Gas distribution price control review

Initial consultation

December 2005

Summary

This is the first consultation paper of the gas distribution price control review (GDPCR). The review will set the price controls that apply to the eight gas distribution networks (GDNs) owned by four companies - National Grid Gas (NGG), Northern Gas Networks, Scotia Gas Networks and Wales and West Utilities.

GDPCR will:

- extend the existing gas distribution price control for one year from 1 April 2007;
- reset the gas distribution price control for the next price control period from 1 April 2008; and
- introduce a cost reporting framework to apply from 2008-09 onwards.

This paper sets out the context and objectives of the review, the timetable and process, Ofgem's[1] initial views on the scope of the one year control and the issues that will need to be considered in setting the main control.

Ofgem's principal objective is to protect the interests of consumers, where appropriate by promoting effective competition. This will be achieved by specifying the revenue which GDNs can recover from customers and by establishing a framework that creates incentives for GDNs to invest and operate efficiently to deliver an appropriate level of outputs and to meet their statutory obligations and licence conditions.

GDPCR is the first distribution price control review to occur following NGG's sale of four of its eight GDNs to three new owners on 1 June 2005. As a result, the current industry structure is substantially different to that which applied at the time of the previous review. These changes will have important implications for the conduct of the review. In particular, the creation of separately owned, managed and operated GDNs will allow more effective comparisons to be made between the businesses, building on the sense of rivalry which exists between independent management teams.

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[1] Ofgem is the office set up to assist the Gas and Electricity Markets Authority in carrying out its statutory functions.

The benefits from this comparative competition will build up over time and be passed back to customers at future reviews. An important objective of GDPCR will be to put in place a cost reporting framework designed to maximise Ofgem's ability to identify and compare GDNs' costs, and to pass the benefits of increasing efficiency back to customers.

GDPCR will also provide an opportunity to focus solely on the activities of a GDN and the incentives created by the regulatory framework. Ofgem would like to explore what consumers want from their GDNs, so that it can effectively use GDPCR to protect the interests of consumers.

Ofgem encourages all interested parties to consider the issues raised in this document and to submit responses. Views are invited by 3 February 2006, and can be submitted electronically to GDPCRresponses@ofgem.gov.uk.

Ofgem proposes to hold an introductory seminar on GDPCR on 11 January 2006. Parties wishing to attend the seminar can book a place by sending an email to GDPCRresponses@ofgem.gov.uk by 3 January 2006.

Table of contents

1. Introduction

1.1. Ofgem's principal objective is to protect the interests of gas and electricity consumers where appropriate by promoting effective competition. Gas distribution networks (GDNs) are monopolies and the scope for promoting effective competition is limited. In this context, Ofgem fulfils its objective by specifying the maximum revenue that a GDN can recover from its customers, and by establishing a regulatory framework that creates incentives for GDNs to invest and operate efficiently in order to deliver an appropriate level of outputs and to meet their statutory obligations and licence conditions. This is known as a price control.

1.2. The price control that currently applies to GDNs comes to an end on 31 March 2007. Consequently it is necessary for Ofgem to review and set new limits on the revenue that may be recovered by GDNs. As part of the gas distribution price control review (GDPCR), Ofgem proposes to:

- extend the existing gas distribution price control for one year;[2]
- reset the gas distribution price control for the period commencing 1 April 2008; and
- develop the cost reporting framework to apply from 2008-09 onwards.

1.3. This review is the first to occur following National Grid Gas plc's[3] (NGG's) sale of four GDNs to three new GDN owners on 1 June 2005. An introduction to the gas distribution companies and their networks is set out in Appendix 1. As a result, the industry structure is now substantially different to that in place at the time of NGG's previous price control review.[4]

[2] Ofgem open letter, Gas Distribution Price Controls, 16 March 2004.
[3] Transco plc changed its name to National Grid Gas plc on 10 October 2005. This document uses the name National Grid Gas (NGG), throughout the document including where referring to NGG's predecessor organisations.
[4] 56/01 - Review of Transco's Price Control from 2002 Final Proposals, Ofgem 2001.

1.4. These changes will have important implications for the conduct of this and future reviews. In particular, the creation of separately owned, managed and operated GDNs will allow more effective comparisons to be made between the businesses, building on the sense of rivalry which exists between independent management teams.

Purpose and structure of this document

1.5. This document is the first of a series of Ofgem consultation documents to be published as part of GDPCR. The purpose of this document is to start the debate and to set out the process Ofgem proposes to adopt in taking the review forward over the next two years. This document sets out how the current price controls operate, highlights some key issues for this review, and invites views on how Ofgem might best tackle these issues. The document is organised as follows:

Chapter 2 **Background -** provides an overview of the current price control, describes the changes since the last review and considers the broader context in which the review will occur;

Chapter 3 **Objectives and framework -** considers what the objectives and framework of the gas distribution price control should be;

Chapter 4 **Principles for the conduct of the review -** describes the principles and policies that Ofgem proposes to adopt for the purposes of the review;

Chapter 5 **Setting the one year control -** discusses the scope of the one year control, and sets out the issues that will require consideration;

Chapter 6 **Setting the main control -** provides an overview of the key issues to be considered as part of the main price control review; and

Chapter 7 **Way forward -** describes how Ofgem proposes to manage the review, and sets out a proposed timetable.

1.6. Views are invited on all the issues raised in this document. As GDPCR will involve a series of decisions over the course of the next two years, Ofgem intends to reach decisions on some of the issues raised in this document earlier than others.

1.7. The issues raised in this document can be categorised as either:

- **For early decision.** In order to establish the framework for the conduct of GDPCR at the outset of the review, Ofgem intends to finalise its approach on certain issues following consideration of responses to the initial consultation document.

- **For initial views.** It is useful to reach a decision on certain issues relatively early in the price control process in order to provide a clear basis for related decisions. In addition, decisions relating to certain issues (such as the one year control and some pensions issues) need to be finalised a year in advance of the main review. Respondents' initial views on such issues will inform Ofgem's policy development but interested parties will have further opportunities to provide comments.

- **For information.** A number of the issues raised in this document will be the subject of extensive further consultation over the course of the price control; however, respondents are welcome to provide comments as they see fit.

1.8. Details of which issues fall into which category are set out in Appendix 2.

Responding to this document

1.9. Parties who wish to provide comments may elect to use the tables in Appendix 2 as a guide when preparing their response. If you wish to respond to this document, then please submit your response by 3 February 2006 to:

Joanna Whittington
Director, Gas Distribution
Office of Gas and Electricity Markets
9 Millbank
London, SW1P 3GE

1.10. Responses can also be sent by email to GDPCRresponses@ofgem.gov.uk. All responses, except those marked confidential, will be published on the Ofgem website[5] and held electronically in the Ofgem Research and Information Centre. Ofgem would encourage respondents to confine any confidential material in their responses to appendices. It would be helpful if responses were submitted electronically.

1.11. Ofgem proposes to hold an introductory seminar on GDPCR on 11 January 2006. Parties wishing to attend the seminar can book a place by sending an email to GDPCRresponses@ofgem.gov.uk by 3 January 2006.

1.12. If you wish to discuss any aspect of this document, please contact Jess Hunt, who is project managing GDPCR (jessica.hunt@ofgem.gov.uk, 020 7901 7431).

[5] www.ofgem.gov.uk

2. Background

2.1. This section sets the scene for the price control review by:

- briefly describing the previous price control review and developments since then;
- describing the context; and
- identifying other Ofgem policy areas with interactions to the review.

Previous price control review and subsequent developments

2.2. This section summarises the conclusions of the previous price control review and the developments that have occurred since then, which include:

- the separation of the gas distribution price control into eight regional controls;
- the decision to set a one year control; and
- the sale of gas distribution networks (GDN sales).

Previous price control review[6]

2.3. The current price control came into effect on 1 April 2002. At this time, all eight GDNs and also the National Transmission System (NTS) were owned and operated by a single entity, NGG.

2.4. Ofgem's final proposals for the current price control were published in September 2001.[7] The previous price control review was a review of gas transportation, i.e. the high pressure transmission system as well as distribution. It established a revenue allowance for gas distribution by identifying direct costs and allocating and attributing shared costs. The allowed revenues for gas

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[6] This review was known as the 2002 Transco price control review. See footnote 3.
[7] *Review of Transco's Price Control from 2002, Final Proposals* September 2001 56/01.

distribution were approximately £2 billion per annum decreasing by RPI-2 for the following four years. A summary of some of the key data from the current price control is set out in Table 2.1.

Table 2.1 Key data from the current price control for gas distribution, 2006-07

	£m, 2000 prices
Operating expenditure (opex)	986
Depreciation	336
Return (inc tax)	587
Total annual allowed revenue	**1,909**
Pre tax real Weighted Average Cost of Capital (WACC)	6.25 percent

Separation of the gas distribution price control

2.5. During the previous price control review it was suggested that in the future there might be advantages in separating the gas distribution price control into regional components. Ofgem subsequently carried out a consultation on the separation of the gas distribution price control into eight regional controls and final proposals were published in June 2003.[8] The new regional price controls took effect from 1 April 2004.

2.6. In separating NGG's distribution price control into eight regional controls, Ofgem allocated the amounts determined as part of the previous price control review into eight separate portions. Total allowed revenue did not change. Table 2.2 highlights some of the key price control information established as part of the separation of the gas distribution price control. In addition, the Regulatory Asset Values (RAVs) of each GDN as at 1 April 2002 are set out in Table 4.1 (page 20).

[8] *Separation of Transco's distribution price control*, *Final Proposals*, June 2003 38/03

Table 2.2 Gas Distribution Networks – Key price control information

	NGG				NGN	Scotia		WWU	Total
	East England	**London**	**North West**	**West Midlands**	**North England**	**Scotland**	**South England**	**Wales & West**	**All GDNs**
Allowed Revenues 2006-07 (£m, 2000 prices)									
Opex (includes 50% repex)	165.8	102.2	129.0	88.1	122.4	88.6	179.6	109.9	985.7
Depreciation	65.4	36.2	40.5	32.5	39.1	24.8	63.8	33.5	335.7
Return (inc tax)	112.6	62.7	70.9	56.9	69.1	44.2	111.5	59.2	587.1
Total	**343.8**	**201.1**	**240.4**	**177.4**	**230.6**	**157.6**	**354.9**	**202.6**	**1,908.5**
Capital and replacement expenditure 2002-07 (£m, 2000 prices)									
Net capex	105	41	47	67	111	87	116	109	684
Net repex†	296	232	302	200	235	143	393	176	1,978
Total	**401**	**273**	**349**	**267**	**346**	**231**	**509**	**286**	**2,661**

† The table includes 100% of the repex spend, however for price control allowance purposes 50% of repex spend is treated as opex and 50% is allowed through the RAV (i.e. capitalised).

Decision to set a one year control

2.7. Following consultation, in March 2004 Ofgem set out its intention to extend the current gas distribution price control by one year to 31 March 2008.[9] This was intended to provide a more balanced workload for companies and Ofgem and to allow gas distribution and transmission issues to be considered separately. The one year control also creates an opportunity for Ofgem to review an additional year's data when setting the main price control.

2.8. Ofgem's decision to set a one year control for the period 1 April 2007 to 31 March 2008 is discussed in more detail in Chapter 5 (see paragraph 5.2).

GDN sales

2.9. In May 2003, National Grid Transco (NGT)[10] announced that it would consider the sale of one or more of its GDNs if such a transaction was to maximise shareholder value. Any such sale required the consent of the Authority under the conditions of NGG's licence.[11] Following NGT's announcement, Ofgem undertook a substantial programme of work and consultation to investigate the potential costs and benefits that such a transaction could deliver for consumers.

2.10. The price control was not reopened as part of GDN sales. Nevertheless, Ofgem issued a number of open letters and position papers that clarified certain aspects of the operation of the price control.[12]

2.11. In November 2004, Ofgem published a Final Impact Assessment for the proposed sale.[13] Ofgem's base case estimate highlighted that net benefits to consumers could potentially be in the order of £225 million, in present value terms, if NGG were to sell four of its GDN businesses to three new owners.

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[9] Ofgem open letter, Gas Distribution Price Controls, 16 March 2004.
[10] NGT is the parent company of NGG.
[11] Standard Special Condition A27 (formerly Amended Standard Condition 29). The sale also required the consent of the Secretary of State for Trade and Industry and the Health and Safety Executive.
[12] See, for instance, Gas distribution price controls, Ofgem open letter, 16 March 2004 and Gas distribution price controls – further clarification, Ofgem open letter, 4 October 2004. Documents relating to the sales process are available on the Gas Distribution Network Sales page of Ofgem's website.
[13] 255/04a National Grid Transco – Potential Sale of Gas Distribution Network Business, Final Impact Assessment, Ofgem November 2004.

2.12. One of the drivers for the estimated net benefit was that, for the first time, the creation of separately owned, managed and operated GDNs would allow Ofgem to regulate the network businesses making more effective use of comparative information. In particular, the use of comparative information has the potential to:

- reduce information asymmetries between the GDNs and Ofgem by providing Ofgem with valuable comparative information on the appropriate level of costs that an efficiently run GDN should incur; and

- generate greater incentives for improvement amongst GDNs, as less efficient network businesses will be obliged to catch up or else realise returns below their cost of capital.

2.13. Comparative competition also has the potential to generate efficiency savings by providing greater managerial focus on gas distribution as a business, and building on a sense of rivalry between independent management teams.

2.14. Using comparative information effectively will be an important part of GDPCR. Ofgem expects to receive a significant amount of valuable new information that would not have been available if all GDNs were owned by a single company. However, four independent management teams comprise a small number of comparators. This will affect the type of analysis which can be carried out and the weight that can be put on it as part of the review. Ofgem's initial thoughts on how to use comparative information are discussed in Chapter 6.

2.15. Where possible, Ofgem will seek to capture the benefits of comparative competition for consumers during GDPCR. Given that management teams are new, and the difficulty of getting consistent data given the changes to the industry, many of the benefits of comparative competition will become evident during the course of the next price control period and be passed to customers from the start of the subsequent control period.[14] This assumption is consistent with Ofgem's analysis of the potential benefits published as part of the GDN Sales Final Impact Assessment.[15]

[14] The next price control period is expected to start in 2013.

[15] Ofgem, National Grid Transco – Potential Sale of Gas Distribution Network Business, Final Impact

2.16. For the present review, GDN owners will be asked to provide detailed cost information for businesses that they will have owned for only a short time. In addition, the businesses themselves have only prepared separate accounts from 2004-05. This may mean that in conducting its comparative analysis, there is more benefit in focussing on forecasts provided by companies rather than historical costs.

Context of the review

2.17. GDPCR will need to reflect the broader safety, social and environmental issues that affect the gas industry at this time.

Safety

2.18. When gas pipes leak there is a risk of injuries, fatalities and damage to property from explosions. Safety is therefore an essential part of any consideration of gas network issues. The Health and Safety Executive (HSE) has primary regulatory responsibility for safety in the gas industry, and Ofgem works with the HSE to ensure that such issues are addressed.[16] Safety issues can have major implications for the price control reviews – for instance, at the time of the previous price control review, an accelerated mains replacement programme was agreed with the HSE for safety reasons. This resulted in a substantial increase in replacement expenditure.

2.19. Under the mains replacement programme, GDNs are replacing all iron mains within 30 metres of premises over 30 years. The principal driver for this work is the risk of incidents from mains identified through a risk model. Mains may also be replaced if found to be in poor condition.

2.20. The HSE have recently completed a review of the programme[17] and concluded that the programme should continue as planned throughout the next regulatory period and beyond. Ofgem will work with the HSE to ensure that the mains

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Assessment - Appendices, November 2004, 255/04b, pg 53.
[16] Ofgem has a statutory obligation to carry out its functions in a manner which it considers is best calculated to protect the public from dangers arising from the conveyance of gas through pipes or from the use of gas conveyed through pipes. Section 4AA(5)(b) Gas Act 1986
[17] http://www.hse.gov.uk/gas/supply/transco/progress.htm

replacement programme and any other relevant safety considerations are appropriately incorporated into GDPCR.

Social, environmental and sustainable development issues

2.21. GDPCR is taking place in the context of increasing concern about rising gas bills. Gas distribution charges account for approximately one fifth of domestic consumers' gas bills. It will be necessary to ensure that GDPCR complements Ofgem's social action strategy for addressing fuel poverty where appropriate.[18]

2.22. One strategy that can, under certain circumstances, help to mitigate fuel poverty is to extend gas networks so that low income families in communities that are not currently connected to gas mains are able to take advantage of cheaper heating options. Ofgem intends to consider whether, within the scope of the Authority's statutory duties, anything more could be done to facilitate extensions to gas networks. For example, in the event that other sources of funding are available for such extensions, then GDPCR would need to make sure that the capital expenditure allowances reflect this.

2.23. The Authority also has a range of environmental duties including a duty to discharge its functions in a manner calculated to contribute to the achievement of sustainable development.[19] It will be necessary for the price control review to take into account environmental and sustainable development objectives where appropriate. This could include, for instance, consideration of issues such as methane leakages. It may also be appropriate to consider GDN's environmental reporting obligations as part of GDPCR.

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[18] Ofgem, Social Action Strategy, June 2005.

[19] Section 4AA(5)(ba) Gas Act 1986.

Related projects

2.24. During the course of GDPCR, it will be important to understand the interactions between the price control review and other projects. GDPCR is related to the following projects:

- **Transmission price control review (TPCR).** Conclusions from the review of gas and electricity transmission price controls are scheduled to take effect on 1 April 2007 – one year ahead of the main control for gas distribution. There are close interactions between the two reviews, both in terms of developing Ofgem's position on common policy issues and in assessing the shared costs of businesses that are subject to both reviews.

- **NTS offtake reform.** One of the consequences of GDN sales was that the relationship between the NTS and GDN businesses, which was previously internal to NGG, was externalised. The long term framework for this commercial relationship – in particular, the framework for allocating NTS offtake capacity – is being developed as part of the offtake arrangements project.[20] Ofgem will look to establish a mechanism to incentivise GDNs to contract for an efficient level of NTS exit capacity. It will be important to ensure that the incentives created through NTS offtake reform and GDPCR are consistent.

- **Interruptions reform.** Ofgem has indicated that it intends to conduct a review of the GDNs' interruptions arrangements, including the interruptions incentive, on the same timescale as its review of the offtake arrangements.[21] Reform of the interruptions arrangements has the potential to affect the costs faced by GDNs and may affect decisions about investment or the purchase of NTS capacity.

- **Independent Gas Transporters (IGTs) relative price control.** As the prices paid by some IGT consumers are determined by reference to the prices paid by consumers on the local GDN, the outcome of GDPCR will have implications for IGTs.

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[20] Ofgem open letter, Enduring offtake arrangements, 25 June 2005.
[21] Ofgem open letter, Reform of distribution network interruption arrangements, 12 July 2005.

- **GDN entry.** At present, there is only very limited entry onto the GDNs (other than at NTS offtake points). Over time, this may change. For instance, gas storage operators may wish to establish new storage facilities connected to a GDN. Any arrangements to accommodate this will need to be compatible with the price control.

3. Objectives and framework

3.1. This section sets out the Authority's statutory principal objective and general duties and then discusses how Ofgem should seek to meet them through GDPCR.

Statutory principal objective and general duties

3.2. The Authority's principal objective under section 4AA of the Gas Act 1986 is to protect the interests of consumers, wherever appropriate by promoting effective competition. In addition (and without limitation), the following general duties are also likely to have particular relevance to GDPCR:

- the need to secure that, so far as it is economical to meet them, all reasonable demands for gas conveyed through pipes are met;
- the need to secure that licence holders are able to finance their authorised activities;
- to promote efficiency and economy on the part of licence holders and the efficient use of gas conveyed through pipes;
- to be transparent, accountable, proportionate, consistent and target regulatory activities only in cases where action is needed; and
- to protect the public from dangers arising from the conveyance of gas through pipes or the use of such gas pipes, and to take into account any advice given by the Health and Safety Commission about any gas safety issue.[22]

Developing a framework for the regulation of gas distribution networks

3.3. GDPCR is the first price control review to consider gas distribution on its own. In the same way that the sale of GDNs has provided greater managerial focus on

[22] See Gas Act 1986, sections 4AA(2)(b), 4AA(5)(a), 4AA(5)(b), 4A(2) and 4AA(5A)(a).

gas distribution as a business, so the new industry structure also provides an opportunity to focus on the activities of a GDN and the incentives created by the regulatory framework.

3.4. Following on from GDN sales and the associated consultations, an important output of GDPCR will be to put in place a regulatory framework that will be able to secure the benefits of comparative competition for consumers. To achieve this, Ofgem proposes to bring forward its work on the cost reporting framework, so that any changes to the cost reporting arrangements will be in place from the outset of the next control period (see paragraph 6.52). This will enhance Ofgem's ability to make comparisons between GDNs at the next review.

3.5. More broadly, Ofgem would like to explore what consumers want from their GDNs, so that GDPCR can best protect the interests of consumers. Ofgem seeks feedback on what aspects of the services offered by GDNs are valued by consumers, and what aspects of GDNs' activities give rise to concerns. For instance, interruptions are significantly less frequent in gas than electricity, and when an interruption occurs it is usually planned (for example, as part of the mains replacement programme) rather than unplanned. The average gas consumer is only interrupted once every 40 years. That said, when a gas interruption occurs, it tends to last longer and be far more intrusive than a power cut as a GDN representative needs to enter the consumer's property in order to obtain access to equipment. These differences suggest that an incentive regime that replicates the quality of supply arrangements that apply to electricity distribution businesses may not be appropriate.

3.6. Historically, Ofgem has had a number of concerns about the way in which information relating to service quality and standards of performance has been measured. Since the previous price control review, work to improve this has been ongoing in a number of areas, resulting in modifications to reporting requirements and guaranteed and overall standards of performance, and the introduction of a customer satisfaction survey. It may be the case that the sales process itself, which has led to the introduction of new systems, will flush out further issues which may also require consideration as part of GDPCR.

Summary

3.7. GDPCR will set a price control for one year and reset it for the period commencing 1 April 2008. This chapter has set out Ofgem's statutory principal objective and general duties. Appendix 3 also describes the broader regulatory and legal framework. Previous chapters have described the significant structural change which has taken place in the gas industry since the last control with the creation in effect of a separately identifiable sector – gas distribution. Against this background, Ofgem would like GDPCR to:

- establish as far as possible the framework for regulating gas distribution going forward and in particular to put in place the appropriate arrangements to maximise the benefits which can arise for customers from comparisons between separately owned and managed companies. The cost reporting framework is an example of this, but there will be scope to look at other areas, for example, in the measurement and reporting of quality of service output measures where the ability to make comparisons can incentivise improvements in performance. In order to make effective comparisons of costs and service quality, it will be necessary to collect information consistently across companies and over time;

- provide a managerial and regulatory focus on the activity of gas distribution with the aim of better meeting the requirements of customers. This could mean passing back larger efficiency savings than would otherwise have been the case. It could also lead to changes in the way in which activities within gas distribution are regulated. For example, the funding arrangements for xoserve[23] could be modified to give gas shippers greater influence over the range and quality of services provided; and

- resolving issues which have emerged over the course of this control period in such a way that regulatory intervention and hence risk are minimised to the benefit of companies and customers. This could

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[23] Xoserve is the agency established as part of GDN sales to mitigate the potential costs associated with industry fragmentation. It is described in Chapter 6 (see paragraph 6.87).

involve, for example, putting in place appropriate incentives for the treatment of over and under spends of capital expenditure increasing the certainty for companies about the way in which this would be dealt with at future reviews.

4. Principles for the conduct of the review

4.1. This chapter sets out the key principles that Ofgem proposes to adopt in reviewing the efficiency of GDNs' costs, setting future expenditure allowances, defining outputs and associated incentives as part of GDPCR. This reflects a significant amount of work that was carried out as part of Ofgem's project on developing network monopoly price controls and the recent Electricity Distribution Price Control Review (DPCR4), as well as commitments that have been made as part of the GDN sales process and in various open letters concerning gas distribution.

General principles

4.2. The main functions of a price control are:

- to protect customers from the abuse of monopoly power, of which an important aspect is incentivising companies to make efficiency savings and allowing customers to share in those benefits;
- to provide companies with a future level of revenue to allow them to deliver an appropriate level of outputs and meet their statutory duties and licence obligations including operating an economic, efficient and coordinated network; and
- to provide incentives for companies to provide appropriate levels of outputs including safety, capacity and quality of service.

4.3. In setting the gas distribution price controls Ofgem will aim to meet these objectives by:

- assessing the efficiency of GDNs' historical costs;
- making a projection of the future level of costs that an efficient GDN is expected to incur over the period of the next price control for:
  - operating expenditure, including pension costs;
  - capital expenditure;

- financing costs and taxation, including consideration of financeability; and

- ♦ identifying the incentives required for companies to operate efficiently and deliver appropriate outputs.

4.4. The following sections set out the key principles that Ofgem proposes to adopt for these areas of work. Ofgem's views on how this work will be carried out in practice for the one year control and the main control are set out in subsequent chapters.

Assessing efficiency, projecting costs and rolling incentives

4.5. The main purpose of the cost assessment work is to establish the efficient level of expenditure that is required for each of the GDNs to deliver an appropriate level of outputs, including meeting the safety requirements established by the Health and Safety Executive (HSE), provision of network capacity and the quality of service experienced by consumers.

4.6. A key part of this work involves reviewing the efficiency of historical costs to inform future cost projections and to update GDNs' Regulatory Asset Values (RAVs). The adjustments to the RAVs will take into account:

- ♦ variances (and the reasons for the variances) from the capital and replacement expenditure projections for the period 1 January 2001 to 31 March 2007 that were made at the last review; and

- ♦ any evidence of inefficiency.

4.7. Ofgem proposes to roll forward the RAVs to take into account actual expenditure for January 2001 to March 2005 as part of the work on the one year control. Ofgem would then project forward the RAVs through to 31 March 2008 based on projected expenditure for 2005 to 2008.

4.8. Ofgem proposes to roll forward the RAVs to take into account actual expenditure for 2005-06 and 2006-07 as part of the work on the main control.

Ofgem would then project the RAVs through to 31 March 2013 based on projected expenditure.

4.9. The starting point will be the RAVs as set out in Table 4.1 as at 1 April 2002[24]. These values are based on actual capex and repex up until 31 December 2001 and projected capex and repex from 1 January 2001[25] to 31 March 2002.

Table 4.1 – RAVs for the GDNs

Distribution Network		**RAV at 1 April 2002 (£ million 2000 prices)**
NGG	East England	1,864
	London	1,023
	North West	1,136
	West Midlands	903
NGN	North England	1,071
SGN	Scotland	669
	South England	1,787
WWU	Wales and West	914
Total		**9,367**

4.10. For the period 1 January 2001 to 31 March 2003, the RAVs will be adjusted from 1 April 2007 to reflect variances in capital and replacement expenditure from allowances unless there is evidence of inefficiency.

4.11. In line with its March 2004 open letter[26], Ofgem intends to apply 'rolling incentives' for capital and non-mains related replacement expenditure for 1 April 2003 to 31 March 2007. The principles are likely to include the retention of efficiency savings for five years, irrespective of when in the period the savings were realised, in line with the arrangements developed for DPCR4. Ofgem expects to allocate capital and non-mains related replacement expenditure into one of three categories for the purposes of updating the RAVs and rolling incentives:

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[24] These values are as set out in Ofgem open letter, Gas distribution price controls and the treatment of I&C meter governors, 29 April 2005.
[25] The analysis underlying the current price control was based on a 31 December year end. From 2001-02 onwards, NGG adopted a year end of 31 March.
[26] Ofgem open letter, Gas Distribution Price Controls, 16 March 2004.

- wasteful and unnecessary i.e. inefficient expenditure which will not be incorporated into the RAV;
- efficient expenditure in excess of Ofgem's allowance, which will be incorporated into the RAV after a fixed period consistent with the treatment of any under-spend. A GDN could therefore expect to meet at least the return element of its financing costs of overspend for a full five year period, after which the amount of overspend would be added to its RAV; or
- efficient expenditure which will be incorporated into the RAV from the year in which it its incurred. This includes efficient expenditure up to the level of Ofgem's allowance (see Table 2.2). Ofgem will also consider incorporating efficient overspends into the RAV from the year in which they were incurred and allowing the licensee to recover the associated depreciation and or return if the expenditure provides significant benefits to customers.

4.12. No adjustments will be necessary for mains replacement expenditure between 1 April 2002 and 31 March 2007 as variances in such expenditure are captured by the mains replacement incentive scheme.

4.13. Some of the practical details of the implementation of these principles were set out in Ofgem's further letter of clarification dated 4 October 2004.[27] In particular, this suggested that any variations in non-mains replacement expenditure with the projections in the price control would be treated as variances in capital expenditure. Ofgem will want to consider whether this treatment remains appropriate. Rolling incentives are discussed further in paragraphs 6.56-6.58.

4.14. In addition, several issues regarding the treatment of capital and replacement expenditure were addressed as part of the GDN sales process:

- **treatment of losses of economies of scale from GDN sales –** increases in capital or replacement expenditure incurred as a result of a loss of economies of scale through separate ownership will not be included in the RAV or GDNs' allowed revenue in future price controls. Operating expenditure will be assessed in the normal manner through benchmarking and other analysis. This will take into consideration actual and potential economies of scale in ongoing costs;

- **GDN sales transaction costs –** there will be no recovery of GDN sales transaction costs;

- **shared assets –** NGG has certain shared assets (including IS/telecoms, central stores etc) which have been excluded from the GDN sales process but have been included in the allocation of RAVs across GDNs. It may be appropriate to make a revenue allowance for the IDNs to pay for the services provided by these assets in the next price control and make a compensating downward adjustment to their RAVs; and

- **Langage –** In February 2003 Ofgem published a determination on the NTS connection charges to be levied by NGG to the proposed power station at Langage Energy Park[28]. The determination set out that the terms for the connection should be based on Ofgem's shallow connection policy. The work to connect Langage Energy Park includes up-rating an LTS pipeline within the Wales and the West network to be operated as part of the NTS and further GDN and NTS reinforcement. The GDN RAVs will not change as a result of asset transfers or the investment by the NTS associated with Langage.

4.15. Ofgem's work on developing network monopoly price controls considered the treatment of non-operational capital expenditure such as IT and office furniture for network companies. Ofgem's initial view was that such expenditure should be included in the RAV together with other capital expenditure as it delivers benefits to consumers over a number of years. However, a different approach was adopted for DPCR4. The costs were treated as operating expenditure because of issues associated with outsourcing and a lack of visibility of the capital works that were carried out through outsourcing. Subsequently, a

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[27] Gas Distribution Price Controls – Further clarification, Ofgem open letter, 4 October 2004.
[28] Directions pursuant to Section 21 and order pursuant to Section 27A given to Transco plc in connection with the modification of the Transco pipe-line system for the purpose of conveying gas to the proposed power station at Langage Energy Park, 18 February 2003.

proportion of this operating expenditure was capitalised. Ofgem will consider the appropriate treatment of non-operational capital expenditure as part of GDPCR.

Outputs

4.16. In setting price controls and levels of expenditure it is important that the regulator, customers and the companies understand what levels of outputs are required to be delivered in return. Outputs can cover a wide range of areas. Examples could include:

- the price that customers pay;
- distribution network capacity made available; and
- quality of service.

4.17. As part of the main price control review Ofgem intends to provide clarity on the key output measures for the GDNs. This will assist in carrying out the cost assessment work and in providing appropriate incentives for delivery.

Incentives

4.18. The incentive and price control framework are the primary mechanisms through which companies' behaviour is incentivised. In order for Ofgem to carry out its statutory functions and for companies to meet their statutory and licence obligations, Ofgem must provide the incentives that a company needs to operate efficiently, safely, provide an appropriate level of service to consumers and maintain asset integrity and system security for present and future consumers.

4.19. This means incentivising companies across a number of areas including:

- investment – companies need to be provided with appropriate incentives to invest in the network in a timely and efficient way so that:
  - long term system security and quality of service is maintained;
  - changes in the level or pattern of demand can be met;

- demands from customers for connection to the network can be met; and

- changes in the use of the system can be facilitated;

♦ making efficient trade offs – companies need to be provided with appropriate incentives to make efficient trade offs between investment, purchasing NTS offtake capacity, and contracting for interruption and storage;

♦ safety - companies need to meet the safety requirements established by the HSE;

♦ efficiency – companies need to be provided with appropriate incentives towards efficiency (in terms of their operating, capital and financing costs) in meeting their statutory duties and licence obligations;

♦ demands of customers – companies need to be provided with appropriate incentives to help ensure that they meet the reasonable demands and changes in demands of customers, including providing an appropriate quality of service; and

♦ other areas – there may also be other areas in which companies need to be incentivised, including on environmental and social concerns.

Efficiency incentives

4.20. The main mechanism for incentivising cost efficiency in GDNs is the RPI-X price control framework. In essence the current RPI-X control sets a revenue allowance for each GDN for a period of five years. The allowance is linked to inflation (as measured by the Retail Price Index), and requires the GDN to deliver a set of outputs. The revenue allowance is set equal to the present value of efficient costs which the regulator expects the company to incur in delivering the required outputs. A revenue driver adjusts the revenue for the actual volume of gas which flows through the network, which is one of the important cost drivers. The revenue driver is explained in Chapter 6 (see paragraph 6.7).

4.21. In the conventional RPI-X approach, if the company can deliver the required outputs at lower costs than forecast by the regulator, the company is allowed to keep the difference until the end of the price control period. This provides a strong incentive to reduce costs.

4.22. However, two key issues have arisen with this approach. First, it gives rise to periodicity of incentives. As the benefits of efficiency savings can only be retained until the end of the price control period, companies have a stronger incentive to make savings the closer they are to the beginning of the period. Second, there is a challenge in setting the control as the companies inevitably have better information than the regulator. As part of the work on developing network monopoly price controls and DPCR4, Ofgem considered mechanisms to address these issues including rolling efficiency incentives and sliding scale incentives for information quality. These mechanisms are discussed in paragraphs 6.56-6.64.

5. Setting the one year control

5.1. This chapter explains why the gas distribution price control is being extended by one year, discusses the scope of the one year control, and sets out for consultation the issues that will require consideration.

Purpose of the one year control

5.2. In November 2003 Ofgem consulted on the possible extension of the gas distribution price controls by one year, suggesting that the existing controls would be in force from 2002-03 to 2007-08 (inclusive).[29] Ofgem noted that an extension would have considerable advantages in terms of:

- providing a more balanced work load by delaying the implementation of the next gas distribution price controls until April 2008; and
- allowing gas transmission and distribution issues to be considered separately.

5.3. Respondents to the consultation generally supported the proposals, and in March 2004 Ofgem issued a further open letter which set out its intention to extend the gas distribution price control by one year.[30] In this letter, Ofgem noted that the work associated with extending the price control would need to be proportionate to a one year interim arrangement, and so where appropriate assumptions underlying the present price control will be extended or updated in a straightforward way to cover 2007-08.

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[29] Ofgem Open letter, Timetables for price control reviews, 17 November 2003. Ofgem also consulted on the realignment of price controls as part of the Developing Network Monopoly Price Controls consultation.
[30] Ofgem open letter, Gas Distribution Price Controls, 16 March 2004

5.4. There is a spectrum of possible approaches that could be taken in extending the GDN price controls for 2007-08. These range from carrying out a full review of the companies' activities and costs to taking a high-level approach by just looking at the companies' likely level of costs and returns over the period. While Ofgem considers that a full review would neither be appropriate nor proportionate, it is important that sufficient work is carried out to ensure that consumers are adequately protected and companies can finance their activities.

5.5. Ofgem has recently set a two year control for the Scottish electricity transmission businesses[31] and a one year control for National Grid Electricity Transmission (NGET).[32] Ofgem's proposed approach to the GDPCR one year control broadly follows the approach used in these reviews. In addition, the one year control for gas distribution will be completed in parallel with TPCR. Some issues (for example pensions) will affect both reviews and in this context may be considered together.

Costs and outputs

5.6. In considering the costs of GDNs for the purposes of the one year control, Ofgem's initial view is that it is best to focus the work on reviewing historical and future capital and replacement expenditure requirements, while adopting a simpler approach for operating expenditure.

Capital and replacement expenditure

Introduction

5.7. Capital expenditure is investment in assets such as gas pipelines, mains or services which:

- enhances the capacity of the network;
- extends the life of the network; or

[31] Transmission price controls and BETTA, Final proposals and impact assessment, Ofgem December 2004 279/04

[32] Extending National Grid Electricity Transmission Ltd's Transmission Owner Price Control for 2006/07 - Final proposals, Ofgem, November 2005, 253/05.

- connects new consumers to the network.

5.8. Traditionally capital expenditure includes expenditure to replace assets such as gas pipelines, mains or service for reasons including:

- safety requirements established by the HSE; or
- managing the risk of failure or leakage based on age or condition.

5.9. However, given the scale of replacement expenditure needed to meet the HSE's mains replacement requirements and because this expenditure has both immediate benefits to consumers in terms of improved safety and benefits future consumers through lower costs, it has a separate treatment for gas distribution. Ofgem's total allowances for capital and mains replacement expenditure for all GDNs in the current price control amounted to £684 million and £1,978 million respectively in 2000 prices. Under the current price control arrangements 50 per cent of replacement expenditure is treated as operating expenditure and 50 per cent is added to the RAV and depreciated over time.

Approach

5.10. Ofgem considers that there is a strong case for carrying out a detailed review of historical capital and replacement expenditure for 1 January 2001 to 31 March 2005.[33] Ofgem's proposes to use this analysis as part of the one year price control to roll forward the RAV to reflect actual expenditure up to 2004-05. This approach would avoid duplication of work between the one year control and main control and enable Ofgem to obtain an early understanding of investment requirements. Ofgem would then review expenditure for 2005-06 and 2006-07 as part of the main control using actual data where possible and drawing on the lessons from the assessment of historical expenditure.

5.11. Ofgem considers that it is also appropriate to use the results of this work to inform its view of the appropriate capital and replacement expenditure projections for 2007-08. This needs to be done with an understanding of the broader context of forecast expenditure for the following five years. Ofgem

[33] In this approach is adopted, Ofgem would consider 2005/2006 capital expenditure as part of the main review.

therefore proposes to request detailed information on historical and forecast costs and performance from each of the GDNs as part of the Business Plan Questionnaires (BPQs) for the one year control which will be issued in February 2006. This would include information on:

- historical capital and replacement expenditure for the period 1 January 2001 to 31 March 2005; and
- forecast capital and replacement expenditure for the period 1 April 2005 to 31 March 2013.

5.12. GDNs would have the opportunity to provide updates of this information when submitting their BPQs for the main review in November 2006 and as part of an update submission in July 2007. The onus would be on the GDNs to explain the reason behind any differences in these forecasts.

5.13. Ofgem proposes to carry out analysis on the information collected in the one year control BPQs to assess the actual levels of capital and replacement costs and efficiency. Ofgem would also carry out sufficient work on forecast costs to gain a broad understanding of future investment requirements and set appropriate projections for 2007-08.

5.14. Ofgem proposes that the work on capital and replacement expenditure for the one year control involves the following broad steps:

- **Review past capital and replacement expenditure** – The objective here would be to establish whether expenditure has been efficiently incurred and what this has delivered in terms of outputs. A key part of this work would be to compare actual capital and replacement expenditure and outputs with the projections made at the last price control review and establish the reasons for the differences. This would include consideration of changes in outputs, levels of unit costs and the make-up of these unit costs. This would be carried out both at an aggregate level and for the detailed categories of expenditure including:
  - LTS capital and replacement expenditure;
  - connections related capital expenditure;

- mains and service related capital and replacement expenditure; and

- other capital expenditure.

The objective would be to categorise any overspend in accordance with the principles set out in paragraphs 4.10 and 4.11. Ofgem proposes to roll forward the RAV to 2004-05 as part of the one year control.

♦ **Project capital expenditure and replacement expenditure for 2007-08 –** Ofgem would carry out a broad assessment of GDNs' forecasts, taking into account the results of the work on historical capital and replacement expenditure. This would include a detailed assessment of a sample of individual projects, an analysis of unit costs and a broader comparative analysis of costs and outputs. There would be a particular focus on capital and replacement expenditure for 2007-08 in order to establish the allowance for that year.

Operating expenditure

Introduction

5.15. Operating costs relate to the day-to-day activities of running the gas distribution networks such as repair and maintenance costs, insurance, and network rates.

5.16. Operating expenditure assumptions for the current price control were developed after a detailed assessment of costs. Controllable operating costs were assumed to fall by 2.5 per cent in each year of the current control period. The total five year allowance for all of the GDNs was £986 million in 2000 prices.

Approach

5.17. Ofgem considers that a simple approach should be adopted to set the allowances for operating costs for 2007-08 that is commensurate with a review of the control to apply for one year. There is a range of possible options which could achieve this, of which two are discussed below.

5.18. Ofgem could carry forward the existing operating expenditure price control assumptions to 2007-08. This would mean that the benefit of any operating efficiencies in excess of those assumed in setting the price control would be retained by GDNs for an additional year. This approach would serve to reinforce the efficiency incentives for the remainder of the control period, which in the longer term could benefit customers. Consideration would need to be given as to whether there should be a further 2.5 per cent reduction in assumed controllable operating costs from 2006-07, or whether they should be maintained at the 2006-07 allowed level in real terms. In addition, specific treatment could be required for certain categories of costs such as pension costs and shrinkage gas although such an approach may unfairly expose customers to areas where costs have risen without at the same time passing back the benefit of any out-performance against previous efficiency assumptions. Shrinkage and pensions are discussed below.

5.19. An alternative approach would be to roll forward actual levels of operating expenditure for 2006-07, possibly with adjustments for efficiency. This approach would require Ofgem to be satisfied that actual levels of operating expenditure are efficient and are based on robust cost allocations.

Shrinkage

5.20. Shrinkage gas is gas lost through the transportation system due to leakage and theft as well as gas that is used for operational purposes.

5.21. Some GDNs have raised concerns regarding the price control treatment of shrinkage, both in terms of the historical spend against Ofgem's allowances and its treatment for future price controls. The issues associated with shrinkage are explained in Chapter 6 (see paragraph 6.35).

5.22. There are a number of options for addressing shrinkage for the purposes of the one year control. These include (but are not limited to):

- ♦ adopting the same simple approach for shrinkage as for other forms of operating expenditure;
- ♦ adjusting the GDNs' shrinkage allowances for 2007-08 to reflect the increase in gas prices compared with the price assumed in setting the current control; or

- adjusting the GDNs' shrinkage allowances, and at the same time reviewing the mechanism by which GDNs are incentivised to procure shrinkage gas efficiently.

5.23. One GDN owner has suggested that, as part of the one year control, a recovery mechanism should be put into place to allow GDNs to recover over-spends on shrinkage for the current control period. Ofgem's present view is that such a mechanism is not appropriate. The allowance for shrinkage was accepted as part of the overall price control package, and GDNs have scope for managing the cost of shrinkage in an efficient manner through the way in which they operate their networks through the mains replacement programme and through their procurement of gas including any decision to hedge against the future prices.

Pensions

5.24. Some companies have argued that the treatment of pensions should be specifically addressed during the one year control, rather than addressing pensions as part of the simple approach to operating expenditure outlined in paragraphs 5.17-5.18.

5.25. If pensions are dealt with separately, Ofgem could either apply the approach implemented in DPCR4 by providing allowances for deficit funding costs and normal pensions costs, or alternatively, Ofgem could make an allowance for normal pension costs and consider the deficit as part of the main review.

5.26. In practice, this distinction will primarily affect NGG, because when NGG sold four of its GDNs, the new GDN owners took over responsibility only for the active members of the licensee's pension schemes. Liabilities in respect of non-active members are the responsibility of NGG. For the avoidance of doubt, this arrangement includes the GDNs retained by NGG. As a result TPCR will include an allowance for the related non-active costs.[34] This means that the work of the GDPCR team on pensions will be closely co-ordinated with that of the TPCR team and most of the GDPCR work on the deficit in particular should be completed by the time of TPCR Final Proposals in November 2006. The

[34] The treatment of pensions as part of GDN sales is set out in Potential sale of gas distribution networks -

TPCR second consultation document[35] explores the issue of pensions in more detail.

Outputs

5.27. A number of recent changes have been made to the outputs framework for GDNs that extend consumer protection. These changes include the introduction of surveys of consumers who have recently experienced an interruption to their gas supplies and new connections standards of performance. Ofgem considers that it would not be appropriate to make further changes to outputs as part of the one year control work and proposes to carry out work in this area as part of the main control.

Incentives

5.28. As part of the current price control there is an incentive mechanism for mains replacement work. This incentivises the GDNs to carry out the HSE's mains replacement requirements efficiently and means that efficiency savings are shared with customers during the current control period. Ofgem proposes to update the parameters of the mains replacement mechanism for 2007-08, but to leave a more detailed assessment of the mechanism until the main review (see paragraph 6.65).

5.29. Ofgem will also consider whether it is appropriate to apply fixed retention periods for the treatment of replacement, capital and operating expenditure for 2007-08. Their application is discussed further in Chapter 6.

Financial issues

5.30. This section sets out the financial issues that need to be considered in the context of the one year control.[36] Further detail on the main issues that are relevant when considering financial issues are set out in Chapter 6.

Ofgem position paper on pensions, Ofgem, 2 August 2004.

[35] Transmission Price Control Review, Second Consultation Document, Ofgem, December 2005. This document is due to be issued shortly.

[36] Pensions issues are considered in the section on operating expenditure – see paragraph 5.24.

Cost of capital

5.31. The cost of capital used in the current price control is 6.25 per cent on a pre-tax basis (equivalent to approximately 4.4 per cent on a post-tax basis) using a simple tax wedge approach. For the purposes of both the one year control and the main review, Ofgem intends to adopt the post-tax approach to setting the allowance for the cost of capital and to provide separately for tax (see paragraphs 5.34-5.36 below). This builds on the approach taken in DPCR4 and the extension of NGET's transmission owner control price control for 2006-07.

5.32. In its final proposals for NGET,[37] Ofgem indicated its intention to carry out during 2006 a detailed study of the relevant theory and data for cost of capital estimation. The primary purpose of this study will be to inform Ofgem's consideration of the cost of capital to be allowed in TPCR. Its results will also be available in time to inform Ofgem's final proposals for the one year control and the main review.

5.33. In determining the revenue allowances for the one year control, Ofgem will reach a view in the context of its overall objective to protect the interests of consumers. In reaching a decision on the appropriate cost of capital to use, it will be necessary also to take into account the overall balance of incentives and risk resulting from decisions on other elements of the price control, where, for example, a simple approach had been adopted.

Tax

5.34. In general, the main options for determining a tax allowance for the one year control are:

- adopt a simple tax wedge approach to the cost of capital based upon the normal rate of corporation tax;
- adopt the DPCR4 approach of providing an ex-ante tax allowance;

[37] Extending National Grid Electricity Transmission Ltd's Transmission Owner Price Control for 2006/07 - Final proposals, Ofgem, November 2005, 253/05.

- provide an allowance for the one year control, then following a full review of tax for the main review, make ex-post adjustments to the allowance to reflect the impact of changes identified in the main review to the assumptions used in deriving this figure;
- allow the pass through of actual corporation tax applicable to the licensee for the year concerned; and
- a combination of the approaches described above – for example, provide an ex-ante tax allowance which is adjusted for specified pass through items.

5.35. Ofgem's latest thinking on how to determine a tax allowance was implemented as part of DPCR4 where after reviewing the tax position of the companies Ofgem concluded that an ex-ante allowance should be provided (with an ex-post adjustment for gearing where relevant).

5.36. In the particular circumstances surrounding the one year extension of NGET's price control, Ofgem decided to provide an allowance for 2006-07. Following a full review of tax for the main transmission review, Ofgem will make ex-post adjustments to the allowance to reflect the impact of changes identified in the main review to the assumptions used in deriving this figure.

Financeability and financial modelling

5.37. Ofgem will have regard to its duty to ensure that the GDNs can finance their statutory and licence obligations when setting the one year control. Given that Ofgem is adopting a pragmatic approach to the one year control, and the one year control will be immediately followed by the main price control, Ofgem will need to form a view on how deeply these issues should be considered.

5.38. The main issues to be considered at this stage are the types of analysis that Ofgem should perform in relation to financeability and financial modelling for the one year control and the nature of the financial model that Ofgem could use to carry out its analysis.

6. Setting the main control

6.1. This chapter provides an overview of the main price control review. It highlights the key issues that are likely to arise with regard to:

- high level framework, including the structure and scope of the review;
- costs and outputs, including capital expenditure, replacement expenditure, operating expenditure, outputs and the cost reporting framework;
- financial issues, including the weighted average cost of capital, the treatment of tax and financeability and financial modelling;
- incentives, including the mains replacement incentive, sliding scale incentives, five year rolling incentives and other potential incentive mechanisms; and
- other issues, including the funding of xoserve and the treatment of System Operation Managed Service Agreements (SOMSAs).

High level framework of the price control

6.2. This section describes the structure and scope of the current price control and considers whether further refinement is appropriate.

Structure of the price control

6.3. The features of the current price control include:

- an RPI-X formula which is reset after a period of five years (subject to the one year control discussed in Chapter 5);
- a revenue driver linking allowed revenue to the quantity of gas transported;

- an incentive mechanism that relates to the mains replacement programme;[38]

- a mechanism that passes through certain specified costs; and

- a correction mechanism.

6.4. The basic price control formula is detailed in Appendix 4.

6.5. The benefits of the basic RPI-X regulatory model are well established,[39] and its use was reviewed and confirmed by Ofgem in its developing network monopoly price controls consultation.[40] Consideration of alternative options to RPI-X would constitute a major initiative affecting other Ofgem projects. Having recently confirmed the validity of its use of RPI-X in the developing network monopoly price controls consultation and DPCR4, it is not appropriate to consider such options in the context of gas distribution alone. However this does not preclude consideration of how the RPI-X model is implemented in gas distribution, or whether refinements are appropriate.

Duration of the price control

6.6. Ofgem proposes that the price control from 1 April 2008 (the main price control) apply for a period of five years. This proposal is consistent with previous Ofgem price controls and the outcome of the developing network monopoly price control consultation. When setting price controls, regulatory consistency is valuable. Ofgem would need good reasons to change its position on the duration of the price control. However if interested parties consider that there are good arguments in favour of change, then Ofgem would consider a different duration.

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[38] The issues relating to incentives are explained below (see paragraph 6.55) and are not discussed further in this section.
[39] For example, see National Audit Office, *Pipes and Wires*, April 2002.
[40] Ofgem, Developing Network Monopoly Price Controls, Initial Conclusions, June 2003 54/03

Revenue driver

6.7. Revenue drivers are used to help the price control respond more flexibly to changes in circumstances from the time the control is set. Implicit in the price control are a set of assumptions about demand on the network. The revenue driver aims to make sure that the GDN is neither penalised nor over-rewarded for changes in the level of demand.

6.8. Under the current control, 65 per cent of allowed revenues are fixed and 35 per cent of allowed revenues vary with the quantity of gas transported. Volumes consumed are weighted by size of user in accordance with the formula set out in Appendix 4.

6.9. Ofgem seeks views on whether the current volume-based revenue driver continues to be appropriate, and whether it is appropriate to consider other forms of revenue driver. If new forms of driver are appropriate, then it is important that they are linked to a clearly measurable variable. The specific parameters associated with any revenue driver will be determined at a later stage in the review.

Pass through mechanism

6.10. A pass through mechanism enables allowed revenues to vary in accordance with outturn levels of a limited number of specified costs incurred by GDNs which are beyond the GDNs' control. Under the current price control, the pass through mechanism applies to prescribed network rates and licence fees. Ofgem seeks views on whether the pass through mechanism continues to be appropriate, and whether other costs should be subject to the pass through mechanism.

Correction mechanism

6.11. The purpose of the correction mechanism is to adjust the price control for any previous over or under recovery against allowed revenues. For instance, if a GDN underestimates demand when setting prices and over recovers against allowed revenues in the first year of the price control, the revenues allowed in the second year of the price control are correspondingly adjusted downwards. Ofgem considers that the correction mechanism is key to protecting customers' interests. Interested parties are invited to provide initial views if they think that the arrangements could be improved.

6.12. One issue for consideration is the treatment of GDNs' over or under recovery at the end of the current price control period. In DPCR4, Ofgem rolled forward the electricity distribution network operators' over and under recoveries from the previous period in accordance with the arrangements set out in the decision paper on rebates of electricity distribution use of system charges.[41]

Dealing with uncertainty, new obligations and costs

6.13. Another issue to be considered during GDPCR is whether to introduce mechanisms to deal with the uncertainty associated with potential new obligations and costs arising between price control reviews.

6.14. Consistent with the position adopted in DPCR4[42], Ofgem's preliminary view is, as a general matter, that it is not appropriate to introduce a formalised mechanism to deal with uncertainty.[43] It is preferable to allocate the risk of uncertainty between companies and customers in a defined way so as not to undermine the incentives established by the price control. Ofgem notes that the Authority has a statutory duty to secure that licence holders are able to finance their activities.[44]

Variability

6.15. Other things being equal, charges that remain stable over time are more likely to protect the interests of customers than charges that fluctuate. When forming a view on the price control formula, Ofgem will consider the extent to which charges can be expected to vary over time. To do this, it is necessary to consider the cumulative impact of each component of the price control. Features which have the potential to contribute towards variability in charges include revenue drivers, pass through mechanisms, incentive mechanisms and correction factors.

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[41] Electricity distribution rebates to suppliers – Decision document, December 2003, Ofgem ref 155/03
[42] Ofgem, Electricity Distribution Price Control Review Final Proposals November 2004 265/04, pg 14.
[43] An example of a formalised mechanism for dealing with uncertainty is the IDoK (interim determination of K) mechanism used by Ofwat. The IDoK establishes a framework where companies (or the regulator) can ask for changes to the price control between periodic reviews if there are material differences from regulatory price control projections in relation to specified items.
[44] Gas Act, section 4AA(2)(b).

Scope of the price control

6.16. Ofgem proposes that GDPCR sets allowed revenues covering all gas distribution charges (other than charges for excluded services) levied by NGG's distribution businesses, Scotland Gas Network, Southern Gas Network, Northern Gas Network and Wales & West Utilities.

6.17. The current price control also applies to customer connections to the extent that costs are incurred in providing customer connections free of charge in accordance with the GDNs' statutory and licence obligations.[45] To the extent that connections are funded through customer contributions, connections are treated as excluded services (see below). Any revenue received in the form of customer contributions is deducted from allowed revenues.

6.18. Given that metering was removed from the gas price control in 2002 (and a separate metering price control was established) Ofgem does not anticipate that GDPCR will need to consider metering charges.

Excluded services

6.19. Excluded services are services where the revenues earned by GDNs are not subject to a price control. However, in setting the price control Ofgem will forecast expected revenues and costs from providing these services. If GDNs are able to sell additional excluded services, then the revenues they receive should cover the additional costs incurred and any surplus revenues will not be counted as allowed regulated revenues.

6.20. During the previous price control review, the following services were identified as examples of excluded services:

- connections and construction for third parties;

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[45] Standard Condition 4B(1) of the GT licences obliges GDNs making a connection to a domestic premises under section 10(2)(a) of the Gas Act 1986 to supply and lay free of charge the first ten metres of pipe which is in land that is not owned or occupied by the customer. Section 10(2)(a) of the Gas Act applies to premises which are within 23 metres of a relevant gas main and Standard Condition 4B(1) applies to premises at which a supply is taken wholly or mainly for domestic purposes. Final connections (i.e. connecting a service pipe to the main) are also provided free of charge to customers consuming less than 2,196,000 kWh per annum.

- operations and maintenance for third parties, including emergency services[46];
- provision of operational consultancy to third parties;
- in the case of some GDNs, the provision of services to other members of their corporate group; and
- miscellaneous (including the provision of training and information services, and sales of electricity, to third parties).

6.21. In addition, as a part of the arrangements associated with GDN sales, NGG entered into a number of contracts with the new GDN owners to provide certain services on their behalf for a transitional period. These services include SOMSAs (see paragraph 6.96) and Front Office Managed Service Agreements.[47]

6.22. Ofgem seeks views on whether the scope of the price control and the range of services which are excluded from the price control continue to be appropriate.

Costs and outputs

Capital and replacement expenditure

6.23. The work on capital and replacement expenditure for the main price review will build on the analysis for the one year control discussed in Chapter 5. Ofgem proposes to request updated information on historical and forecast capital and replacement expenditure and performance as part of the BPQ submissions that are due to be returned by November 2006. This will include information on:

- historical capital and replacement expenditure for the period 1 April 2005 to 31 March 2006; and
- forecast capital and replacement expenditure for the period 1 April 2006 to 31 March 2018.

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[46] GDNs have entered into contracts to provide a first line emergency response service on behalf of NGG's transmission business and IGTs.
[47] To accommodate these contracts within the regulatory framework, the Authority granted a number consents to NGG (Distribution) with the effect that payments received under these contracts are excluded

6.24. Ofgem proposes to carry out analysis on this information to assess actual levels of capital and replacement costs for 2005-06 and their efficiency. This would enable Ofgem to roll forward the GDNs' RAVs for an additional year's data. Ofgem would also carry out detailed analysis of forecasts costs to set appropriate projections for 2008-09 to 2012-13.

6.25. Ofgem proposes that the work on capital and replacement expenditure for the main review involves the following broad steps:

- **Review capital and replacement expenditure for 2005-06** – The objective here would be to establish whether expenditure for this year has been efficiently incurred, what this has delivered in terms of outputs and to roll forward the GDNs' RAVs accordingly.

- **Project capital and replacement expenditure for 2008-09 to 2012-13** – The analysis of historical costs and the broad assessment of GDNs' forecasts for the one year control will give Ofgem an initial understanding of expenditure requirements and an insight into the areas where more detailed work is required. The purpose of the work for the main review would be to obtain a detailed understanding of expenditure requirements in order to set appropriate projections for 2008-09 to 2012-13. This would include a detailed assessment of a sample of proposed projects, an analysis of unit costs and a broader comparative analysis of costs and outputs. Where the main drivers of costs are known and the corresponding quantities and unit costs of work can be identified, Ofgem proposes to use bottom up modelling to determine cost allowances. This is likely to be the case for mains and service replacement expenditure, replacement of LTS and other mains assets for age/condition and load-related capital expenditure for the LTS and mains.

6.26. Ofgem proposes to review its capital and replacement expenditure projections once updated forecasts become available after initial proposals.

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from the de minimis business thresholds set out in Standard Special Condition A36 of NGG's licence. These consents are time limited.

Operating expenditure

Introduction

6.27. As discussed in Chapter 2, the creation of separately owned, managed and operated GDNs gives Ofgem, for the first time, the opportunity to use comparative analysis to assess GDNs' costs, thereby reducing information asymmetries and strengthening incentives to reduce costs. Ofgem proposes to use top-down benchmarking of total controllable operating costs across GDNs and to carry out benchmarking of unit costs across GDNs. There are a number of important limitations in terms of the use of comparative analysis for this review:

- the industry restructuring that has occurred over the last two years will create a challenge in terms of data availability. GDN owners will be asked to provide detailed cost information for businesses that they have owned for a relatively short period;

- the new management teams will have only been in place for part of 2005-06 which is an important year for the review. They will have had little opportunity to make an impact on the structure of the businesses and efficiency;

- the GDNs did not exist at the beginning of the price control period. Accounts for these businesses were created for the first time for the year 2004-05; and

- there are a relatively small number of comparators.

6.28. Ofgem proposes to respond to the challenges in a number of ways, including bringing together several different approaches to the data analysis such as top-down benchmarking, bottom-up modelling, activity-based analysis and expert review of costs. Ofgem also proposes to carry out a substantive update of its analysis once 2006-07 data becomes available. Ofgem anticipates that GDNs' management will have had a greater opportunity to have an impact on their businesses and efficiency by that time.

Approach

6.29. As a first step in analysing operating costs it is important to separate those controlled directly by a GDN (e.g. salaries, emergency service costs, repairs) from those that are less controllable (e.g. network rates and the Ofgem licence fee). The less controllable costs tend to be treated in price controls in one of two ways. The company is either given a direct allowance for the cost based on notification of the appropriate amount from the relevant organisation or, in two cases, the cost is treated as a pass-through item and the actual costs to be recovered each year are added to allowed revenue in that year through an adjustment to the price control formula.

6.30. The second step is to ensure that there is good quality comparable data. Ofgem proposes to ask for information from the GDNs on the basis of NGG's 2004-05 accounting policies, which should limit the extent of differences in accounting treatments. However, there may need to be adjustments to ensure sufficient comparability such as the removal of atypical and one-off costs, margins applied to transfers within companies and between group companies, and changes to the capitalisation of overheads.

6.31. In order to ensure that the assessment of costs is as robust as possible, Ofgem proposes to use a range of techniques for the review and bring these together:

- **Reviewing forecast costs –** Ofgem would carry out analysis of the GDNs' forecasts costs to understand if they are based on realistic assumptions. This may provide useful information if the forecasts are realistic;

- **Top-down benchmarking –** Ofgem would compare and benchmark the controllable operating costs of individual GDNs. As Ofgem recognises that the management of a company is an important determinant of efficiency, Ofgem proposes to perform benchmarkings both on the basis of the eight individual GDNs and the four ownership groups. These sample sizes are small but the analysis should still provide important information on efficiency. Ofgem is considering what techniques are most appropriate for the benchmarking analysis;

- **Bottom-up modelling –** Ofgem proposes to analyse the inputs or work required and the costs of the inputs, such as the number of gas leaks repaired multiplied by the unit costs of repairs;

- **Activity-based analysis –** Ofgem also proposes to assess efficiency by carrying out comparisons between GDNs at a more disaggregated level. This will involve collecting data for particular activities, identifying key cost drivers and comparing unit costs;

- **Expert review of costs –** Ofgem proposes to use specialist consultants to review particular activities, consider how they could be managed differently and whether there is scope for efficiency savings, for example through more effective management of contractors, strengthened cost control processes etc; and

- **External benchmarking –** the information and insights gathered by comparing the GDNs with each other and carrying out a detailed expert review of costs would be supplemented where possible with external benchmarking, e.g. with electricity DNOs or other relevant comparators.

6.32. Ofgem is considering how the different approaches to the cost analysis should be brought together. For example, Ofgem could publish the results of each of the approaches and consult on a number of different options for weighting them. It may be that a mechanistic process for weighting those approaches is inappropriate and that greater emphasis will be placed on the judgment of Ofgem and its advisors. Ofgem would welcome views on how the different forms of analysis should be drawn together.

Treatment of shared costs

6.33. Prior to GDN sales the GDNs were part of a wider group and therefore did not have directly observable costs as standalone businesses. This is still the case for the four GDNs that have been retained by NGG. Ofgem is carrying out work to analyse the efficiency of corporate overheads and shared services within NGG, the allocation of shared costs between the regulated and non-regulated businesses, and the allocation between National Grid plc and NGG's transmission and distribution businesses. It is important to ensure that the allocations are robust as they affect the level of controllable operating costs for the retained GDNs, and controllable operating costs are part of the top-down benchmarking analysis.

6.34. Ofgem will also consider shared cost issues which arise for any of the four independent GDNs. For example, Scottish and Southern Energy provide certain support services to Scotia.

Shrinkage

6.35. Shrinkage gas is gas lost through the transportation system due to leakage and theft as well as gas that is used for operational purposes. Leakage is by far the largest component of LDZ[48] shrinkage by volume, accounting for around 90 per cent of shrinkage. Shrinkage gas currently constitutes approximately 0.7 per cent of total LDZ throughput or around 4,500 GWh compared to 0.9 per cent or around 6,000 GWh in the first year of the current price control.

6.36. Under the current price control, GDNs receive a fixed allowance for shrinkage and are therefore incentivised to reduce these costs over a five year period.[49] The key volume driver for shrinkage in the short term is system operating pressure. In the long term, the main driver for a reduction in shrinkage is lower leakage as a result of the replacement of iron mains with polyethylene pipes.

6.37. As part of GDPCR it will be necessary to review both the future cost allowances and the incentive mechanism for shrinkage. This will need to consider the two main potential risks faced by GDN owners with respect to shrinkage gas. These are:

- **Volume risk –** The volume of shrinkage that will need to be procured by GDN owners is largely dependent on the mains replacement programme and the pressure at which the network is operated. Ofgem's preliminary view is that the GDN owners should bear this risk because the scope to reduce the volume of leakage is largely within their control; and

[48] LDZs, or Local Distribution Zones, is a term used to refer to gas distribution networks in the Uniform Network Code. A gas distribution network is made up of one or more LDZs.
[49] In the current price control, an allowance of around £50m per annum is allocated to the cost of purchasing gas associated with LDZ shrinkage.

- **Price risk -** GDNs are currently exposed to price risk due to changes in the market price of gas which are outside their control and can have a disproportionate effect on their overall operating costs. However, GDNs can take steps to ensure that they procure gas efficiently on the market, for example by hedging against the risk of future price increases. During the course of GDPCR it may be appropriate to consider mechanisms which reduce the price risk faced by GDNs but which require GDNs to procure gas efficiently. In developing any shrinkage incentive mechanism, it will be important to ensure that customers do not bear excess cost of GDNs procuring gas inefficiently on the market.

6.38. The extent to which these issues are considered in the main review, as opposed to the one year control, will depend upon the outcome of the consultation in Chapter 5 (see paragraph 5.20).

Pensions

6.39. Ofgem's approach to pensions will build on the work carried out as part of the developing network monopoly price controls consultation and DPCR4. For NGG there is a crucial link between TPCR and GDPCR since as part of the arrangements associated with GDN sales, NGG's transmission business took on responsibility for the costs of funding all non-active pension scheme members in existence at the time of the sales, including those who were previously employed by NGG's gas distribution businesses. This issue is discussed in paragraph 5.26, and in the TPCR second consultation document.[50]

6.40. Pensions law is changing as a result of the introduction of the Pensions Act 2004. The Pensions Regulator was established by the Pensions Act 2004 and is introducing pension regulations. The pension regulations cover issues such as how pension schemes should be valued and over what period of time deficits should be funded. Ofgem will consider the effect of these changes during the course of the consultation and would like to hear the views of respondents in relation to how they think these changes could affect the price control.

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[50] Transmission Price Control Review Second Consultation Document, Ofgem, December 2005. This document is scheduled to be issued shortly.

Information sources

6.41. Ofgem plans to make use of existing information in carrying out the price control review including output reports under the Regulatory Instructions and Guidance, standards of performance reports and price control returns. However, most information will be gathered through BPQs. Ofgem will publish a draft of the BPQ for the main price control review in February 2006 and, having taken comments into account, publish the BPQ in June 2006. This will ask for historic information for 2005-06 and forecast information up to 2018. We will consider whether any further information is needed for longer time horizons to understand the appropriate level of costs through to 2013. The completed forms and associated information are due to be submitted by October 2006.

6.42. In July 2007, Ofgem proposes to ask for an updated BPQ submission which will include 2006-07 actuals and updated forecasts. This would be used for a substantive update of some of the key areas of cost analysis and to update the RAV for an additional year's data.

Outputs

6.43. GDPCR is an opportunity to define what gas distribution businesses are expected to deliver in terms of safety, network capacity, quality of service and other outputs such as the longer-time reliability of the networks.

Safety

6.44. Clearly, one of the primary objectives for the GDNs is that their networks are operated safely and do not cause danger. Ofgem will have regular meetings with the HSE, GDNs and other relevant stakeholders on safety. Where appropriate, the outputs defined as part of GDPCR could reflect certain dimensions of the safety issues arising in these discussions.

Quality of service

6.45. Over the last few years both Ofgem and the industry have carried out significant work on how quality of service should be measured and incentivised. Some progress has been made in terms of the introduction of output measures such as the number and duration of interruptions, surveys of customers' experience during supply interruptions and environmental measures. Ofgem has introduced new standards of performance for connections and refined the overall standards of performance.

6.46. The price control review provides an opportunity to consider how the quality of service arrangements could be improved in particular:

- whether there are gaps in the existing arrangements which should be addressed and areas where further improvement may be necessary for example in the accurate and consistent measurement of certain outputs;
- whether there are areas where incentives should be introduced or existing incentives strengthened. For example, under the standards of performance arrangements; and
- whether the standards of performance could be simplified.

6.47. As part of final proposals for DPCR4, Ofgem proposed the introduction of a customer service reward scheme to encourage best practice in areas that cannot be easily measured or incentivised through more mechanistic arrangements such as initiatives relating to priority customers and corporate social responsibility. Ofgem will consider whether a similar scheme should be introduced for gas distribution.

6.48. Ofgem will consider how best to make use of surveys of customers' experience during supply interruptions as part of the price review and whether other customer surveys are needed, for example to support changes to the standards of performance arrangements.

Capacity

6.49. In setting capital expenditure allowances for the GDNs it may be desirable to understand what outputs are to be delivered in return. This is particularly the case with the development of incentives for GDNs to contract for an efficient level of NTS offtake capacity, which will provide new incentives for GDNs to trade-off their use of NTS offtake capacity against investment in capacity on their own network, the use of GDN storage and interruption. Ofgem will need to ensure that GDNs are not remunerated twice for the provision of the same capacity through the offtake incentives and the capital expenditure allowance within the price control.

6.50. Ofgem proposes to specify appropriate measures of capacity for each of the GDNs as part of the price control and to analyse the relationship between changes in capacity and costs. In defining output measures it is necessary to consider the level at which the outputs should be set and whether they should be defined for the network as a whole, zones within the network, pressure tiers, or specific points on the network.

Longer-term network reliability

6.51. It is important that short-term incentives for efficiency and delivery of outputs do not lead to perverse incentives to neglect the longer-term reliability of the network. Ofgem will consider whether it is appropriate to introduce additional indicators of longer-term network reliability.

Cost reporting framework

6.52. As part of the GDN sales project Ofgem introduced a new licence condition into the licences of the GDNs. This licence condition lays out the legal framework for the collection of regular cost reporting information on the performance of the GDNs that will help inform future price control reviews and make it easier to roll forward the RAV. The output from this workstream will be a set of tightly defined reporting requirements which builds on the BPQ process and reflects the basis on which the control is set in 2007-08 and will be reviewed in 2012-13. This approach is consistent with the cost reporting arrangements introduced as part of DPCR4 and the approach to cost reporting being considered as part of TPCR.

6.53. The introduction of a cost reporting framework is also critical to the delivery of effective comparative regulation which will pass on the benefits of GDN sales to customers.

6.54. Most of the detailed work on the cost reporting framework is currently being planned for April 2007 to March 2008 but as work progresses on the opex and capex analysis Ofgem will also consider the associated cost reporting issues.

Incentives

6.55. The current price controls for gas distribution are an RPI-X form of revenue control with a volume driver and an additional incentive mechanism for mains replacement expenditure. As part of the main price control review it will be important to consider possible refinements such as the introduction of rolling retention periods and sliding scale incentives and to assess the effectiveness of the mains replacement mechanism.

Rolling retention periods

6.56. The application of rolling incentives for capital expenditure during the current control period is discussed in paragraphs 4.10-4.13.

6.57. In the light of informational concerns and the potential scope for gaming, Ofgem did not implement a rolling incentive mechanism for efficiency savings in operating costs as part of DPCR4 final proposals. One concern was the scope for the companies to capitalise certain types of operating costs, and thereby create 'artificial' efficiency savings. Further, if incentives for operating, capital and replacement expenditure have differing strengths, this may create perverse incentives for overall efficiency. Ofgem is considering whether similar issues apply for gas distribution for the current price control period and therefore whether it is appropriate to apply rolling incentives for operating expenditure from 1 April 2003.

6.58. As part of setting the main price control, Ofgem will consider whether it is appropriate to apply rolling incentive mechanisms for operating, capital and replacement expenditure for 2008 to 2013 and if so, the form of such rolling incentive arrangements.

Information quality incentives – sliding scale mechanism

6.59. In the absence of clearly measurable outputs against which efficiency of spend can be judged, GDNs could have more of an incentive to 'game' the regulator by inflating their estimates of forecast capital costs. During DPCR4, Ofgem developed a sliding scale mechanism that was intended to offset this incentive by allowing companies to choose between getting:

- a lower cost allowance, but with a "higher-powered incentive" that allows them to retain significant benefits if they can do even better than the lower figure; or

- a higher allowance, but with a "lower-powered incentive" that gives relatively small reward for underspending the higher allowance.

6.60. Companies that chose the low cost allowance received a reward (a small amount of additional return above the base cost of capital), while companies that chose the high cost allowance did not (they are neither rewarded nor penalised if they spend their allowance).

6.61. The sliding scale mechanism encourages companies to provide more reasonable capital expenditure forecasts, because companies who believe they may spend a lower amount of capex than Ofgem's benchmark will find it beneficial to choose the lower allowance, whilst companies who believe they may spend more than Ofgem's benchmark will find it beneficial to choose the higher allowance. This property is known as being "incentive compatible".

6.62. Ofgem considered the sliding scale mechanism to be a useful part of DPCR4 as the mechanism appeared to encourage electricity distribution companies that had submitted high cost estimates (relative to the estimates of Ofgem's consultants) to rethink their forecasts. Ofgem acknowledged, however, that the real test of the effectiveness of the sliding scale will depend on outcomes over the course of DPCR4.

6.63. Ofgem is considering whether such an approach would be appropriate for gas distribution. One issue is that replacement expenditure accounts for a considerably larger proportion of spending than capital expenditure and there are separate replacement incentives in place.

6.64. Ofgem intends to make a decision on this issue at an early stage in the price control review as it will influence the GDNs' approach to forecasting their costs.

Mains replacement incentive mechanism

6.65. As explained in paragraphs 2.18-2.20, an accelerated mains replacement programme was established at the time of the previous price control review as a result of safety considerations.

6.66. At that time there was uncertainty in the diameter mix of mains that GDNs would need to replace each year to meet the HSE's safety requirements. Since the cost of replacing a large diameter main may be many times the cost of replacing a small diameter main, the financial impact of this uncertainty is significant. Ofgem developed a mains replacement incentive mechanism to allow flexibility in the way the work was implemented while incentivising efficiency and sharing the benefits of efficiency savings with customers in the current price control.

6.67. The mains replacement mechanism sets out a matrix of unit costs for mains decommissioned within various diameter bands and an expected annual level of mains decommissioned within each band for each GDN. These are combined to derive an annual allowance for mains replacement costs which has been included in the companies' allowed revenue. The incentive mechanism allows companies to pass-through the costs of increased workload (savings from reduced workload are returned to customers) in any given year subject to the constraint that total costs in the price control period cannot be greater than the total allowance. However, the GDNs only receive 50 per cent of any overspend if their unit costs are higher than projected. They share 33 per cent of any efficiency savings if their unit costs are lower than projected. This provides an incentive for GDNs to carry out the work efficiently.

6.68. As part of the main price control review Ofgem will assess how the mains incentive mechanism has worked in practice and in particular how effective it has been relative to traditional capital expenditure incentives, whether it has met the objectives of flexibility and efficiency and whether change is required.

6.69. A number of specific issues have already come out of initial discussions with the GDNs. It has been suggested by the GDNs that it may be appropriate to include service replacement within the mechanism and to include an additional larger diameter replacement band to avoid incentives to focus on smaller diameter pipes than is efficient.

Financial issues

6.70. This section sets out Ofgem's initial thoughts on its approach to financial issues in GDPCR and outlines the work that will be undertaken during the rest of the price control review. In developing its policies in this area Ofgem will have regard to its duty to ensure that the GDNs can finance their statutory and licence obligations. Ofgem will also, where appropriate, aim to provide appropriate incentives for companies to make efficiency savings and allow customers to share in those benefits in due course.

Cost of capital

6.71. Regulators have tended to make an allowance for the efficient financing costs that a company will incur by estimating a return on the value of the capital employed in the business (i.e. the RAV) equal to the return required by providers of finance (i.e. the cost of capital). As part of this price control Ofgem will consider the main factors affecting cost of capital and the issues surrounding the required calculations.

6.72. Traditionally, the cost of capital of an entity has been described as the Weighted Average Cost of Capital (WACC) which is the weighted average of the *expected* cost of equity and the *expected* cost of debt. The three main components of the cost of capital are (i) the expected cost of equity; (ii) the expected cost of debt; and (iii) the gearing assumption.

Pre-tax, post-tax and 'vanilla' WACC

6.73. Prior to DPCR4 Ofgem used a pre-tax approach to the cost of capital in which provision was made for tax liabilities through an allowance for the pre-tax cost of capital. In the developing network monopoly price controls paper, Ofgem indicated that it could move to a post-tax approach to the cost of capital which requires the tax allowance to be calculated separately and refers to the cost of capital after all corporate taxes. This approach was used in DPCR4.

6.74. In practical terms, when a post-tax cost of capital is being used the price control calculations require an allowance for tax costs plus a pre-tax return on debt and a post-tax return on equity. The related cost of capital figure, which does not incorporate any tax adjustment (i.e. neither to the cost of equity nor to the cost of debt) is referred to as the 'vanilla' WACC.

6.75. At this stage, Ofgem expects to build on the approach adopted as part of DPCR4, TPCR and have regard to the results of the cost of capital study described in paragraph 5.32. Ofgem will particularly want to consider how each of the components of cost of capital has changed between the publication of the study and GDPCR final proposals and whether anything specific to the GDNs should lead it to adopt a different approach.

Tax

6.76. If a post-tax approach to the cost of capital is used then a tax allowance needs to be provided for the gas distribution business of the GDN. There are generally two main approaches: either an ex-ante allowance is provided, based on an assessment of an efficient level of costs; or an estimated allowance is provided with an adjustment mechanism so that tax costs are passed through.

6.77. The adjustment mechanism could either adjust for all tax issues (i.e. a full pass through) or could adjust only certain items. In considering this question it is important to consider the effect on incentives. For instance, including an item such as opex in a tax adjustment mechanism would alter the power of the opex incentive.

6.78. If a pass-through approach is used with an adjustment mechanism then the mechanism would need to be clearly defined and this is not easily achieved.

6.79. Ofgem's thinking on how to determine a tax allowance was developed in DPCR4 where an ex-ante approach was adopted (with an ex-post adjustment for gearing where relevant) which incentivises the companies to manage their tax position in an efficient way. This reflected the traditional approach to cost efficiencies, which incentivises companies to make savings, which are then passed on to customers after a period of time.

6.80. If an ex-ante approach to the assessment of tax is being used then Ofgem will need to obtain information on the GDNs historical tax charges, their estimate of future tax charges, their opening capital allowance balances, and their treatment of capital and operating expenditure. Ofgem also needs to take a view on the corporation tax rate to be used and how taxation rules may change in the future e.g. allowances for energy efficient expenditure.

Financeability and financial modelling

6.81. Both Ofgem and licence holders have duties and obligations with respect to the financing of companies. In setting price controls, the main high level financial issues that Ofgem needs to consider are that:

- ♦ an efficient company should be able to earn a return on its RAV that is at least equal to the expected cost of capital; and
- ♦ companies should be able to raise finance from the capital markets readily and on reasonable terms.

6.82. Ofgem proposes to consider whether the company can access funds at a reasonable cost to meet their investment requirements. In previous price control reviews (for example, DPCR4) Ofgem has examined whether the price control proposals were consistent with the ability of a licence holder to maintain a satisfactory level and trend of key financial indicators consistent with a credit rating that is comfortably within the investment grade category. It is for consideration whether this remains the most appropriate approach. In forming a view on how to assess financeability, Ofgem will have regard to the findings of the joint Ofgem/Ofwat study on financing networks. An initial report is expected to be published in early 2006.

6.83. An important part of the approach to financeability is considering the timing of cash flows e.g. depreciation, capitalisation (i.e. the treatment of repex) and pensions allowances.

6.84. Ofgem will use a financial model to help assess the financial impact of the new price controls on companies and to determine allowed revenue. The financial model will take the outputs from the cost assessments (opex and capex) and model the financial impact of these on the companies by calculating the impact on the key financial indicators. Ofgem is working on developing the financial model and will have discussions with GDNs and other relevant parties about financial modelling issues during the course of the review. The financial model will be revised as the method and principles underlying the price control become clearer.

6.85. It is important as part of a price control that information asymmetry is reduced to a minimum by having a transparent process. In Ofgem's view, the transparency of the price control process would be facilitated by publication of a full, populated financial model. In considering the extent that companies will be involved in developing the financial model, Ofgem will take account of whether companies support the publication of the full, populated financial model.

Other issues

6.86. In addition to the issues that would be considered as part of any Ofgem price control review, there are a number of other issues that are relevant in the context of GDPCR. These include certain issues which follow on from GDN sales – xoserve and the agency funding arrangements, SOMSAs and independent networks.

Xoserve and the agency funding arrangements

6.87. An important aspect of the industry restructuring that occurred as part of GDN sales was the establishment of a transporter agency (known as 'xoserve') which provides a single, uniform interface between the IT systems of relevant gas transporters (GTs) and shippers. Xoserve is responsible for a variety of functions such as invoicing shippers for use of the transportation system, and managing the change of supplier process. The creation of the agency avoids the significant costs that would arise if shippers had to interface separately with each relevant GT rather than just one entity as they did prior to GDN sales.

6.88. As Ofgem did not reopen NGG's price control as part of the GDN sales process, xoserve is funded jointly by National Grid (i.e the NGG's transmission business) and the GDNs using price controlled revenue. However, the GDN sales documents recognised that there are alternative funding models, and that it would be appropriate to consider the funding of xoserve during the next price control review.[51]

6.89. A wide range of options for the funding of xoserve are possible. For example:

- the existing funding arrangements could be retained, potentially with some further dialogue between xoserve, GTs, shippers and Ofgem regarding the price/service package provided by xoserve;
- the principle of 'user-pays' could be applied to all or part of xoserve's funding, thereby allowing shippers to influence the range and quality of services provided;
- the Authority could create a separate Gas Act "licensable activity" so that xoserve can become completely independent of GTs, potentially with its own price control; or
- the GTs could conduct a competitive tender for the provision of services currently provided by xoserve – this would involve a range of consequential changes to the structure of the agency arrangements.

6.90. These examples are intended to illustrate the diversity of funding options available and do not represent the full range of options that may be appropriate.

6.91. Ofgem is interested in exploring whether the current funding arrangements are working satisfactorily, and in light of this, what overall approach should be taken in considering the funding of xoserve as part of GDPCR. In particular, Ofgem is interested in exploring whether industry participants would prefer to retain the status quo, introduce refinements on the status quo or consider more substantial reform.

6.92. Given xoserve's role at the heart of gas market systems, any major change to the agency funding arrangements would constitute a significant project in itself. Among other things, it may be necessary to consider the interaction with the industry governance arrangements, such as the Uniform Network Code and the Supply Point Administration Agreement. It may also be necessary to manage the

[51] Ofgem, *National Grid Transco – Potential Sale of Gas Network Businesses Agency and Governance Arrangements, Decision Document*, May 2004 120/04

timing interactions between TPCR, GDPCR and any change to the agency funding arrangements.

Allocating xoserve's costs

6.93. One issue that Ofgem should unambiguously address as part of the price control process is ensuring that price controlled revenue does not fund xoserve's commercial activities.

6.94. Such commercial activities have the potential to benefit customers. For instance, the Gas Forum has suggested that xoserve could provide services on behalf of IGTs, thereby reducing the costs to suppliers associated with serving customers connected to IGT networks. If this were to occur, it would be important to ensure that xoserve is only remunerated once for its expenditure, and that no cross subsidy arises between GDN and IGT customers.

6.95. It will also be necessary to review the cost allocation and financial ring fencing arrangement to ensure that GTs' licence conditions are robust to the agency arrangements.

System Operation Managed Service Agreements (SOMSAs)

6.96. SOMSAs are contracts between NGG and each GDN purchaser under which NGG carries out system operation on behalf of the new GDNs.[52] SOMSAs were put in place at the time of the gas distribution network sales because NGG had consolidated its Area Control Centres (ACCs) for all GDNs to a single location at Hinckley, and the new GDNs needed time to establish their own ACCs. The SOMSAs were an important factor in HSE's decision to approve the GDNs' revised safety cases.

6.97. During the sales process, a number of participants in Ofgem's consultation process raised concerns regarding SOMSAs. Among other things, it was

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[52] The SOMSAs provide for the scheduling, monitoring and control (under the direction of the IDN) of flows of gas in the parts of the GDN system operable remotely from the control centre using the control system, in order to achieve a physical balance. Other services provided under the SOMSAs include:

- services for the notification of call-outs, alarms and faults;
- coordination services in the event of contingencies and emergencies;
- services to support the preparation of a plan covering scheduling of engineering works and maintenance affecting the remotely operable parts of the GDN system; and
- recording details of engineering works and maintenance carried out.

suggested that the SOMSAs reduce accountability and create an opportunity for NGG to confer an undue commercial advantage on its own networks at the expense of the independent networks.[53]

6.98. On the basis that the SOMSAs were transitional arrangements that were essential to allow the sale to occur within a commercially feasible timeframe, the Authority granted the following consents to accommodate SOMSAs within the regulatory framework:

- NGG received consent to carry out activities under the SOMSAs, with the effect that payments received under the SOMSAs are excluded from the de minimis business thresholds;[54] and

- each new GDN received consent to relinquish operational control of its transportation assets to the extent that such control is relinquished pursuant to the SOMSAs.[55]

6.99. Each of these consents expire on 31 March 2008, i.e. at the end of the current price control period (once extended).

6.100. Ofgem understands that each new GDN intends to establish their own ACC. However, it appears likely, in some cases, the new ACCs will not be in operation when the Authority's consent to relinquishment of operational control expires on 31 March 2008.

6.101. The logistical and regulatory[56] complexity associated with moving off the SOMSAs makes long lead times unavoidable. In addition, for safety reasons, changes to the operation of the ACC can only be carried out when the network is under less strain (i.e. during the summer). This means that the new GDNs would need to have their ACCs in operation by summer 2007 in order to meet the deadline. In addition, some GDNs have indicated to Ofgem that the computer system used by the Distribution National Control Centre is becoming

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[53] National Grid Transco, Potential sale of gas distribution network businesses, Allocation of roles and responsibilities between transmission and distribution businesses, May 2004, 119/04.
[54] This consent was granted pursuant to Standard Special Condition A36.
[55] This consent was granted pursuant to Standard Special Condition A27.
[56] Moving off the SOMSAs involves changes to the GDNs' safety cases, which must be approved by the HSE.

outdated. They have suggested that a major systems upgrade is required within the next five years.

6.102. The treatment of SOMSAs and the costs associated with them will require consideration during the review.[57] If necessary, the Authority will consider whether to reissue any relevant consent in due course.

Independent systems

6.103. Independent systems are small gas networks which are not connected to the national system. Instead they are supplied with gas using tankers. As part of the GDN sales process, undertakings were put in place (in favour of the Authority) to ensure that customers connected to independent systems pay no more than the average GB charge and that the costs of achieving this will be recovered from NTS customers, but not before 1 April 2007.

6.104. It will be necessary to ensure that the arrangements for recovering these costs, and the revenue flows from the NTS to the GDNs, are correctly reflected in both TPCR and GDPCR.

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[57] Ofgem's position on losses of economies of scale is set out in paragraph 4.12.

7. Way forward

7.1. This section describes the process and timetable that Ofgem proposes to follow over the course of GDPCR, including its use of Impact Assessments (IAs).

Proposed process

7.2. Ofgem intends to establish an open and iterative dialogue with GDNs and other interested parties, and it expects the GDNs to respond in the same way. This is the first review following the sale of GDNs, which in itself may generate a number of issues for the review (for example in relation to data availability). Ofgem considers that this justifies a greater emphasis on dialogue.

7.3. In conducting GDPCR, Ofgem will also build on the experience gained and lessons learned during Ofgem's previous price control reviews, both in terms of policy and process. In particular, GDPCR will build on the experience of DPCR4, including by incorporating where appropriate the outcomes of the DPCR4 'lessons learned' exercise.[58]

7.4. Ofgem's proposed consultation process makes use of a variety of forms of communication:

- **Consultation documents.** Over the course of the next two years, Ofgem proposes to issue four consultation documents (including this one), followed by Initial Proposals, Updated Proposals and Final Proposals. These papers will give interested parties the opportunity to make representations on the issues and will clearly document Ofgem's decision making process.

- **Seminars.** Ofgem expects to conduct three seminars to discuss the issues set out in the consultation documents. These seminars will be targeted at a broad range of stakeholders, including consumer, industry and City representatives. The timing and content of the seminars will depend in

[58] Ofgem, Assessment of the Electricity Distribution Price Control Review Process, Conclusions Document, July 2005 175/05.

part on the issues which emerge as important from the early consultation papers.

- **Bilateral meetings.** As appropriate, Ofgem will meet with other stakeholders including the HSE, energywatch and other interested parties.

- **Authority committee meetings with GDNs.** Ofgem proposes to continue the practice adopted in DPCR4 of giving GDNs the opportunity to meet with a committee of the Authority prior to key decisions being taken. Ofgem proposes that three rounds of meetings are held – following the publication of the one year control and main review initial proposals, and prior to publishing the main control final proposals.

- **GDPCR working group.** This working group will provide an opportunity for GDNs and Ofgem to consider particular policies and approaches. The working group will not have any decision making role. Ofgem will chair the group. The group will include up to two representatives from each GDN owner. Where appropriate, sub-groups will be established to discuss individual strands of work such as financial issues, licence drafting, quality of supply and measurement.

- **External consultants.** As with previous price control reviews, Ofgem proposes to make use of external consultants to assist with the review and assessment of the historical and forecast costs of GDNs. In accordance with feedback received following DPCR4, Ofgem will engage the consultants at an early stage in the review to ensure that they are integrated into the price control process without duplication of effort.

Use of impact assessments

7.5. Ofgem is considering whether, in light of the experience of previous reviews, it is appropriate to update its approach to the use of IAs as part of price control reviews.[59] During DPCR4, Ofgem published a preliminary IA on the overall

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[59] The circumstances in which it is necessary for the Authority to carry out an IA or publish reasons why an IA is unnecessary are set out in Appendix 3. These circumstances apply to GDPCR.

price control package in the initial consultation document[60] and then published a final overall IA at the same time as the Final Proposals.[61] While some industry participants suggested that further draft versions of the overall IA should have been published during the decision making process, Ofgem also received feedback that the final IA was worthwhile insofar as it provided a useful alternative means of presenting information.

7.6. Rather than carry out an IA on the overall price control review itself, Ofgem could carry out IAs for all important new initiatives that are proposed as a part of the price control review and on specific issues where it appears that an IA may be of benefit.[62] This may include, for instance, an IA in relation to any proposed service quality incentive mechanism. In this case Ofgem would decline to carry out an IA on the overall price control review itself for the following reasons:

- the review is a continuation of an existing policy rather than the introduction of a new policy;
- in setting allowed revenues, the options are not really meaningful as Ofgem will always seek to set an allowance that reflects efficient costs rather than an allowance that is higher or lower than efficient costs;
- the benefits of price control regulation are well established,[63] and in this case the 'do nothing' option would not protect the interests of consumers; and
- an IA on the overall price control review would have the potential to increase the workload of Ofgem and industry without commensurate benefit.

7.7. In the absence of an IA on the overall price control review, Ofgem could publish appendices which set out, in table format, the various policy options under

[60] Electricity Distribution Price Control Review Initial consultation 68/03, Appendix 1.
[61] Electricity Distribution Price Control Review, Impact Assessment, November 2004 265b/04. Ofgem also produced IAs on the incentive scheme for distributed generation, the innovation funding incentive and registered power zones, and metering and quality of service.
[62] These IAs would include consideration of the environmental and distributional impact of the proposed initiative.
[63] For example, see National Audit Office, *Pipes and Wires*, April 2002.

consideration and their respective costs and benefits (quantified where appropriate).

7.8. Ofgem seeks the views of respondents on the use of IAs as part of the price control process.

Proposed timetable

7.9. Ofgem considers that GDPCR should be conducted as a single project with two main outputs - extending the existing gas distribution price control for one year; and resetting the gas distribution price control for the period commencing 1 April 2008. Table 7.1 (page 66) shows Ofgem's proposed timetable for GDPCR.

7.10. The proposed timetable diverges from previous Ofgem price control processes in a number of respects, including:

- **Duration of data collection period.** As set out in Chapter 2, the gas industry has undergone substantive structural change since the previous price control review. One of the most significant challenges for GDPCR will be to obtain quality data, especially in relation to historical costs. To address this, Ofgem proposes to commence its review of costs early, and to complete its review of costs at a later stage in the process than would ordinarily be the case in order to consider actual data from 2006-07. As a result, Ofgem may need to update substantively its proposals following the release of the Initial Proposals document in June 2007.

- **Development of cost reporting framework.** Ofgem proposes to review the gas distribution cost reporting framework within a timeframe that makes it possible to implement any changes at the commencement of the next price control period (i.e. 1 April 2008). This exacerbates the peak in workload towards the end of GDPCR. Ofgem considers that the introduction of a robust cost reporting framework for the entire period is key to achieving the benefits of gas distribution network sales at the next price control review (which is expected to be in 2012).

Table 7.1 Proposed timetable for the review

	One year control	Main Review	Cost reporting
Jan 06	Draft BPQ to GDNs		
Feb 06	Issue BPQ	Draft BPQ to GDNs	
Mar 06			
Apr 06	GDNs submit BPQ data Capital & replacement expenditure visits to GDNs		
May 06			
June 06		Issue BPQ	
Jul 06	**Publish second consultation document**		
Aug 06			
Sep 06	**Publish initial proposals**		
Oct 06		GDNs submit BPQ data	
Nov 06		**Publish third consultation document**	
Dec 06	**Publish final proposals**		
Jan 07			
Feb 07	Publish section 23 notice	Issue BPQ update	
Mar 07		**Publish fourth consultation document**	
Apr 07	Modify licences		
May 07		**Publish initial proposals**	
June 07		**Publish consultation on licence drafting** GDNs submit 2006-07 BPQ data	
Jul 07			**Publish consultation on cost reporting framework**
Aug 07			
Sep 07		**Publish updated proposals** **Publish draft licence conditions**	
Oct 07			
Nov 07			
Dec 07		**Publish final proposals** **Publish proposed licence conditions**	**Publish final proposals on cost reporting framework**
Jan 08			
Feb 08		Publish section 23 notice	
Mar 08			
Apr 08		Modify licences	

- **Early start on legal drafting.** Consistent with feedback received as part of the DPCR4 lessons learned exercise, Ofgem proposes to commence the development of the legal drafting changes required to give effect to GDPCR at a relatively early stage in the process. Ofgem proposes to publish an initial consultation document on the licence drafting in June 2007.

- **Seminar following initial proposals.** In response to feedback from non-licensees that Ofgem's DPCR4 consultation process was too focussed on the licensees following publication of initial proposals, Ofgem propose to hold a seminar after publishing initial proposals. This will give all interested parties a further opportunity to provide feedback in the light of Ofgem's initial proposals.

7.11. These changes are intended to address specific issues arising in the context of GDPCR and to build on Ofgem's experience of carrying out price control reviews.

Next steps

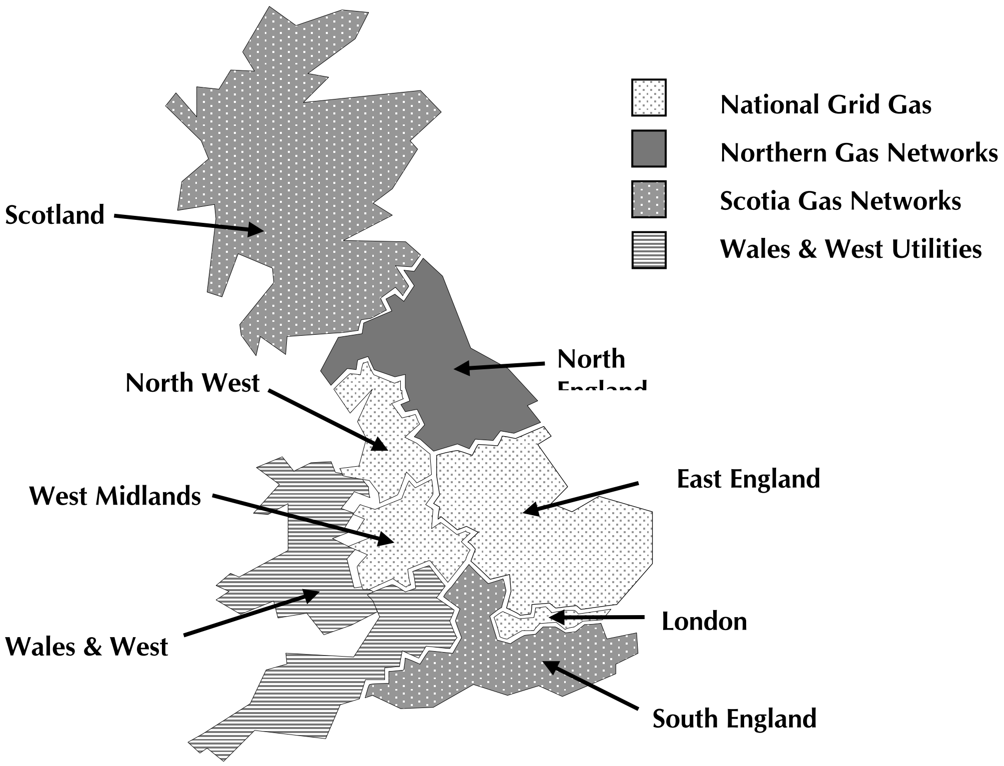
7.12. This paper has set out for consultation the context and objectives of the review, the proposed timetable and process, Ofgem's initial views on the scope of the one year control and the issues that will need to be considered in setting the main control. As set out in paragraphs 1.9-1.12, Ofgem invites views on any of the issues raised in this document. Ofgem also proposes to hold an introductory seminar on GDPCR on 11 January 2006 which is open to anyone who wishes to attend.

7.13. This is the first in a series of documents that will be published as part of the GDPCR consultation process. Ofgem expects to publish its second consultation document, which will build on feedback received in response to this document, in July 2006.

Appendix 1 Introduction to the GDNs

1.1 There are eight gas distribution networks, which are owned by four gas distribution companies – NGG, Northern Gas Networks, Scotia, and Wales & West Utilities. Figure A1 shows the eight networks and their owners.

Figure A1 Map of gas distribution networks & gas distribution companies



National Grid Gas plc

1.2 NGG owns four GDNs – North West, East England, West Midlands and London. These four networks are the GDNs that NGG elected to retain when it conducted its sale of gas distribution networks.[64] Prior to the sale, NGG owned all eight GDNs.

1.3 The GDNs owned by NGG extend from London (north of the Thames) through eastern and central England, and as far north as the Lake District. Their key characteristics are set out in Table A1. The key price control parameters of NGG's GDNs, and each of the other GDNs, are set out in Table 2.2.

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[64] NGG's distribution businesses are sometimes referred as to the RDNs (i.e. retained distribution networks).

Table A1 National Grid Gas distribution business high level characteristics

		East of England	London	North West	West Midlands
Customers ('000s), 2003-04	Domestic	3763.9	2166.4	2576.2	1864.5
	Non-domestic*	111.2	87.6	80.2	54.3
	Total customers	**3875.2**	**2254.0**	**2656.3**	**1918.7**
Networks ('000 km) 2003-04	Local Transmission System	2.5	0.7	1.0	0.9
	Intermediate Pressure	1.8	0.3	0.4	0.3
	Medium Pressure	6.2	1.8	3.2	3.1
	Low Pressure	38.7	20.5	29.9	19.8
	Total length of pipes	**46.7**	**22.6**	**33.6**	**23.2**
Length of mains decommissioned (kms), 2002-03 to 2004-05		1,586	697	1,104	966
Number of payments made under Guaranteed Standards, 2004-05		3,155	12,643	4,518	4,294

* Includes connected system entry points (CSEPs)

1.4 NGG is part of National Grid, which also owns the NTS and the majority of the UK electricity transmission network. National Grid operates its gas distribution business and its gas transmission business as two separate businesses within a single legal entity (National Grid Gas plc). The distribution business and the transmission business each have their own gas transporters' licence. In addition to the standard business separation licence conditions, the NGG licensed businesses are subject to licence conditions which require the separation of the transmission and distribution businesses. NGG's four GDNs share a single licence, but each has a separate price control.

1.5 NGG's distribution business receives a number of services, such as corporate services, from other parts of National Grid including from NGG's transmission business.[65]

Northern Gas Networks

1.6 Northern Gas Networks (NGN) owns North England GDN. NGN purchased North England GDN from NGG on 1 June 2005.

[65] Each GDNs' GT licence includes financial ring fence provisions that relate to the relationship between the licensee and any other group company. These provisions also include requirements for the licensee to submit cost information for the licensed entity separately from any other business.

1.7 North England GDN extends south from the Scottish border to South Yorkshire. The key characteristics of North England GDN are set out in Table A2.

Table A2 Northern Gas Networks high level characteristics

		North England
Customers ('000s) 2003-04	Domestic	2394.8
	Non-domestic*	71.3
	Total customers	**2466.1**
Networks ('000 km) 2003-04	Local Transmission System	1.2
	Intermediate Pressure	0.7
	Medium Pressure	3.6
	Low Pressure	30.4
	Total length of pipes	**34.7**
Length of mains decommissioned (kms), 2002-03 to 2004-05		1,295
Number of payments made under Guaranteed Standards, 2004-05		6,818

* Includes connected system entry points (CSEPs)

1.8 NGN is owned by a consortium led by Cheung Kong Infrastructure Holdings Ltd and including United Utilities plc. It has contracted out its asset management services to United Utilities, which also owns and operates the electricity distribution network in north west England. NGN itself has approximately 50 staff members who are responsible for managing the network and overseeing the contract with United Utilities.

Scotia

1.9 Scotia Gas Networks (Scotia) owns two GDNs, South England and Scotland. Scotia purchased South England GDN and Scotland GDN from NGG on 1 June 2005.

1.10 South England GDN extends from Milton Keynes, to Dover in the east and Lyme Regis in the west, including London boroughs to the south of the River Thames. Scotland GDN covers Scotland, which is the largest GDN by area but the smallest in terms of RAV. It includes five independent networks which are not connected to the distribution system due to their location. The key characteristics of Scotia's networks are set out in Table A3.

Table A3 Scotia Gas Networks high level characteristics

		Scotland	South England
Customers ('000s) 2003-04	Domestic	1650.2	3817.1
	Non-domestic*	50.8	124.7
	Total customers	**1701.1**	**3941.8**
Networks ('000 km) 2003-04	Local Transmission System	1.3	1.7
	Intermediate Pressure	1.1	1.2
	Medium Pressure	3.5	6.4
	Low Pressure	17.9	39.7
	Total length of pipes	**22.6**	**47.3**
Length of mains decommissioned (kms), 2002-03 to 2004-05		786	1,265
Number of payments made under Guaranteed Standards, 2004-05		5,006	7,105

* Includes connected system entry points (CSEPs)

1.11 Scotia's two networks are contained within two wholly-owned legal entities known as Scotland Gas Networks and Southern Gas Networks. Each of Scotland Gas Networks and Southern Gas Networks has its own gas transporters' licence.

1.12 Scotia is owned by a consortium made up of Scottish and Southern Energy plc, Borealis Infrastructure Management Inc and Ontario Teachers Pension Plan. It receives a number of services, such as corporate services, from service companies established as part of the Scottish & Southern Energy group. Scottish & Southern Energy owns and operates electricity distribution networks in Scotland and southern England, as well as gas shipping, electricity generation and gas and electricity supply businesses.

Wales and West Utilities

1.13 Wales and West Utilities (WWU) owns Wales and West GDN. WWU purchased Wales and West GDN from NGG on 1 June 2005.

1.14 Wales and West GDN encompasses Wales and a large part of south-west England from Swindon to the tip of Cornwall. The key characteristics of Wales and West GDN are set out in Table A4.

Table A4 Wales & West Utilities high level characteristics

		Wales & West
Customers ('000s) 2003-04	Domestic	2292.0
	Non-domestic*	73.5
	Total customers	**2365.5**
Networks ('000 km) 2003-04	Local Transmission System	2.5
	Intermediate Pressure	1.5
	Medium Pressure	4.0
	Low Pressure	26.3
	Total length of pipes	**31.8**
Length of mains decommissioned (kms), 2002-03 to 2004-05		966
Number of payments made under Guaranteed Standards, 2004-05		4,294

* Includes connected system entry points (CSEPs)

1.15 WWU is owned by a consortium led by the Macquarie European Infrastructure Fund. It is the only GDN owner that is wholly independent from other UK gas and electricity network businesses.

Appendix 2 Views invited

2.1 Ofgem invites views on any aspect of GDPCR, including in relation to any of this issues raised in this consultation document.

2.2 GDPCR is a large and complex project – Ofgem's final proposals on the main review are not scheduled to be issued until November 2007. In order to reach that point, it will be necessary to make a series of decisions over the course of the next two years. Ofgem intends to reach decisions on some of the issues raised in this document earlier than others. As set out in Chapter 1 (see page 2), the issues raised in this document can be categorised as either for early decision, for initial views or for information.

2.3 In order to assist parties who wish to provide comments, Table A2.1 details the stage in the decision making process that applies to different issues.

Table A2.1 Issue by stage in the decision making process

For early decision	For initial views	For information
♦ Related projects ♦ Objectives of the review ♦ Scope of the review ♦ Process ♦ Use of impact assessments ♦ Timetable ♦ Ofgem's review of the funding of xoserve	♦ Principles for the conduct of the review ♦ Setting the one year control: - capex & repex - opex - financial issues ♦ Structure of the price control ♦ Scope of the control ♦ Sliding scale incentive ♦ SOMSAs	♦ Capital and replacement expenditure ♦ Operating expenditure ♦ Outputs ♦ Incentives (other than sliding scale incentive) ♦ Financial issues ♦ Cost reporting framework

2.4 Parties who wish to provide comments may elect to use the tables below as a guide when preparing their response. Table A2.2 sets out the issues on which Ofgem intends to reach an early decision in order to help structure and plan for its review. Table A2.3 sets out the issues on which Ofgem is interested in receiving initial views.

2.5 Ofgem has not included a list of issues on which views are sought in respect of those parts of the document which are for information, but respondents are invited to provide comments on any issue that they consider to be relevant to the conduct of GDPCR.

2.6 The process for submitting responses to this document is set out in paragraphs 1.6-1.12 of the main document.

Table A2.2 Views sought – issues for early decision

No.	Issue on which views are sought	Paragraph
1	**Related projects** ♦ Are there any projects, other than those listed in paragraph 2.24, that Ofgem should take into account in the context of GDPCR?	2.24
2	**Objectives and framework** ♦ For the purposes of setting GDPCR, what should Ofgem consider to be the outputs of a GDN? ♦ What services offered by GDNs are valued by consumers? ♦ What aspects of GDNs' activities give rise to concerns? ♦ Are the objectives for the review proposed by Ofgem appropriate?	3.3 - 3.7
3	**Xoserve** ♦ Are the current funding arrangements for xoserve satisfactory? ♦ If not, should change be limited to refinements on the status quo or more substantial reform?	6.87 - 6.92
4	**Process** Should Ofgem conduct its consultation process in a different way to the process outlined in Chapter 7?	7.2 - 7.4
5	**Use of Impact Assessments** ♦ How should Ofgem incorporate Impact Assessments into the price control process?	7.5 - 7.8
6	**Timetable** ♦ Is the timetable shown on page 66 appropriate? ♦ Are there any issues that the draft timetable does not sufficiently take into account?	7.9 - 7.11

Table A2.3 Views sought – issues for initial views

No.	Issue on which views are sought	Paragraph
1	**Principles for the conduct of the review** ♦ Are the proposed principles for the conduct of the review appropriate?	Chapter 4
2	**Setting the one year control - capital and replacement expenditure** ♦ What is the appropriate scope of the work on capital and replacement expenditure for the one year control? ♦ What techniques should Ofgem seek to use in assessing capital and replacement expenditure?	5.10 - 5.14
3	**Setting the one year control – operating expenditure** ♦ What is the appropriate scope of work on operating costs for the one year control? ♦ What approach should Ofgem use to set the operating costs allowance for 2007-8? ♦ What approach should Ofgem adopt for shrinkage for 2007-08? ♦ Should Ofgem apply the principles relating to pensions costs to GDNs as part of the one year control or the main review?	5.17 - 5.26
4	**Setting the one year control - incentives** ♦ Should rolling incentives be applied for capital, replacement and operating expenditure for the one year control?	5.28 - 5.29
5	**Setting the one year control – financial issues** ♦ What issues need to be considered when providing a cost of capital allowance for the one year control? ♦ What issues need to be considered when providing a tax allowance for the one year control? ♦ What analysis should Ofgem perform in relation to financeability and financial modelling for the one year control?	5.31 - 5.38
6	**Structure of the price control** ♦ Should Ofgem consider setting GDPCR for a period other than five years? ♦ Should the current volume-based revenue driver be retained? Should it be modified?[66] ♦ Should Ofgem introduce any other form of revenue driver? ♦ Is the pass through mechanism that applies under the current price control review still appropriate? ♦ Should any other costs be subject to the pass through mechanism? ♦ Are any changes required to the correction mechanism that applies under the current price control?	6.6 - 6.15

[66] The specific parameters associated with any revenue driver would be determined at a later stage in the review.

7	**Scope of the price control** ♦ Is the scope of the current price control appropriate for GDPCR? ♦ Which services provided by GDNs should be considered to be excluded services?	6.16 - 6.22
8	**Sliding scale incentives** Should Ofgem adopt a sliding scale mechanism similar to that used in DPCR4 to encourage more realistic BPQ submissions?	6.59 - 6.64
9	**SOMSAs** Should Ofgem respond to the new developments in relation to SOMSAs and if so how?	6.96 - 6.102

Appendix 3 Legal and regulatory framework

3.1 This appendix sets out the key features of the legal and regulatory framework that applies to GDNs. This includes the Gas Act 1986 (Gas Act), the Utilities Act 2000 (the Utilities Act), the Gas Transporters licences, the Uniform Network Code (UNC) and the safety regulations.

Gas Act

3.2 The Gas Act provides for the regulation of the onshore gas regime in Great Britain and for the separate licensing of gas transporters (GT), gas shippers and gas suppliers. GDNs are a type of GT.[67] The Gas Act also provides for the creation of the Gas and Electricity Markets Authority (the Authority). The Gas Act confers a principal objective and a number of general duties on the Authority – those which are most relevant to GDPCR are set out in Chapter 3.

3.3 Where the Authority is satisfied that a licensee is contravening, or is likely to contravene any licence condition or relevant obligation, the Authority can take enforcement action, including among other things, the issue of an enforcement order against the licensee under section 28 of the Gas Act.

3.4 Section 30A of the Gas Act sets out the provisions by which the Authority can impose penalties on a licence holder where it contravenes its obligations and section 30E sets out the provisions by which the licence holder can appeal such penalties.

3.5 Section 34(1) of the Gas Act places a duty on the Authority, as far as it appears to the Authority to be practicable, to keep under review the carrying on both within and outside Great Britain licensed activities and relevant ancillary activities. It is also the duty of the Authority, as far as it appears to the Authority to be practicable, to collect information on the activities of GTs, gas shippers, gas suppliers and ancillary services, in relation to matters with respect to which its functions are exercisable.

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[67] The other types of GT are the NTS and Independent Gas Transporters (IGTs). IGTs are smaller networks that are connected to either a GDN or the NTS.

3.6 Section 35 of the Gas Act provides the Authority with the powers to publish advice or information, related to the conveyance of gas through pipes, where it would promote the interests of existing and future consumers. In publishing the advice or information the Authority must have regard to the need for excluding information, so far as that is practicable, which relates to an individual or body if, in the Authority's opinion, publication of the information would or might seriously and prejudicially affect that individual or body's interests. Before deciding to publish advice or information in relation to a particular individual or body, the Authority must consult that individual or body.

Utilities Act

3.7 Section 5A of the Utilities Act requires the Authority to carry out an IA or publish reasons why it considers an IA to be unnecessary before implementing its proposals:

- whenever it proposes to do anything for the purposes of, or in connection with, the carrying out of any function exercisable by it under or by virtue of Part 1 of either the Electricity Act or the Gas Act; and
- where it appears to it that the proposal is 'important'.

3.8 These criteria suggest that GDPCR qualifies as a project for which it is necessary to carry out an IA or publish reasons why an IA is unnecessary.

Gas Transporter Licences

3.9 Section 9 of the Gas Act confers a duty on GTs to develop and maintain an efficient and economical pipeline system for the conveyance of gas and, so far as it is economical to do so, to comply with any reasonable request to connect to that system and convey gas by means of that system to any premises.

3.10 Standard Special Condition A6(1) of the GDN's licences requires the GDNs to conduct their transportation business in the manner best calculated to ensure that neither they nor any affiliate, nor any gas shipper nor gas supplier, obtains any unfair commercial advantage.

3.11 Standard Special Condition A9 sets out certain gas security standards to which GDNs must plan and develop their pipeline system. In essence, these standards require the pipeline system to be capable of meeting a peak aggregate daily demand that is only likely to be exceeded in one year in every 20 years.

3.12 Standard Special Condition A7 requires GDNs only to enter into transportation arrangements which are in conformity with any relevant provisions of the network code. At the date of this document, the relevant network code for the purposes of Standard Special Condition A7 is the UNC.

3.13 As part of the reforms associated with GDN sales, the licence arrangements for NGG's gas transportation activities were significantly restructured so that its gas transmission business and its retained distribution businesses (RDNs) became separately licensed. In addition four GT licences were created for the independently owned GDNs. NGG's licences for its transmission and distribution businesses are held within the same legal entity and a series of licence conditions in the transmission and distribution licences have been introduced to ensure the separation of NGG's gas transmission business from its gas distribution business. These licence conditions are in place to ensure a level playing field in the comparative regulation of distribution networks and a robust approach to corporate governance.

Uniform Network Code

3.14 Standard Special Condition A11 requires relevant GTs (which are the GDNs and NGG's licensed transmission business) to establish transportation arrangements which are calculated to facilitate the achievement of a number of objectives relating to, among other things:

- the efficient and economic operation of its pipeline system;
- the co-ordinated, efficient and economic operation of the combined pipeline system;
- the efficient discharge of licence obligations; and
- the securing of effective competition between relevant shippers and relevant suppliers and GDN operators.

3.15 Standard Special Condition A11 of the GDN's GT licence also requires the relevant GTs to together prepare a UNC which sets out the terms of the transportation arrangements and modification procedures to the extent that such terms are common between these relevant gas transporters, unless the Authority otherwise agrees.

3.16 The UNC came into effect on 1 May 2005 as part of the GDN sales process.[68] Under the UNC's modification rules, shippers and relevant GTs are able to propose modifications to the Network Code. The rules also permit third party participants to propose modifications in relation to specified issues.[69] The implementation of all modifications requires the consent of the Authority.

3.17 The Authority may only direct that the UNC should be modified if, in its opinion, the proposed modification would, as compared with the existing provisions of the UNC or any alternative proposal, better facilitate the achievement of the relevant objectives as set out in Standard Special Condition A11 of the GT licence. In making such a direction, the Authority is required to have regard to its statutory duties.

Safety regulations

3.18 The key features of the natural gas safety regime are set out in the Gas Safety (Management) Regulations and the Pipeline (Safety) Regulations.

Gas Safety (Management) Regulations

3.19 The Gas Safety (Management) Regulations 1996 (GSMR) require GTs to prepare a safety case that addresses four main areas:

- the safe management of gas flow through a network, particularly those parts of the networks supplying domestic consumers, and a duty to minimise the risk of a gas supply emergency;
- arrangements for dealing with supply emergencies;
- arrangements for dealing with reported gas escapes and gas incidents; and
- gas composition.

[68] The UNC was based on the preceding Transco Network Code.
[69] At present the only third party participant is energywatch.

3.20 GTs must have their safety cases accepted by the HSE before they may convey gas, and they may not amend their safety case without the consent of the HSE.

Pipeline (Safety) Regulations

3.21 While GSMR deals with the safe management of the flow of gas through the network, the Pipeline (Safety) Regulations 1996 (as amended) are principally concerned with pipeline integrity and are aimed at securing safety in the design, construction, installation, operation, maintenance, and decommissioning of pipelines.

3.22 There is a duty on pipeline operators to maintain pipelines under Regulation 13 of the Pipeline (Safety) Regulations 1996. The Pipelines Safety (Amendment) Regulations 2003 amended this duty by including Regulation 13A which covers the establishment and adherence to a HSE agreed iron mains replacement programme as evidence (with some exceptions) of compliance with that duty. The 2002 price control review accommodated the impending regulation.

Appendix 4 Current price control formula

4.1 Allowed revenue (M_t) in each year of the price control is made up of several components:

- *Core allowed revenue (Z_t)* – which covers all costs other than pass through items. There was a pre-determined value for Z_t for 2002-03, and the value for Z_t in subsequent years is determined by indexing for inflation minus the efficiency factor (the RPI-2 term) and changes in volumes (the volume driver);
- *Cost-pass through term (F_t)* – this covers prescribed network rates and the licence fees which are allocated to the GDN price control;
- *Mains replacement expenditure adjustment (R_t)* – as discussed in Chapter 6; and
- *Under- or over-recoveries in the previous formula year (K_t)* – any under-recovery or over-recovery of allowed revenue in a given formula year will be rolled into allowed revenue for the following formula year, with an adjustment for interest.

4.2 The price control can be represented generically as follows:

$M_t = Z_t + F_t - R_t – K_t$

where

$$Z_t = \left(Z_{t-1} \times \left[1 + \frac{RPI_t - 2}{100} \right] \times Q_t \right)$$

[Note: Except for the formula year commencing 1 April 2002 where Z_t = pre-determined value in 2002-03 price.]

$$Q_t = \left(0.65 + 0.35 \times \frac{W_t}{W_{t-1}} \right)$$

W_t = composite user quantity in formula year t = B_t + (0.15Dt + 0.05 × V_t)

B_t = small user quantity in formula year t (firm loads < 5,860 MWh p.a.)

D_t = large user quantity in formula year t (firm loads 5,860 – 1,465,355 MWh pa and interruptible loads $<$ 1,465,355 MWh p.a.)

V_t = very large user in formula year t (all loads $>$ 1,465,355 MWh p.a.)

F_t = cost pass through term for prescribed network rates and licence fees

R_t = mains replacement expenditure adjustment term in year t

K_t = distribution network transportation activity revenue adjustment in year t (the over or under recovery carried forward from the previous formula year).