of the interruption and NTS offtake arrangements starting in 2010-11. The options are for a specific incentive with caps, collars and sharing factors, an allowance within an RPI-X price control, and a cost target incentive for the GDNs related to a benchmark level of costs with the actual costs being passed through to customers. Ofgem has also considered how potential customer market power in the offering of interruption services could be addressed in setting the incentives.

3.34. Ofgem seeks respondents' views on the most appropriate incentive to set for the one year period starting in October 2010. Views are also sought on incentives for the purchase of interruption in the period October 2008 to Sept 2010.

4. Draft Impact Assessment

Chapter Summary

This chapter summarises the outcome of Ofgem's draft IA on the proposed interruptions model. The full draft IA is reported in appendix 1.

Question box

Question 1: Do interested parties agree with the estimate of the costs of implementing GDN interruptions reform? Interested parties are requested to provide information about any costs they expect to incur to implement interruptions reform.

Question 2: Do interested parties agree that Ofgem has identified the appropriate benefits of reform of the GDN interruption arrangements?

Question 3: Do interested parties agree with Ofgem's estimate of the range of potential quantitative benefits of GDN interruptions reform?

Introduction

4.1. This chapter summarises the draft IA that Ofgem has prepared to assess proposals to reform the interruption arrangements for transporter initiated interruption on the GDNs. Ofgem is seeking comments on the draft IA before producing a final IA as part of any decision Ofgem may make on modification proposal 90 to the Uniform Network Code (UNC).

Approach to the Impact Assessment

4.2. In the draft IA, Ofgem has sought to make a reasonable estimate of the potential costs and benefits of reforms to the interruption arrangements on the GDNs. Where Ofgem has made quantitative assessments of the costs and benefits of reform, these are based on the available information at the current time. In some cases Ofgem expects to get further information, in addition to comments on the draft IA, which will inform the IA before the final version is published in early 2007. This includes analysis of the GDNs responses to the BPQ for the next five year price controls which were received in early October. In the draft IA, we have signalled those areas where cost and benefit estimates are likely to be amended following the receipt of further information.

4.3. Ofgem recognises that estimating the costs and benefits of reforms of this nature is inherently difficult and requires an element of judgement, as the precise impact of reforms will only be known when they are implemented. To recognise the uncertainties in any assessment of potential costs and benefits, Ofgem has sought to develop a range for the costs and benefits based on consideration of a number of scenarios. Ofgem has then considered the robustness of the range of estimates for

costs and benefits generated by these scenarios. Ofgem has also considered the level of benefits that would need to be achieved to exceed the costs and the plausibility of assumptions required to reach this level of benefit.

4.4. Ofgem has presented the estimates of the costs and benefits of GDN interruptions reform as a net present value. All of the quantitative estimates for costs and benefits are shown for discount rates of 5.25%, which is broadly equivalent to the vanilla weighted average cost of capital proposed by Ofgem for the one year gas distribution price control[3] and 3.5%, which is the discount rate that the UK Government, through the Green Book, advises should be used for IAs of this type.

4.5. Any IA must consider the costs and benefits of proposed changes compared to a counter factual. For the draft IA, Ofgem has used the continuation of the current interruption arrangements for the GDNs as the counter factual. Ofgem has used modification proposal 90 to the UNC as the proposal for reform to assess for the IA.

4.6. Ofgem would welcome views on the approach it is proposing to take to carrying out the IA.

Costs

4.7. Ofgem received estimates from the GDNs of the costs of implementing reform of the interruption arrangements. GDNs estimates included changes to IT systems for estimating required interruption and holding a tender process, and additional staff to operate the new processes. Xoserve provided a separate estimate of the costs of changes to its system to implement interruptions reform. Shippers' estimates were for IT system changes and additional staff to participate in the purchasing processes. Ofgem did not receive any specific cost information from customers or their representatives. Ofgem has carried out an initial review of the GDNs' and shippers' cost estimates, and in particular, has compared the separate estimates. Following these comparisons Ofgem has made some adjustments to the cost estimates to develop what we consider to be a reasonable estimate of the potential costs for GDNs and shippers of implementing interruptions reform. Ofgem considers that the estimate is probably slightly on the high side as we have not carried out a "bottom-up" review of these costs or made any adjustments to Xoserve's cost estimate. Also, as the industrial and commercial supply market is competitive, customers will only pay the efficient costs for shippers of implementing interruptions reform.

4.8. Ofgem's initial estimate of the costs of implementing interruptions reform for the GDNs and shippers is £15m on a net present value basis using a discount rate of 5.25%. Ofgem would particularly welcome additional information from shippers and

[3] "Gas Distribution Price Control Review, One Year Control Initial Proposals", Ofgem, September 2006.

customers about the potential costs of implementing interruptions reform. Without more information from customers about the costs of implementing interruptions reform, Ofgem will have to make its own estimate of customers' costs for the final IA.

Benefits

4.9. Ofgem has identified the following potential benefits of the reform of interruption arrangements on the GDNs:

- better investment signals for the GDNs to allow better trade-offs to be made between purchasing interruption, NTS offtake capacity and investing in its network;
- improved security of supply through greater certainty about the availability of interruption;
- a more flexible market for the offering and purchasing of interruption services;
- more efficient operation of the wholesale electricity market;
- wider economic benefits from GDNs selecting sites to interrupt based on the relative value they place on being interrupted; and
- control for the GDNs of the amount of interruption purchased will reveal which GDNs are the most efficient, allowing benefits to be passed back to customers in future price control incentives.

4.10. Ofgem has sought to quantify the benefit that would arise from better investment signals, which will allow the GDNs to make more efficient decisions about the choice between additional capital investment, interruption and purchasing NTS offtake capacity. Over time this could reduce the total distribution charges paid by customers.

4.11. Using the estimate of costs in the draft IA of £15m, we can calculate the scale of investment efficiencies that would need to be made for reform to have a positive net present value. Using the baseline investment in the GDN's forecasts, an investment efficiency of about 1% for a discount rate of 5.25% would lead to benefits exceeding costs. Based on historical levels of investment it would take an efficiency saving of about 2% for benefits to exceed costs. Ofgem considers that it is reasonable to consider that investment efficiencies of this magnitude could be achieved as a result of interruption reform.

4.12. Although Ofgem has not attempted to quantify the remaining benefits, we consider that they could be sufficient in themselves to justify reform of the interruption arrangements, given their potential significance. Ofgem is concerned that under the current arrangements a significant number of customers who choose to be interruptible, e.g. NHS Trusts, might not be prepared for when they are

actually interrupted, given the very low level of actual interruption in recent years. Ofgem considers that if customers who choose to be interruptible are better prepared it will improve security of supply. At times of relatively tight supply demand conditions the benefits of interruptions reform for a more efficient operation of the wholesale electricity market could be very significant.

Summary

4.13. The draft IA shows that under plausible assumptions for investment efficiencies and savings in the cost of purchasing interruption services it can be expected that the benefits of interruptions reform would exceed the costs. This conclusion is before the other benefits of reform that Ofgem has not sought to quantify are taken into account.

4.14. The draft IA identifies a number of areas where further information is expected to be received before the final IA is expected to be completed in January, which will allow Ofgem to refine the ranges for the expected costs and benefits of interruptions reform. This includes analysis of information in the GDN's responses to the BPQ for the five year price control and information about the costs for customers of implementing interruptions reform.

4.15. Ofgem would welcome views on all aspects of the draft IA to inform the development of a final IA that will inform any Ofgem decision about whether to accept modification proposal 90.

5. Developments to the structure of gas distribution charges

Chapter summary

This chapter provides an update of recent developments in the structure of gas distribution charges. It highlights ongoing concern about variability in gas distribution charges and seeks views on further changes which might address this.

Question box

Question 1: Do interested parties have any views about the timing of the introduction of the new arrangements for the customer charge?

Question 2: Do the benefits outweigh the costs associated with changing the timing of changes to gas distribution charges from October to April each year to align it with changes in allowed revenue?

Background

5.1. In February 2006 Ofgem published its conclusions document on the review of the structure of gas distribution charges. The conclusions are summarised below:

- increasing the weighting of the capacity component of use of system (UoS) charges would encourage a more efficient use of gas distribution assets;
- this change should not be introduced in advance of GDN interruptions reform;
- GDNs should review the costs underlying the customer charge and develop a more cost reflective charging function which does not depend on throughput;
- some parameters used to calculate the Economic Test (ET) should be updated and GDNs should publish a full description of the ET as part of their statement pursuant to Standard Condition 4B "Connection charges" of their gas transporters' licence; and
- the CSEP administration charge should be kept under review and amended to ensure that it accurately reflects the costs incurred by the GDNs in managing CSEP information.

Further developments

5.2. In parallel with the ongoing work on GDN interruption reform, further action has been undertaken by the GDNs in developing the structure of gas distribution charges.

Customer charge

5.3. In response to Ofgem's conclusions on the structure of gas distribution charges, the GDNs developed a joint proposal to change the customer charge. This proposal was presented to Ofgem on 6 September 2006 and was raised with the industry as a pricing consultation on 10 October 2006.

5.4. The GDNs are proposing to remove the element of the charge that varies with throughput by "capacitising" the customer charge for domestic customers in line with the approach for all other categories of consumers. This change will make the charge more cost reflective, more predictable and more evenly spread throughout the year.

5.5. Over 90 percent of the revenue collected through the customer charge comes from the domestic load band. Recovering this revenue through capacity charging instead of commodity charging would have no distributional effects in terms of the balance of transportation charges and revenue recovered between load bands. The unit charge for the domestic load band would be set to collect the same amount of revenue as the commodity charge would have collected based on forecast volumes. The charge to shippers for the domestic load band will neither be more nor less than it would have been previously had throughput been as forecast.

5.6. The fixed proportion of allowed revenue in the price control is 65 per cent, while the remaining 35 per cent is linked to the level of demand. The current structure of charges – when considering both use of system charges and the customer charge - is set such that about 63 per cent of the revenue collected through charges varies with demand, while 37 per cent is capacity based. This mismatch between the revenue driver and structure of charges contributes to the incidence of under or over recovery of revenue and hence leads to larger changes in prices. Changing the customer charge from a commodity to a capacity charge would result in the alignment of the revenue driver with the structure of charges at 65:35. This should lead to greater predictability of charges and annual changes to charges less material and/or less likely.

5.7. The GDNs are proposing to implement this change at the beginning of the price control formula year, i.e. 1 April 2007, rather than the usual date of 1 October in the gas transporters' licence.[4] This would enable the charge to be set at the appropriate level for the full formula year which should help to make the charge more stable. Increasing the proportion of capacity charges in the middle of a formula year leads to very volatile prices because capacity charges raise about one third of their revenue in the first half of the formula year and two thirds in the second half, whereas the flow of revenue from capacity charges is even through the year. If capacity charges were to increase on 1 October, they would need to be set at a level to recover two thirds

[4] SSC A5 provides that GDNs should use reasonable endeavours to change charges once a year and on 1 October or on any other date the Authority may direct.

of the target revenue in the period October to March. This level would then be too high for the subsequent full year so the charge would need to be reduced at the first opportunity. Implementing the change on 1 April would avoid this price variability.

Economic Test

5.8. On 6 September 2006 the GDNs outlined improvements to the ET in line with Ofgem's conclusions in February 2006. The ET's model has been reproduced into a more user friendly version (using Microsoft Excel), which is now flexible to changes, easy to update, transparent and methodologically consistent across GDNs. This improvement – which includes updated parameters, consistent with the conclusions reached by Ofgem in February is due to be implemented in the coming months, as soon as the testing phase is completed.

CSEP administration charge

5.9. The CSEP administration charge has been reviewed by the GDNs in line with Ofgem's February 2006 conclusions. The GDNs found that the unit costs underlying the charge have decreased since the charge was last revised. Accordingly, the charge has been reduced since 1 October 2006 from £1.20 to £0.56 per supply point for all GDNs.

5.10. The charge was introduced in 1996 as part of the regulated transportation income and is levied on shippers serving customers who are situated on CSEPs. The charge reflects the administrative costs associated with the transfer of data between multiple parties since Independent Gas Transporter (IGT) site specific data is not catered for on the GDNs IT systems. The charge has decreased over time from an initial £5, reflecting falling unit costs as the number of supply points increase due to growth in the IGT market and streamlining of data flow processes by Xoserve.

Further thoughts on the capacity: commodity split in use of system charges

5.11. In considering potential changes to the capacity: commodity split in charges a number of issues have been highlighted that need to be considered. To inform consideration of moving to a higher capacity weighting, an information request was sent to each GDN in July 2006. Information was sought about the effects of higher capacity charges on various end user categories, further analysis on costs, options for addressing the proportion of costs not recovered through marginal cost pricing and the effects on the stability of charging of various capacity weightings. Methodological differences in the approach used by GDNs to respond to aspects of the information request have made it difficult for Ofgem to draw conclusions on all the issues at this stage. The GDNs are revising some of their responses to improve methodological consistency between GDNs. However the responses received so far suggest that:

- increased capacity charges are likely to lead to slight increases in charges for smaller users and a consequent reduction in charges for larger users. Interruption reform would have a dampening effect on this;

- increased consideration of shrinkage costs has increased the commodity element of costs. The commodity element remains a relatively small percentage of overall costs at less than 5%;

- indirect costs (costs independent of capacity or commodity such as wages) vary little with increased volume and therefore it may be more appropriate to recover this revenue through capacity charges; and

- the GDNs felt that it was important to match the capacity weighting of charges to the fixed element of the price control revenue driver to ensure more stable and predictable charging.

5.12. There is a concern that if a higher capacity weighting leads, overall, to higher charges for domestic gas users and lower charges for large industrial users, IGTs may inadvertently receive a large revenue gain. Under the Relative Price Control (RPC) that applies to the charges levied by IGTs, they are able to charge up to the difference between the notional Single Supply Point (SSP)[5] charge and the CSEP charge.[6] As an IGT's portfolio of sites consists primarily of domestic customers and small industrial and commercial customers, the SSP charge is likely to increase while the CSEP charge would generally decrease, leading to an increased margin allowed to IGTs under RPC.

5.13. GDN interruption reform would act to dampen this effect since charges would be expected to decrease for firm customers (including domestic consumers and small industrial and commercial customers) once the discount on exit capacity charges currently given to interruptible users is removed. However, under GDN interruption reform, charges are also expected to decrease for CSEPs, which are normally not interruptible. Therefore, even considering the potential netting off effect on charges of GDN interruptions reform, it is likely that the SSP charge for small consumers would decrease less than the CSEP charge, thereby causing an increase in the margin allowed to IGTs under RPC.

5.14. If the GDNs were to bring forward a proposal to change further the capacity: commodity split, the impact on IGTs and their customers is something which would require careful consideration.

[5] The notional SSP charge is the charge that GDNs would levy on end users connected to IGTs if the IGT network was part of the GDN network.
[6] A CSEP is a point on the distribution system that comprises one or more individual offtakes that are not metered supply points. These include connections to IGTs.

Changing the start of the gas charging year from October to April

5.15. At present gas distribution charges are set in October while allowed revenue under the price control is set in April. The October date for charging changes is an arrangement which predates privatisation and coincides with the time that shippers historically re-negotiate their contracts with producers and customers. The frequency and timing of changes to charges was considered at the time of NGG's disposal of some of its GDN's. Since then there has been significant variability in charges, such that Ofgem considers it appropriate to revisit this issue.

5.16. Ofgem is considering the merits of synchronising the date on which changes to allowable revenue and charges are made at April each year. The main advantage of this proposal is that it would lead to a reduction in variability between charges in one year and the next. Charges are set in October to recover 12 months change in allowable income in 6 months. This means that the charges can be too high for the subsequent April to September period. This existence of an April and October time frame effectively divides the year into two periods promoting under/ over recoveries and has contributed to the swings in price changes that have become apparent.

5.17. The potential disadvantages of synchronising the changes are that:

- prices will no longer be set in the light of annual demand statements which are issued in May to improve the reliability of forecasting for the coming winter. However, the importance of these forecasts in terms of charging diminishes as a higher proportion of the charge is recovered on a capacity rather than commodity basis;
- changes may be necessary to the UNC and gas transporters' licence; and
- suppliers/ shippers may need to negotiate contracts for a 6/ 18 month period to realign with the new charging date or have other administrative requirements.

5.18. Ofgem is initially considering this proposal in the context of an April 2007 implementation date. In particular Ofgem is aware that the P0 adjustments set out in the initial proposals for the one year control of gas distribution charges could result in very high price increases in October 2007. As outlined in Standard Special Condition A4 2(d) of the gas transporters licence, licensees shall use all reasonable endeavours to give the authority notice of any proposed changes to charges at least 150 days before the proposed date of their implementation. Reasonable endeavours in this case would necessarily be less than 150 days. Ofgem is committed to understanding and engaging the views/concerns of relevant parties on this proposal before any further progress is made.

Summary

5.19. The changes to the ET and CSEP administration charge are welcome improvements to the structure of gas distribution charges. Further, the proposal to change the customer charge seems to have much merit. There are a number of issues raised by a further increase in the capacity: commodity split.

5.20. Ofgem is considering the merit of changing the timing of changes to gas distribution charges from October to April, in line with changes in allowed revenue. Initial analysis suggests that this will address some of the concerns raised by customers and others about the variability in gas distribution charges year on year.

6. Next steps

Chapter summary

This chapter outlines the next steps for consideration of UNC modification proposal 90, including the timetable for Ofgem's decision on the proposal. The chapter also explains the further work that Ofgem will be taking forward to develop new arrangements for GDN interruptions, including the development of incentives for the GDNs, and the timetable for this work.

Question box

There are no specific questions raised in this chapter.

UNC modification proposal 90 and Ofgem's decision

6.1. The modification proposal was considered by a development workgroup that met most weeks from mid-August to early October 2006. The October meeting of the UNC modification panel voted for the proposal to go to consultation.

6.2. A timetable for further consideration of the modification proposal was set out in the original proposal. The key milestones for this timetable are the:

- the consultation would end on 16 November 2006;
- the Joint Office of the Gas Transporters would issue the final modification report on 7 December 2006;
- The December meeting of the modification panel would decide upon the recommendation to be made to Ofgem for the modification proposal; and
- Ofgem would receive the final modification report and the recommendation of the modification panel on 21 December 2006.

6.3. Ofgem will make a decision about modification proposal 90 as quickly as possible, bearing in mind the important issues to be considered.

6.4. A key input into Ofgem's decision will be a final IA, which will be developed following consideration of comments on the draft IA in Appendix 2 of this consultation. The final IA will also be informed by a review of information provided by the GDNs in early October 2006 in response to the Business Planning Questionnaire (BPQ) for the five year gas distribution price control.

Incentives for the GDNs purchases of interruption and NTS offtake capacity

6.5. As discussed in Chapter 3, it will be necessary to confirm prior to the GDNs purchasing of interruption in June 2007 and decisions about the need for incremental NTS offtake capacity in July 2007, the incentives that will apply to these purchases by GDNs for at least 2010/11. After considering responses to the issues raised in Chapter 3, Ofgem intends to publish initial proposals for the incentives to apply for 2010/11 in January 2007, with final proposals following at the end of March 2007 ahead of the interruption application process in June. For the longer term incentives running from at least 2011 until the end of 2013, Ofgem intends to use the third consultation for the Gas Distribution Price Control Review in November 2006 to publish initial thoughts. The final proposals for the longer term incentives will be published in the final GDPCR proposals document in December 2007.

Timetable

6.6. Table 6.1 below summarises the timetable for GDN interruption reform, the development of incentives for the GDN's purchases of interruption and the interactions with NTS offtake reform. This is an indicative timetable and some of the dates are dependent on UNC processes which are not administered by Ofgem.

Table 6.1 - Timetable for GDN Interruption Reform

Date	GDN interruption reform	Development of GDN incentives	Interactions with NTS offtake arrangements	Development of the GDNs charging structure
November 2006	Consultation on modification proposal 90 ends	Ofgem sets out initial thoughts about the longer term GDN incentives as part of the third consultation on the GDPCR	Consultation on modification proposal 116 and related proposals ends	
December 2006	Joint Office issues final modification report on modification proposal 90 and the modification panel make a recommendation		Joint Office issues final modification report on modification proposal 116 and related proposals, and the modification panel make a recommendation.	

			Final proposals for the transmission price control, including NGG NTS's offtake incentives	
Quarter 1 2007	Ofgem publishes its decision about modification proposal 90 and its final IA	Ofgem makes initial proposals for the 2010/11 GDN incentives (January). Ofgem makes final proposals for 2010/11 GDN incentives and publishes licence drafting consultation (March)	Ofgem publishes its decision about modification proposal 116 and related proposals, together with its final IA. Consultation on licence conditions to implement NGG NTS's offtake incentives	
April 2007	Proposed date for the implementation of modification proposal 90 if it was accepted by Ofgem			Changing the customer charge for domestic customers from a commodity to a capacity basis is expected to be implemented
May 2007		Licence modifications for the GDN 2010/11 incentives are implemented		
June 2007	Purchase of interruption for 2010/11 by the GDNs			
July 2007			Requests by GDNs and NTS direct connects for incremental NTS offtake capacity from October 2010	
September 2007		Publish updated GDPCR		

		proposals including update on GDN incentives		
December 2007		Publish final GDPCR proposals including final proposals on longer term GDN incentives		

Appendices

Index

Appendix 1 - Consultation Response and Questions

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

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

1.3. Responses should be received by 12 December 2006 and should be sent to:

- Lewis Hodgart
- Regulatory Analyst
- Gas Distribution Policy Team
- Ofgem
- 9 Millbank
- London
- SW1V 1LQ
- Tel: 020-7901-7021
- Email: lewis.hodgart@ofgem.gov.uk

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

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

1.6. Having considered the responses to this consultation and the final modification report and modification panel recommendation, Ofgem intends to publish its decision and final IA on GDN interruptions reform by the end of January 2007. Any questions on this document should, in the first instance, be directed to Lewis Hodgart (contact details are given above).

CHAPTER: Three

Question 1: Which of the options proposed by Ofgem for setting a one year incentive for the GDNs purchases of interruption and NTS offtake capacity do respondents support and why?

Question 2: What are respondents views on the factors that should determine the level at which the interruptions and NTS exit capacity incentives are set?

Question 3: Do respondents agree with Ofgem's proposal to set a one year incentive for GDN's purchases of interruption and NTS offtake capacity from October 2010 and longer term incentives as part of the GDPCR?

CHAPTER: Four

Question 1: Do interested parties agree with the estimate of the costs of implementing GDN interruptions reform? Interested parties are requested to provide information about any costs they expect to incur to implement interruptions reform.

Question 2: Do interested parties agree that Ofgem has identified the appropriate benefits of reform of the GDN interruption arrangements?

Question 3: Do interested parties agree with Ofgem's estimate of the range of potential quantitative benefits of GDN interruptions reform?

CHAPTER: Five

Question 1: Do interested parties have any views about the timing of the introduction of the new arrangements for the customer charge?

Question 2: Do the benefits outweigh the costs associated with changing the timing of changes to gas distribution charges from October to April each year to align it with changes in allowed revenue?

Appendix 2 – Main Heading

Appendix Summary

This appendix sets out Ofgem's draft IA on the proposed reforms to GDN interruption arrangements.

Question box

Question 1: Do interested parties agree with the estimate of the costs of implementing GDN interruptions reform? Interested parties are requested to provide information about any costs they expect to incur to implement interruptions reform.

Question 2: Do interested parties agree that Ofgem has identified the appropriate benefits of reform of the GDN interruption arrangements?

Question 3: Do interested parties agree with Ofgem's estimate of the range of potential quantitative benefits of GDN interruptions reform?

Summary

1.1. This draft IA shows that under plausible assumptions for investment efficiencies it can be expected that the benefits of interruption reform would exceed the costs. This conclusion is before other potential benefits of reform, which Ofgem has not sought to quantify, are taken into account. Ofgem considers that a number of the benefits it has not sought to quantify could be significant enough in themselves to justify reform of the interruption arrangements. However, the draft IA identifies a number of areas where further information and analysis are expected to be received before the final IA is completed, which will allow Ofgem to refine the ranges for the expected costs and benefits of interruptions reform. This includes analysis of information in the GDN's responses to the BPQ for the five year price control and information about the costs for customers of implementing interruptions reform.

1.2. In this draft IA Ofgem has considered the potential quantitative benefits arising from better investment signals for the GDNs and the GDNs ability to determine the amount of interruption they purchase. Ofgem has presented a range of scenarios for potential benefits, and considers that the benefits of reform are likely to exceed the costs. So far Ofgem has only been able to develop estimates of the costs for GDNs and shippers of interruptions reform. Ofgem has adjusted information from GDNs and shippers to develop an estimate of £15m for the costs of implementing interruptions reform and the ongoing costs of reform. Ofgem has not received any cost information from customers to estimate their potential costs. Ofgem would encourage customers to provide information, otherwise Ofgem will have to make its

own estimate of the costs for customers of implementing reform. Ofgem would also welcome the views of interested parties on all other aspects of the IA.

Introduction

1.3. As part of the conclusions of the work to consider the sale of GDNs by National Grid, Ofgem committed to carrying out an IA for interruptions reform. This appendix sets out a draft IA that Ofgem has prepared assessing proposals to reform the interruption arrangements for transporter initiated interruption on the GDNs. Ofgem is seeking comments on this draft IA before it finalises the IA as part of its decision about whether to accept modification proposal 90 to the Uniform Network Code (UNC) to reform the interruption arrangements for the GDNs. Consistent with Ofgem's approach to carrying out an IA, we are publishing a draft IA for consultation before finalising the IA as part of the decision on reform proposals.

1.4. The next section of this appendix explains the approach that Ofgem has taken to preparing this draft IA, including the options that have been assessed. The following section sets out Ofgem's assessment of the costs of reforms to the interruption arrangements on the GDNs. The next section sets out Ofgem's assessment of the benefits of reforms to the interruption arrangements on the GDNs, including quantitative and qualitative benefits. The following section considers a range of other potential impacts of reforms of the interruption arrangements on the GDNs, including the environmental and distributional impacts. The final section summarises the costs and benefits of reform estimated by Ofgem.

Approach to the IA

1.5. Ofgem recognises that estimating the costs and benefits of reforms of this nature is inherently difficult and requires an element of judgement, as the precise impact of reforms will only be known when they are implemented. To recognise the uncertainties in any assessment of potential costs and benefits, Ofgem has sought to develop a range for the costs and benefits based on considering a number of scenarios for the outcomes of reforms if they are introduced. Ofgem has then considered the robustness of the range of estimates for costs and benefits. Ofgem has also considered the level of benefits that would need to be achieved to exceed the costs and the plausibility of assumptions required to reach this level of benefit.

1.6. In its draft IA Ofgem has focused on the costs and benefits that will ultimately affect customers, consistent with Ofgem's principal statutory objective under the Gas Act 1986 (as amended) to protect the interests of gas and electricity consumers. For the reform of the interruption arrangements on the GDNs, Ofgem does not expect that significant costs or benefits would arise that will not ultimately be incurred or received by customers.

1.7. Ofgem's IA assesses the efficient forward looking costs and benefits of the proposals to reform the interruption arrangements, as costs already incurred will not be affected by the proposals for reform. Ofgem would not directly take account of costs already incurred by GDNs, shippers or customers that relate to interruption.

However, in Section 6, Ofgem has considered the potential impact on future investment decisions of major policy changes that could adversely affect the value of past investments, to take account of the concern expressed by some customers, that changes to the interruption arrangements will undermine the value of past investments, such as in back-up fuels.

1.8. Ofgem has sought to assess only the potential costs and benefits of reform of the interruption arrangements for the GDNs, and not any costs or benefits that would only arise if other changes were introduced, e.g. the introduction of enduring offtake arrangements on the NTS. However, it is difficult to assess the impact of the reform of the interruption arrangements for the GDNs without making assumptions about the arrangements for allocating NTS offtake capacity and the nature of the gas distribution price control, including the incentives on the GDNs for purchasing interruption. In the IA we have been explicit about the assumptions Ofgem has made where this could have a material impact on the assessment of the costs and benefits of reforming interruption arrangements on the GDNs. Prior to the final IA in January 2007, Ofgem will have issued its third consultation document for the new five year gas distribution price control. Modification proposal 116 "Reform of NTS offtake arrangements" has been proposed by NGG, but a decision by Ofgem about whether to accept this modification proposal will not be made until early in 2007. We will take account of the latest developments in the GDPCR and the consideration of NTS enduring offtake reform in the final IA.

1.9. Ofgem has presented the estimates of the costs and benefits of GDN interruptions reform as a net present value. All of the quantitative estimates for costs and benefits are shown for discount rates of 5.25%, which is the vanilla weighted average cost of capital proposed by Ofgem for the one year gas distribution price control and 3.5%, which is the discount rate that the UK Government, through the Green Book, advises should be used for IAs of this type.

1.10. Ofgem would welcome views on the approach it is proposing to take to carrying out the IA.

Options

1.11. Any IA must consider the costs and benefits of proposed changes compared to a counter factual. For this draft IA, Ofgem has used the continuation of the current interruption arrangements for the GDNs as the counter factual. Ofgem has used modification proposal 90 to the UNC as the proposal for reform to assess for the IA. The use of modification proposal 90 as the reform proposal to be assessed in this IA does not imply that Ofgem is necessarily endorsing the modification proposal or specific aspects of it. We have summarised below the current arrangements, while Chapter 2 summarises the main aspects of modification proposal 90.

1.12. No other specific proposal for reforming the interruption arrangements has arisen from the discussions at the development workgroup for modification proposal 90. Therefore, Ofgem is not considering any other scenarios for reform in this IA.

Status quo - Current arrangements

1.13. The model for the current GDN interruption arrangements predates the sale by National Grid Gas (NGG) of four of its eight distribution networks, and was introduced as part of the Network Code in March 1996, when Transco had sole responsibility for managing constraints across the transmission and distribution networks. The interruptions arrangements flow from GDNs' statutory and licence obligations, including the obligation to develop and maintain an efficient and economic pipeline system, to avoid any undue discrimination, and to develop a cost-reflective charging methodology.

1.14. Under the current arrangements security of supply is managed by granting interruptible rights on request to any customer who flows a daily metered load greater than 200,000 therms per annum. Firm customers can declare themselves interruptible by giving one year's notice and GDNs are obliged to grant this status whether they require the supply point to be interruptible or not. Interruptible customers can also indicate that they wish to become firm at one year's notice, but this is dependent on sufficient capacity being available to accommodate the request and GDNs can defer granting firm status if further capacity reinforcement would be necessary. Specific supply points likely to be required to relieve particular constraints can be deemed Network Sensitive Loads (NSL) and determined interruptible at a GDN's discretion.

1.15. Interruptible customers are currently compensated for making themselves available to be interrupted by having the capacity component of their use of system charges excluded from their bill. In return for this discount, the standard interruptible contract provides that customers cannot be interrupted for more than 45 days in any one year, but any customer interrupted for more than 15 is also compensated by receiving fixed payments per additional day of interruption.

1.16. GDNs currently use what is referred to as the "equitability algorithm" to determine which sites have their gas supply interrupted when an interruption is required to relieve a constraint and more than one site could relieve the constraint. The equitability algorithm seeks to treat all gas consumers on an equal basis when selecting who to interrupt.

Costs

1.17. Ofgem has attempted to quantify all of the potential costs, both implementation and ongoing costs of reform. Ofgem has sought to separately estimate the potential costs incurred by GDNs, shippers and customers based on information provided by these stakeholders in response to questions in Ofgem's May 2005 Initial Thoughts consultation. The estimate of costs are only those that would be incurred as a result of reform of GDN interruption arrangements.

1.18. Consistent with the approach adopted in estimating the potential benefits, Ofgem has estimated a range for the potential costs of reform. The range of potential costs is derived from assessing a number of plausible scenarios for each of

the costs outlined. This approach is intended to recognise that there is uncertainty and an element of judgement in estimating the potential costs. Presenting a range for the potential costs of reform is also consistent with this being a draft IA. Ofgem's final IA will be informed by responses to the draft IA, receipt of the final modification report in December and analysis of the GDNs responses to the BPQ for the five year price controls.

GDN costs

1.19. Ofgem has considered the potential costs incurred by GDNs as costs associated with the implementation and ongoing operation of new arrangements for interruption, and costs incurred by GDNs as a consequence of additional investment. The net impact on GDNs investment levels are also discussed above, where Ofgem has quantified potential benefits from reform.

System implementation and ongoing costs

1.20. In Appendix 2 of Ofgem's Initial Thoughts consultation document, Ofgem invited GDNs to identify any implementation and ongoing costs that they would expect to incur as a result of reform of the interruption arrangements on their networks. Ofgem asked GDNs to submit information on IT system costs, staff costs, including additional FTEs and cost per FTE, and any other costs related to implementation which would not otherwise have been incurred. Ofgem asked the GDNs to assume that their model for implementing interruptions reform would be implemented when making the cost estimates.

1.21. All GDNs provided cost estimates and Xoserve provided an estimate of its costs for implementing the reform. The GDNs liaised with Xoserve to ensure that there was no duplication between the costs included in the Xoserve and GDN submissions. The cost information provided by the GDNs and Xoserve was for implementation costs of just under £2.3m and ongoing costs of just under £900,000 per year. Ofgem has compared the cost estimates of the four GDNs taking into account their relative size and considers that some of the estimates maybe overstated. Ofgem has not reviewed in any detail the reasonableness of the estimate for Xoserve's costs. Following Ofgem's adjustments the costs for the four GDNs and Xoserve are estimated as just over £2m for implementation costs and just under £600,000 for ongoing costs.

1.22. Table A2.5 below shows the net present value of the GDN's costs for interruptions reform using the two discount rates explained above. The table shows the GDN's estimate and the estimate after the adjustments Ofgem has made.

Table A2.5 - Estimates of the costs to the GDNs and Xoserve of interruptions reform

Discount rate	Net present value of GDNs costs of interruptions reform	
	GDN estimate	Ofgem adjustments
5.25%	£12.7m	£8.7m
3.5%	£14.9m	£10.2m

1.23. Ofgem has not reviewed in detail the GDN's estimates of costs for implementing interruptions reform. The adjustments that Ofgem has made to the GDN's estimates principally reflect an attempt to ensure that the relative costs estimated by the GDNs are consistent with the relative scale of their operations, allowing for some costs being invariant to the size of the GDN. Given that the lack of a thorough review of the GDN's estimates, and the lack of any review of Xoserve's estimates, Ofgem considers that the Ofgem adjusted estimates in table A2.5 are likely to be at the higher end of a reasonable range.

Additional investment costs

1.24. It has been argued that the price signals arising from interruptions reform will show that the GDNs need to significantly increase their level of investment, and particularly investment to remove a number of NSLs. It is seen as likely that the lack of competition to provide interruption services in some parts of the network where sites are declared NSLs will lead to bids to provide interruption services reaching a level that makes investment in the network by the GDNs a more economic option.

1.25. As explained in Section 3, it is Ofgem's view that better price signals about the cost of interruption in different parts of the GDN's networks is likely overall to lead to more efficient investment by reducing the risk of assets being built that turn out in the future not to be required. However, it is possible that price signals from the tendering for interruption services under modification proposal 90 could reveal that some investments, particularly to remove existing NSLs are economic, which were previously not thought to be economic. Ofgem has asked GDNs for the BPQ for the five year price control to estimate the cost of investment required to remove all of their existing NSLs. Ofgem will take account of this information when preparing the final IA.

Shipper costs

1.26. In Appendix 2 of the May 2005 Initial Thoughts consultation document, Ofgem asked shippers to identify any implementation and ongoing costs that they would expect to incur as a result of reform of the interruption arrangements on their networks. Ofgem asked shippers to provide information on IT system costs, staff

costs, including additional FTEs and cost per FTE, and any other costs related to implementation which would not otherwise have been incurred.

1.27. Ofgem received three responses from shippers to Appendix 2 of the initial thoughts document. Two of the responses contained cost estimations and were marked confidential. These two shippers were relatively large shippers in the Industrial and Commercial (I and C) market. One of the responses contained a brief analysis of the shipper implications of the reform of GDN interruption arrangements, but contained no cost information and was not marked confidential.

1.28. Based on the two cost submissions received Ofgem has estimated the implementation costs of reform at about £100,000 per shipper and the ongoing cost of reform at about £70,000 per year per shipper. This effectively takes the mid-point of the two shippers' estimates. Working on the basis of seven large shippers operating in the I and C market, Ofgem has estimated total costs for shippers of implementing GDN interruptions reform as seven times this estimate. The final cost estimate is presented in the table below for both of the discount rates used for the draft IA.

Table A2.6 - Estimates of the costs for shippers of interruptions reform

Discount rate	Net present value of shippers' costs of interruptions reform
5.25%	£6.3m
3.5%	£7.7m

1.29. Having only received two responses to the request for cost estimates from shippers, Ofgem recognises that its estimate of shippers' costs of interruptions reform is limited. Ofgem has not reviewed in detail the estimates provided by the two shippers, so it might be reasonable to regard the estimates in the table above as at the higher end of a likely range. In the absence of additional information from shippers it is difficult for Ofgem to develop a more robust estimate. As the supply market for I and C customers is competitive, customers will only have to pay the efficient costs of implementing interruptions reform. Ofgem would encourage those shippers with daily metered customers to provide estimates of their costs of implementing interruptions reform based on modification proposal 90.

Customers costs

1.30. Ofgem requested similar information about the potential costs of interruptions reform from customers as it requested from GDNs and shippers. Ofgem did not receive any specific information from customers about the potential costs of interruptions reform. Those customers and their representatives who responded to the May 2005 Initial Thoughts consultation document indicated that it was very difficult to provide estimates of the potential costs of interruptions reform until more detail was provided about the nature of the reforms. Ofgem is seeking to meet with customers during the consultation period to obtain more information about the potential costs of interruptions reform. Ofgem would also encourage daily metered customers to provide information in response to this draft IA.

1.31. In the absence of any information provided by customers, Ofgem has not made an estimate of the costs for customers of reforms to the interruptions arrangements. Ofgem could attempt to use information from other sources such as the estimates for the costs of NTS offtake reform, as a proxy for the costs of implementing interruptions reform. However, as interruptions reform will affect different customers and a much larger number of customers, Ofgem is reluctant to use such proxy information.

Benefits

Introduction

1.32. Ofgem has identified the following potential benefits of the reform of interruption arrangements on the GDNs:

- better investment signals for the GDNs to allow better trade-offs to be made between purchasing interruption, NTS offtake capacity and investing in its network;
- improved security of supply through greater certainty about the availability of interruption;
- a more flexible market for the offering and purchasing of interruption services;
- more efficient operation of the wholesale electricity market;
- wider economic benefits from GDNs selecting sites to interrupt based on the relative value they place on being interrupted; and
- control for the GDNs of the amount of interruption purchased will reveal which GDNs are the most efficient, allowing benefits to be passed back to customers in future price control incentives.

1.33. Ofgem has sought to quantify the potential benefits from better investment signals. Ofgem would welcome views on whether this is the appropriate quantitative benefit to consider, and whether there are additional quantitative benefits that should be considered.

Better investment signals

1.34. The range of potential quantitative benefits is derived from assessing a number of scenarios for each of the quantitative benefits. This approach recognises that there is uncertainty and an element of judgement in estimating the potential quantitative benefits of reform of the interruption arrangements on the GDNs. Ofgem has considered the potential robustness of each of the scenarios that it has assessed. At the end of this section, Ofgem has considered the assumptions that would need to be made for interruptions reforms to have a positive benefit.

1.35. When the GDNs make decisions about the need for capital investment or the purchasing of NTS offtake capacity, they do not know whether a particular site or sites will remain interruptible or firm beyond the end of the current gas year. Therefore, it is possible that the GDN would undertake an investment project on the assumption that certain customers remained firm, only for them to nominate to become interruptible after the project has been completed, such that had they been interruptible the GDN would not have undertaken the project. In this case the generality of customers would pay for an asset that was not, in hindsight, required. Although the number of sites switching between firm and interruptible status each year is relatively limited, any particular investment can be undermined by one site deciding to switch from firm to interruptible status in a particular year.

1.36. In addition to the lack of certainty about the status of daily metered sites beyond a gas year, the current uniform price discount for interruption means that the GDNs do not receive any site specific price signal to compare the cost of interruption with making additional investment on their network. Therefore, the GDN might make an investment in circumstances where a number of sites that could be interrupted as an alternative to the investment would have been prepared to be interruptible for a much lower price than the full exit capacity discount.

1.37. Modification proposal 90 would give GDNs longer term information about the status of sites, and information about the specific value that daily metered sites place on being interruptible to make a comparison with the cost of additional investment to remove a particular constraint. The reform proposals do not remove the risk that investments will be made that in hindsight were not cost effective, but they significantly reduce the risk, by providing GDNs with information at least 3 years (and up to 8 years where GDNs offer 5 year interruption contracts) ahead about the cost of purchasing interruption services at specific locations, which can be compared to the cost of investments or purchases of NTS offtake capacity.

Baseline capital investment

1.38. In order to estimate the potential savings in avoided investments from interruption reform on the GDNs, we have to assume a level of investment that would have been incurred without reform. This is difficult to do given that the GDNs have been aware since GDN sales of the licence obligation to introduce reformed interruption arrangements, and have been developing the model for interruption reform. Therefore, in developing forecasts for the GDPCR they have been aware of the likelihood that interruption reforms will be implemented. For the BPQ for the main price control, which GDNs responded to earlier this month, estimates of capital expenditure assuming interruptions reform were requested.

1.39. Ofgem has considered two options for developing this estimate. First, using the GDN's forecasts in their BPQ returns for the one year price control, and rolling forward the estimates beyond 2012/13. Although when these forecasts were prepared the GDNs had the licence obligation to develop proposals to reform interruption arrangements, the detailed proposals in modification proposal 90 had not been developed. Second, an average of historical actual spend from 2002 to 2005 to generate a forecast of future spend. Although the past is not always a good

predictor of the future, this expenditure took place during a period when the existing interruption arrangements have been in place.

1.40. Ofgem has used these approaches to generate four baselines for capital expenditure without interruptions reform. For all the estimates Ofgem has focused on investments that could be affected by reform of the interruption arrangements, so for example, mains replacement expenditure would not be included, while pipeline reinforcement, new LTS storage and NTS offtake enhancements would be. Ofgem has developed a more conservative (adjusted) estimate that excludes NTS offtake and Pressure Reduction Station (PRS) investments as these might be expected to be less directly affected by signals about the cost of interruption.

Table A2.1 - Baseline assumptions for capital expenditure by the GDNs up to 2025 for unadjusted capital expenditure

	Net present value total (£m) using 5.25% discount rate	**Net present value total (£m) using 3.5% discount rate**
GDN's BPQ for one year price control (£m)	1,582	1,851
Actual expenditure from 2002/3 to 2005/6 (£m)	889	1,041

Table A2.2 - Baseline assumptions for capital expenditure by the GDNs up to 2025 for adjusted capital expenditure

	Net present value total (£m) using 5.25% discount rate	**Net present value total (£m) using 3.5% discount rate**
GDN's BPQ for one year price control (£m)	1,066	656
Actual expenditure from 2002/3 to 2005/6 (£m)	680	264

1.41. As can be seen from tables A2.1 and A2.2, there is a large difference between the total expenditure for the two scenarios with the GDNs forecast expenditure being much higher than the estimate using historical expenditure.

1.42. The choice of the baseline of capital expenditure without interruptions reform for the IA counter-factual is an important input to the IA. Therefore, we would welcome comments on the appropriateness of the scenarios presented, and suggestions and justifications for alternative benchmarks. Ofgem would particularly welcome the views of the GDNs on the appropriate benchmark for capital expenditure in the future without interruptions reform. When developing the final IA Ofgem will also review the information provided by the GDNs in their BPQ responses for the five year price control from April 2008 to inform the development of appropriate benchmarks.

1.43. Ofgem has considered two scenarios to estimate the potential benefits from interruptions reform through better investment signals. Ofgem has considered two broad approaches:

- what percentage efficiency saving might be available as a result of reform. When Ofgem carried out an IA of interruptions reform at the time of GDN sales it used an estimate of 3%. In the draft IA for NTS enduring offtake reform that Ofgem published for consultation in June 2006[7], it used an estimate of 6.5%, with a high case of 8% and a low case of 5%; and

- assuming that GDNs whose networks are unconstrained will not need to invest other than to meet demand growth. It is difficult to make robust estimates of the amount of capital expenditure consistent with these assumptions as it is difficult to identify solely demand growth related investment in this way. A relatively extreme assumption would be to assume that GDN's that do not have any NSL's would not need to invest.

1.44. Respondents to the IA for GDN sales were concerned that the use of a percentage estimate of efficiency savings was an arbitrary judgement by Ofgem. While recognising that percentage estimates involve an element of judgement, they also reflect that over time unit cost savings for capital expenditure on the GDN networks have been made. Once an estimate of costs as a result of reform has been made it is also possible to calculate the percentage of efficiency savings that would be necessary for reform to be net present value positive and consider whether this level of savings is plausible.

1.45. It is difficult to say that a GDN is constrained or unconstrained, as a GDN's ability to transport a particular quantity of gas will depend on the flow patterns for that gas at any particular time. However, Ofgem considers that the relatively low level of interruption since 1996, and particularly in recent years, together with the reducing number of NSLs, suggests that many of the GDNs are for many flows patterns, relatively unconstrained. The GDNs ability to accommodate a large number of interruptible loads as effectively firm, i.e. without interrupting them, in recent years also suggests that their networks are not overly constrained. Having said this, some GDNs have, and will still have in 2010, a significant number of NSLs, which indicate that for certain demand levels and flow patterns these networks have locational constraints. Also, the weather in recent winters has been relatively mild, so the ability of GDN networks to accommodate some higher demand flow patterns might not have been fully tested.

1.46. Table A2.3 summarises Ofgem's estimates of the benefits that might be available from interruptions reform using the scenarios above with baseline capital expenditure unadjusted for items such as investment in PRS, which might not be affected by interruptions reform.

[7] "Transmission Price Control Review: Initial Proposals, Appendices, Appendix 17 - Draft enduring offtake IA", Ofgem, June 2006.

Table A2.3 - Estimates of investment efficiencies from GDN interruptions reform with unadjusted baseline capital expenditure

Baseline cost	Scenario	Discount rate	
		5.25%	**3.5%**
GDN forecasts	3% efficiency	£47m	£55m
	6.5% efficiency	£103m	£120m
	No investment on GDNs without NSLs	£786m	£902m
Historical expenditure	3% efficiency	£27m	£31m
	6.5% efficiency	£58m	£67m
	No investment on GDNs without NSLs	£313m	£362m

1.47. Table A2.4 summarises Ofgem's estimates of the benefits that might be available from interruptions reform using the scenarios above with baseline capital expenditure adjusted for items such as investment in PRS, which might not be affected by interruptions reform.

Table A2.4 - Estimates of investment efficiencies from GDN interruptions reform with adjusted baseline capital expenditure

Baseline cost	Scenario	Discount rate	
		5.5%	**3.5%**
GDN forecasts	3% efficiency	£32m	£37m
	6.5% efficiency	£69m	£81m
	No investment on GDNs without NSLs	£572m	£656m
Historical expenditure	3% efficiency	£20m	£24m
	6.5% efficiency	£44m	£52m
	No investment on GDNs without NSLs	£228m	£264m

1.48. Ofgem recognises that the estimate of benefits for the scenario of no investment on GDNs without NSLs is probably unrealistic, as no account is taken of investment to meet demand growth. Ofgem will continue to consider whether it is possible to estimate the capital expenditure related to load growth to refine this scenario. As discussed further below, the two percentage scenarios would lead to very significant potential benefits compared to the current estimate of costs.

1.49. As part of the GDN's responses to the BPQ for the next five year price control due in October 2006, those GDNs with NSLs will provide an estimate of the cost of investment to remove their NSLs. Ofgem will use this information in the costs section of the IA to identify potential additional investments that will be identified as economic by the reform of interruption arrangements.

Quantitative benefits required to exceed costs

1.50. Although Ofgem has focused on estimating the range of potential quantitative benefits it is important to consider the assumptions that would be required to generate a level of benefits that exceeded the estimate of costs in Section 4. The plausibility of these assumptions can then be considered.

1.51. Using the estimate of costs in Section 4 of £15m for a discount rate of 5.5%, we can consider the assumptions for investment efficiencies that would need to be made for reform to have a positive net present value.

1.52. Using the baseline investment of the GDN's forecasts unadjusted, an investment efficiency of about 1% for a discount rate of 5.25% would lead to benefits exceeding costs. The baseline investment at historical levels for 2002 to 2005 unadjusted would require an investment efficiency or lower investment of about 2% for benefits to exceed costs. Ofgem considers that it is reasonable to consider that investment efficiencies of this magnitude could be achieved as a result of interruptions reform.

Other benefits

1.53. Although Ofgem has not sought to quantify these benefits, Ofgem considers that these benefits in themselves could be sufficient to justify the reform of interruption arrangements, given their potential significance.

Security of supply

1.54. Ofgem is concerned that the current arrangements for interruption on the GDNs might create the impression that more interruption is available than would actually be available if required. The very low level of actual interruption in recent years might mean that many customers are not expecting to be interrupted, and so might not be prepared if they were actually interrupted. Ofgem recognises that many customers will have made appropriate arrangements to cope with interruption, e.g. installing and maintaining back-up fuel supplies, particularly given the extensive use of commercial interruption in recent years. However, as GDNs use the amount of interruptible capacity declared by customers as an input to their planning processes, it is very important for security of supply that the GDNs can be confident this interruption will actually be available.

1.55. Under the proposals in modification proposal 90, the customers that GDNs purchase interruption services from are much more likely to be interrupted than currently, as the GDNs will have an incentive to contract for an efficient amount of interruption. If customers consider that they have a much greater likelihood of being interrupted they will have a stronger incentive to make appropriate arrangements to cope with being interrupted. This will give the GDNs greater certainty about the interruption capacity that will be available, thereby improving security of supply.

1.56. Some of the participants in the development workgroup for modification proposal 90 have suggested that if GDNs purchase less interruption than currently, the emergency arrangements (and particularly firm load shedding) are likely to be triggered more quickly. Ofgem accepts that if less interruption is contracted for there is in theory a greater risk of the emergency arrangements being triggered more quickly. However, the materiality of this issue depends on the increase in the probability of the emergency arrangements being triggered and needs to be

considered dynamically, as in some cases GDNs might substitute interruption with additional investment or purchases of NTS offtake capacity.

1.57. If GDNs are currently contracting for far more interruption services than they are likely to require, even a reduced amount of interruption would not materially increase the probability of the emergency arrangements being triggered. Also, unlike the current arrangements, if the GDNs considered, as a result of updated demand forecasts that they should purchase more interruption after the three year ahead purchases they could seek to do this. The unit price for this interruption might be higher than that for purchases three years ahead because of shorter lead times for customers making offers to be interruptible.

1.58. The impact of changes to commercial arrangements on security of supply are very difficult to directly quantify, and will ultimately only be tested under very severe weather conditions. Ofgem considers that reforms to the interruption arrangements for the GDNs will improve security of supply by providing greater certainty about the availability of interruption.

A more flexible market for the offering and purchasing of interruption services

1.59. Under the current arrangements GDNs have to accept the amount of interruption that daily metered customers choose to make available, subject to GDNs ability to declare a site to be an NSL. Therefore, GDNs have virtually no control over the implicit cost of interruption for other customers through exit capacity discounts. Ofgem has estimated that these discounts are currently over £18m across all the GDNs. This has been worked out by multiplying the volume of interruption for each GDN by the exit capacity charges for the GDN. The equivalent cost of interruption services under reformed arrangements will depend on the amount of interruption purchased by GDNs and the price paid for this interruption.

1.60. Since the current interruption arrangements were introduced in 1996, the GDNs (and previously Transco) have not used the vast majority of the amount of interruption made available by customers in a gas year. In recent years some GDNs have not used any interruption, while others have interrupted mainly NSLs. Over recent years the GDNs have also been able to accommodate a number of sites moving from firm to interruptible status. The relatively low level of interruption in recent years partly reflects the relatively mild winters and the increased amount of commercial interruption as a result of relatively high wholesale gas prices. However, even allowing for these factors it appears that the current amount of interruption made available to the GDNs substantially exceeds the amount likely to be required by a GDN.

1.61. Under the current arrangements there is no explicit allowance made to GDNs for purchasing interruption services under the price control. If the reformed arrangements reduced the implicit amount that GDNs spend on interruption it would not lead to any direct benefit for customers as a whole as the revenue that GDNs are allowed to raise under the price control would not change. There would be distributional effects between groups of customers, which are discussed below. As

there would be no direct customer benefit from any reduction in the implicit price paid by GDNs for interruption, we have not attempted to quantify this benefit.

1.62. If a separate incentive for interruption purchases by the GDNs is set in the future (as discussed in Chapter 3), then over time customers might expect to see a benefit in reduced costs of purchasing interruption in the allowed revenue for future price controls. The next five year price control for the GDNs will be set in April 2008, when Ofgem will only have information about the prices paid by the GDNs in one annual process of interruption purchases under the new arrangements. By the time the price control is set again in 2013, Ofgem will have much more information about the ongoing costs of interruption under the reformed arrangements. Therefore, it might be reasonable to expect that more of the customer benefit from lower costs of interruption will arise from 2013. Chapter 3 discusses the difficulties Ofgem might have in setting an initial incentive for GDNs purchases of interruption capacity.

1.63. Ofgem expects that customers will benefit from GDNs offering a wider range of interruption products, including contracts for more than one year and different total numbers of days of potential interruption. As customers have a range of different business models, a wider range of options will allow customers to offer interruption services that better fit with their business model than a standard 45 day contract.

1.64. In the discussions at the development workgroup for modification proposal 90 some customer representatives argued that customers would be reluctant to enter into contracts for interruption at least three years ahead because of the uncertainty about their business operations that far ahead. No direct evidence has been provided to Ofgem to support this view, and Ofgem would urge customers and their representatives to provide any evidence about customers willingness to participate before the final IA is prepared by Ofgem. This will only be a risk for customers who might want to become firm in the future, as customers who reduced their offtake or ceased to offtake within the three years would not be in breach of an interruptible contract with the GDN.

Operation of the wholesale electricity market

1.65. A significant number of the sites that are currently interruptible on the GDNs are gas fired power stations (CCGTs). Whether a CCGT would prefer to keep generating or have its gas supply interrupted will depend on the spread between its purchase price for gas and the price it can obtain for selling electricity, taking account of its other costs. Where the price of electricity compared to the cost of wholesale gas is such that generating is more profitable than being interrupted, it would prefer to continue generating, and vice versa.

1.66. Under the current arrangements for interruption a CCGT has no mechanism to signal the value it places on being interrupted compared to generating, beyond the decision to have the standard 45 day interruptible contract at the price of avoiding the exit capacity charge. Therefore, when a GDN chooses which site to interrupt it might inadvertently choose a CCGT who would place a higher value on continuing to generate compared to another CCGT. In effect this allows a less "efficient" CCGT to

continue to generate, while the more "efficient" CCGT would be interrupted. The knock-on effect of this decision is that prices in the wholesale electricity market will be higher than they would have been if the more "efficient" generator had continued to generate.

1.67. Under modification proposal 90, all customers who wanted to offer interruptible services, including CCGTs, would be able to signal the value they placed on being interruptible. This will allow those CCGT's who value being allowed to continue to generate the most to signal this in their offers to be interrupted. If the GDNs choose to purchase interruption from CCGTs they will then interrupt them in a price order that reflects the relative value to these CCGTs of being able to continue generating. The knock on effect of GDNs choosing to interrupt CCGTs in price order will be that wholesale electricity prices are cheaper than would otherwise be the case because more "efficient" CCGTs are continuing to generate.

1.68. Ofgem has classified this as a qualitative benefit because it is very difficult to compare the potential benefits for the operation of the wholesale electricity market before and after reform of the GDN interruption arrangements. Assumptions would have to be made about how often a choice would arise for a GDN about whether to interrupt a CCGT and the potential difference in the wholesale electricity price if a less "efficient" generator continued to generate.

1.69. Although the benefit is difficult to quantify, Ofgem's considers that in certain circumstances, particularly where supply and demand in wholesale electricity markets were relatively tight, the effect could be quite significant, as additional generation capacity would set the spot price for wholesale electricity.

Wider economic benefits

1.70. The same effect as is discussed above for generators will also be potentially present across the wider economy. A site might be chosen to be interrupted by the GDN when another site would place less value on being interrupted. This will cause "inefficiency" and higher costs through the higher costs paid for back-up fuel by the site chosen to be interrupted or/ and the reduced output of the site interrupted, which will increase the price for the products produced by the site, in whichever industry it is operating. If a site places a higher value on being interrupted than another site then interrupting the site that has the higher value will create knock on "inefficiencies" and higher costs.

1.71. As with the potential interactions with the electricity market, modification proposal 90 would allow sites to signal the relative value they placed on being interrupted. If GDNs have incentives to minimise the costs of interruption as part of efficiently meeting their planning standard and maintaining security of supply, they will have an incentive to accept the lowest priced offers to be interrupted. This will have knock-on efficiency benefits throughout the economy.

1.72. As with the potential interactions with the wholesale electricity market, Ofgem has classified this as a qualitative benefit. This reflects the difficulty in estimating

the potential impact across the economy of the different order of interrupting sites under the current arrangements, compared to modification proposal 90. Although the impact is difficult to quantify it could be quite significant where company's production processes require a relatively large amount of gas.

Comparative competition between GDNs

1.73. Under modification proposal 90, GDNs would decide how much interruption to purchase, and would be able, through the design of tenders for interruption, to influence the price per unit of interruption. Therefore, it will be possible to compare over time GDNs performance in purchasing interruption, and more generally in efficiently meeting their planning standards. Although any comparisons would have to take account of the specific circumstances of each GDN, it should be possible for Ofgem to compare GDNs relative performance in purchasing interruption, such as the per unit price paid.

1.74. Ofgem would be able to use this comparative information to secure benefits for customers through future incentives for GDNs to achieve and exceed the performance of the most efficient GDNs in purchasing interruption. It is very difficult to estimate in advance the value of these benefits, particularly as they are unlikely to start being realised until the price control that is put in place in 2013.

Environmental and Social Impact

1.75. In this section we consider the potential environmental and social impact of the proposals for GDNs interruption reform under the following headings:

- environmental impact;
- health and safety;
- distributional effect;
- impact upon small businesses; and
- risks and unintended consequences.

Environmental impact

1.76. Ofgem does not expect the reform of the interruptions arrangements on the GDNs to lead to any direct adverse impact on the environment. It is hoped that to the extent that reform of the interruption arrangements promotes more efficient capital expenditure, any environmental impact will be positive. The size of this impact will depend on the circumstances of specific projects, e.g. whether network reinforcement is required in national parks or greenfield sites, but can reasonably be assumed to be a function of any predicted capital expenditure savings. We would welcome views about the potential environmental impact of reform of the

interruptions arrangements, and particularly views from any stakeholders who consider that the reforms are likely to have a negative impact on the environment.

Health and safety

1.77. Ofgem does not consider that the reform proposals will impact on health and safety. We have discussed in Section 3 the potential impact on security of supply and emergency arrangements of the reforms. Concerns where raised that as a result of reform less interruption would be available so stage 3 of emergency arrangements (firm load shedding) would be reached sooner. We explained in Section 3 that the materiality of such a risk needed to be considered if under the current arrangements far more interruption was available to GDNs than they had ever previously required.

Distributional effects

1.78. As payment for assuming the risk of being interrupted, interruptible customers currently do not pay exit capacity charges. This discount results in firm customers currently paying a higher proportion of overall transportation charges and a higher average transportation charge per customer than interruptible customers do. If the provision of interruption services continues to be paid for as a function of discounted capacity charges, the volume of interruption that the GDNs contract for under a reformed regime has the potential to affect directly the distribution of transportation charges between firm and interruptible customers.

1.79. If the volume of interruption contracted for decreases it is possible that the capacity discount paid to the remaining interruptible customers could increase to reflect a perceived higher probability of being interrupted. This would have the effect of reducing further the aggregate proportion of transportation charges paid by interruptible customers (although there would be fewer interruptible customers), while increasing the aggregate proportion of charges paid by firm customers. However, depending on the number of customers switching to pay firm capacity charges, in this scenario the average transportation charge per customer could decrease for both types of customer.

1.80. The precise impact of any change in charges as a result of interruptions reform will depend on specific proposals to change charges. However, if interruptions reform results in less interruption being purchased at a lower overall cost then it is likely that existing firm customers, including all domestic and small business customers would be slightly better off, while existing interruptible customers who were not contracted for interruption under the new arrangements would be worse off.

Impact on small businesses

1.81. Under the existing regime and under the reform proposals, only customers flowing daily metered loads greater than 200,000 therms/ annum will be able to purchase interruption contracts. Ofgem would not expect a small business to have a daily metered gas supply, so Ofgem does not foresee that interruption reform will

have any direct impact on small businesses. There could be a small indirect benefit if, as discussed above, firm transportation charges fall slightly because of a reduction in the effective payments for interruption.

Risks and unintended consequences

1.82. It is has been argued that customers who invested in alternative fuel arrangements under the current regime, in the knowledge that they could determine their own interruptible status and therefore be assured of avoiding the exit capacity charge, will be faced with "stranded assets" if they fail to win interruption contracts under the reform proposals. Ofgem only takes account of forward looking efficient costs when development IAs, so costs already incurred for previous investments would not be considered as these costs will not directly affect future decisions.

1.83. Although costs already incurred will not be directly considered in the IA, Ofgem does not consider that changes to the interruption arrangements for GDNs would necessarily undermine the case for investment in back-up fuels. While all revenue flows would have significance for investment decisions of this nature, in the context of continued high gas prices, transportation charges make up a diminishing proportion of large customers gas bills. Therefore, the discount from the exit capacity charge will be a less important factor for customers when making investment decisions for back-up fuel facilities than the value of having the option to self-interrupt in response to high wholesale gas prices or agree contracts with shippers for commercial interruption.

1.84. While there is no absolute certainty until Ofgem takes a decision about modification proposal 90 that reform of interruption arrangements will take place, customers will have been aware that reform of interruption arrangements has been actively considered by Ofgem and gas transporters since the late 1990's. Therefore, while the precise nature of any reform has been uncertain, customers would have been aware of the possibility of reform when making investment decisions for back-up fuels.

Summary of costs and benefits

1.85. Table 2.7 below summarises the costs and benefits of reform that Ofgem has estimated for a discount rate of 5.25%. For each of the benefits that have not been quantified we have given an initial indication of how significant Ofgem's considers they might be.

Table A2.7 - Summary of the costs and benefits of interruptions reform

Categories	Costs	Benefits
Costs		
▪ GDNs and Xoserve	£8.7m- 12.7m	
▪ Shippers	£6.3m	
▪ Customers	Not quantified (NQ)	
Benefits		

▪ Investment efficiencies ▪ Security of supply ▪ More flexible contracting ▪ Wholesale electricity market efficiencies ▪ Economy wide dynamic benefits ▪ Comparative competition		£20m- £786m /// /// // // //
Total	£15-19m	£20m- £786m

1.86. Table A2.7 shows a relatively small range for the costs of interruptions reform, and a very wide range for the potential benefits of interruptions reform. Ofgem expects that the quantifiable benefits of interruptions reform will be much closer to the bottom of the range than the top, as the scenarios generating the estimates towards the top of the range are unlikely to materialise. Further analysis for the final IA should narrow the range. Ofgem is seeking further information, particularly from customers and shippers, to review the cost estimate for the final IA.

1.87. Ofgem has not quantified some of the benefits of reform, but many of these might be sufficient on their own to justify interruptions reform. For example, under tight supply demand conditions the benefits of more efficient operation of the wholesale electricity market through lower prices, could be very considerable.

1.88. Ofgem would welcome comments on all aspects of the draft IA to inform the development of the final IA to be published alongside modification proposal 90.

Appendix 3 – The Authority's Powers and Duties

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

1.2. The Authority's powers and duties are largely provided for in statute, principally the Gas Act 1986, the Electricity Act 1989, the Utilities Act 2000, the Competition Act 1998, the Enterprise Act 2002 and the Energy Act 2004, as well as arising from directly effective European Community legislation. References to the Gas Act and the Electricity Act in this Appendix are to Part 1 of each of those Acts.[8]

1.3. Duties and functions relating to gas are set out in the Gas Act and those relating to electricity are set out in the Electricity Act. This Appendix must be read accordingly[9].

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

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

- The need to secure that, so far as it is economical to meet them, all reasonable demands in Great Britain for gas conveyed through pipes are met;
- The need to secure that all reasonable demands for electricity are met;
- The need to secure that licence holders are able to finance the activities which are the subject of obligations on them[10]; and
- The interests of individuals who are disabled or chronically sick, of pensionable age, with low incomes, or residing in rural areas.[11]

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

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

- Promote efficiency and economy on the part of those licensed[12] under the relevant Act and the efficient use of gas conveyed through pipes and electricity conveyed by distribution systems or transmission systems;
- Protect the public from dangers arising from the conveyance of gas through pipes or the use of gas conveyed through pipes and from the generation, transmission, distribution or supply of electricity;
- Contribute to the achievement of sustainable development; and
- Secure a diverse and viable long-term energy supply.

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

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

1.8. The Authority has powers under the Competition Act to investigate suspected anti-competitive activity and take action for breaches of the prohibitions in the legislation in respect of the gas and electricity sectors in Great Britain and is a designated National Competition Authority under the EC Modernisation Regulation[13] and therefore part of the European Competition Network. The Authority also has concurrent powers with the Office of Fair Trading in respect of market investigation references to the Competition Commission.

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

Appendix 4 - Glossary

B

Business Planning Questionnaire

Expenditure and output information requested by Ofgem from the GDNs to inform decisions about setting the price control.

C

Capacity charges

These charges account for 50 percent of the revenue recovered by GDNs from distribution use of system charges. Capacity charges are applied to the peak-day demand (in pence per peak day KWh per day).

Capital expenditure

Expenditure on investment in long lived distribution assets, such as gas pipelines.

Commodity charges

These charges account for 50 percent of the revenue recovered by GDNs from distribution use of system charges. Commodity charges are applied to the annual demand (in pence per kWh).

CSEP administration charge

The CSEP administration charge (£1.20 per connection) is levied on IGT shippers to cover processes used by GDNs in managing information relating to them. It was introduced in 1997. The charge has decreased over time from an initial £6.

Customer charge

The charge reflects general supply point and customer related costs, including installation of service pipes and supply point emergency services.

D

Daily Metered (DM)

Supply points with meters which read volumes of gas consumed either on a continuous or on a daily basis.

Distribution Use of System (UoS) Charges

Distribution use of system charges are levied by GDNs to gas shippers for the use of the distribution system to transport gas to the end user. They comprise capacity and commodity charges. Approximately 50 percent of the revenue recovered from use of system charges comes from capacity charges and 50 percent from commodity charges.

E

Economic Test (ET)

The ET is a financial assessment tool which was introduced by NGG in 1998 to identify whether a new load should pay a contribution towards the reinforcement required for its connection. It compares the incremental cost of connecting a customer to the gas distribution network with the expected revenue from distribution charges associated with that customer, using NPV calculations.

G

Gas Distribution Network (GDN)

GDNs transport gas from the NTS to final consumers and to connected system exit points. There are currently eight GDNs in Great Britain which comprise twelve LDZs.

Gas Distribution Price Control Review (GDPCR)

The review of the price control applying to gas distribution networks. The review will extend the existing price control for the year 2007/8 and reset the control for the period commencing 1 April 2008.

I

Independent Gas Transporter (IGT)

IGTs own and operate small local gas networks and levy distribution transportation charges on shippers.

L

Local Distribution Zones (LDZs)

LDZs are low pressure pipeline systems which deliver gas to final users and Independent Gas Transporters. There are twelve LDZs which take gas from the high pressure transmission system for onward distribution at lower pressures.

N

National Grid Gas (NGG NTS)

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

National Transmission System (NTS)

National Grid's high pressure gas transmission system. It consists of more than 6,400 km of pipe carrying gas at pressures of up to 85 bar (85 times normal atmospheric pressure).

Network Sensitive Load (NSL)

GDNs can designate an offtake point as an NSL if certain pressure levels would be triggered in the network if the offtake at the site was not interrupted. GDNs can interrupt NSLs more than the 45 days of interruption allowed under the UNC for other interruptible sites.

NTS Offtake Capacity

Built to ensure sufficient pipeline capacity is available to convey gas from the NTS to the GDNs and NTS direct connects at the required rate and quantities.

O

One in Twenty Obligation

A licence obligation imposed by Standard Special Condition A9 (Pipeline System Security Standards) upon both NGG NTS and the GDNs.

Operating Expenditure (Opex)

Costs such as the staff costs, repair costs, maintenance expenditures, and overheads associated with the day to day operation of the network.

R

RPI-X

The form of control currently applied to network monopolies. Each company is given a revenue allowance in the first year of each control period. The price control then specifies that in each subsequent year the allowance will move by 'X' per cent in real terms.

Re-openers

A process undertaken by Ofgem to re-set the revenue allowances (or the parameters that give rise to revenue allowances) under a price control, before the scheduled next formal review date for the relevant price control.

T

Transmission Price Control Review (TPCR)

The TPCR will establish the price controls for the transmission licensees which will take effect in April 2007 for a 5 year period. The review applies to the three

electricity transmission licensees, National Grid Electricity Transmission, Scottish Power Transmission Limited, Scottish Hydro-Electric Transmission Limited and to the licensed gas transporter responsible for the gas transmission system, National Grid Gas.

U

Uniform Network Code (UNC)

As of 1 May 2005 the UNC replaced National Grid Gas' Network Code as the contractual framework for the NTS, GDNs and system users.

Appendix 5 - Feedback Questionnaire

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

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

1.2. Please send your comments to:

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