

Developing network monopoly price controls

Initial conclusions

June 2003

54/03

Summary

Over the course of the last year, Ofgem has worked together with the industry and other interested parties to review the way in which price controls work and to identify potential improvements, both in general terms and specifically for the forthcoming price control review of the electricity distribution network operators (DNOs). This paper sets out the results of that work that have implications for price reviews generally. The initial consultation paper on the distribution price control review, which will be published in July, will set out the implications for that review and explain in more detail the proposed approach.

The main points covered in this paper include:

- ◆ confirmation of the merits of incentive regulation, recognising the benefits of a transparent process and the challenges that the regulator and the industry face in developing price controls that deal appropriately with uncertainty and align financial incentives that companies face with consumers' interests;
- ◆ recognition that while Ofgem has a common set of objectives, in some circumstances the best way to achieve these may vary across sectors, but that it is important that the regulatory framework does not present a barrier to convergence of approach or provide perverse incentives;
- ◆ a move to rolling retention periods for efficiency savings to provide a consistent strength of incentives through time. The strength of incentives will depend on the extent of and approach to benchmarking and the length of the retention period – there does not appear to be a strong reason at present to move away from a five year retention period provided this is balanced with strong output delivery incentives;
- ◆ a decision-making framework for dealing with uncertainty which will be used to aid decisions both at reviews and, where necessary, in considering how to address substantial new costs arising between reviews;
- ◆ a review of general financial issues that affect all the monopoly price controls within the scope of this project and, where possible, explanation of the approach we propose to take with the intention of reducing regulatory uncertainty. In particular, the paper sets out for consultation Ofgem's initial thoughts on a framework for reflecting pension costs in price controls.

The process which Ofgem, the industry and other interested parties have undertaken over the past year has been valuable. The benefits of the project have been to:

- ◆ improve the incentives that companies have to continue to seek efficiency savings and develop thinking on how these should be balanced with output incentives;
- ◆ improve the level of understanding and transparency in the regulatory process, which should both make for better regulation and reduce the perception of regulatory risk; and
- ◆ as a result of both of the above, enable Ofgem to provide better protection for consumers in relation to network monopolies in future.

As the circumstances facing companies, consumers and the regulator change over time, the regulatory framework may also need to evolve to help ensure that consumers' interests continue to be protected. The initial conclusions set out in this document will form an important starting point for the forthcoming price control reviews of network monopoly companies – beginning with the review for the electricity DNOs – but they will only be refined in detail as part of each review.

Comments are invited on the issues raised in this document by 22 August 2003.

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1. Rationale

Issue

- 1.1. Ofgem's principal objective is to protect the interests of consumers (present and future), wherever appropriate by promoting effective competition. Many areas of the gas and electricity industry are subject to, or are in the process of being opened up to, competition – including electricity generation, supply and the provision of certain metering and connection services. Ofgem will continue to monitor these markets to ensure that they operate effectively and where necessary take appropriate steps to ensure consumers' interests are protected.
- 1.2. There are some areas of the gas and electricity industries where companies retain an effective monopoly in the core services that they provide to consumers because it is not possible or appropriate to introduce competition. This applies to the bulk transportation and distribution of energy to consumers over monopoly networks. Network companies have a crucial role to play in delivering long-term security of supply and the quality of service that consumers receive. In these circumstances, Ofgem seeks to protect the interests of consumers through a variety of regulatory tools, such as price controls and standards of performance.
- 1.3. The regulatory framework, of which price controls are a significant component, is the primary mechanism through which incentives are provided to the companies to achieve the aims outlined above. Price controls also protect consumers in terms of the charges that they pay for transmission and distribution services. These charges account for a significant proportion of the total energy bill that consumers pay– approximately 40 per cent of a typical domestic consumer's gas bill and between 25 - 30 per cent of a typical domestic consumer's electricity bill. The design of the regulatory framework can also have a significant impact on the incentives that network companies are provided with in relation to quality of service and social and environmental issues, such as the level of energy losses on the networks.

Reviewing network monopoly price controls

1.4. Over the course of the last year, Ofgem has worked with the industry and other interested parties, reviewing the way in which price controls work to help ensure that they continue to protect the interests of consumers and provide companies with appropriate incentives. This work has been driven by a number of factors:

- ◆ reports produced by the National Audit Office (April 2002), the Performance and Innovation Unit (February 2002) and the Better Regulation Taskforce (July 2001) on utility regulation;
- ◆ Ofgem's increased social and environmental responsibilities under the Utilities Act 2000, the government's energy and environmental objectives, including the Energy White Paper published in February 2003 and guidance Ofgem has received from the Secretary of State on social and environmental issues; and
- ◆ views expressed by a number of interested parties on the regulation of network monopoly companies, including academics and other commentators and the monopoly companies themselves.

1.5. The objectives of the project are to:

- ◆ improve the framework of price controls applying to all network monopoly companies and, where appropriate, increasing consistency in the approach that is taken to setting price controls; and
- ◆ lay the foundations for the next price control review of the electricity distribution network operators (DNOs) including identifying the objectives, process, key issues and principles that will be used in setting the price controls which will be implemented from 1 April 2005.

Process and consultation

- 1.6. A significant amount of work has been undertaken by Ofgem, the industry and other interested parties in taking this project forward including:
- ◆ the publication of two consultation documents – Ofgem’s initial thoughts on ways in which network controls could be improved were published in August 2002¹ and an update document was published in February 2003²;
 - ◆ a conference held by Ofgem and the Institution of Electrical Engineers (IEE) on 10 September 2002³ on the challenges and opportunities raised by the government’s energy and environmental objectives and the publication of an open letter by Ofgem in January 2003 on developing network regulation for distributed generation⁴ – the open letter set out Ofgem’s thoughts on how the regulatory framework for DNOs may need to be developed to help ensure that they have appropriate incentives to develop, operate and maintain their networks on an economic, efficient, and co-ordinated basis;
 - ◆ the creation of a number of working groups with the network monopoly companies looking at:
 - the incentives created by the regulatory framework;
 - dealing with uncertainty;
 - assessing consumers’ willingness to pay;
 - comparing quality of supply;
 - the structure of electricity distribution charges; and
 - assessing costs and financial modelling.

¹ Developing network monopoly price controls – Consultation document, Ofgem, August 2002.

² Developing network monopoly price controls – Update document, Ofgem, February 2003.

³ A copy of Ofgem’s slides and a speech given by Callum McCarthy at the conference are available on Ofgem’s website.

⁴ Developing network regulation: Open letter to the Chief Executives of DNOs regarding distributed generation – Ofgem, January 2003.

- ◆ a public workshop in February 2003 to discuss the project.⁵ This was attended by a range of interested parties including customers, energywatch, academics, consultants, suppliers, generators and the network monopoly companies;
- ◆ the publication of an open letter in March 2003 by Ofgem on key issues raised by the reports produced by Frontier Economics and a detailed draft timetable for the DNO price control review⁶;
- ◆ publication of two reports in March 2003, produced by Frontier Economics, on regulatory mechanisms for dealing with uncertainty and balancing incentives.⁷ A workshop on these reports was held in April 2003⁸;
- ◆ the development of draft versions of business plan questionnaires (BPQs) to collect information from the DNOs on their historic costs and other information including in relation to distributed generation; and
- ◆ a number of bilateral meetings with companies and other interested parties.

Purpose and structure of this document

- 1.7. This document focuses on the work that has been undertaken in relation to the first objective for this project. Ofgem intends to publish a document in July 2003 which will set out its thinking on the next price control review of the electricity distribution network operators (DNOs) including on objectives, key issues and timetable.
- 1.8. This document sets out some of the key principles that Ofgem intends to use for the price control regulation of network monopoly companies including in relation to the consistency of regulatory frameworks and general principles for price controls (Chapter 2); assessing costs and incentives (Chapter 3); and

⁵ Slides used at this workshop are available on Ofgem's website.

⁶ Open letter on developing network monopoly price controls and the next price control review of the DNOs – Ofgem, March 2003.

⁷ Regulatory mechanisms for dealing with uncertainty – Frontier Economics, March 2003 & Balancing incentives – Frontier Economics, March 2003. Both reports are available on Ofgem's website.

financial issues (Chapter 4). The August 2002 and February 2003 documents set out Ofgem's approach to reviewing price controls – including how it intends to:

- ◆ develop the objectives for the review;
- ◆ develop the overall incentive framework;
- ◆ consult interested parties; and
- ◆ assess the review process at the end of the project.

1.9. Ofgem's approach to price control reviews and the principles outlined in this document are intended to be adopted for:

- ◆ the price controls covering the electricity DNOs;
- ◆ the gas Transmission Owner (TO) price control for National Grid Transco's (NGT's) Local Distribution (LDZs) and National Transmission System (NTS);
- ◆ the electricity TO price control for NGT; and
- ◆ the price controls for the Scottish Transmission companies.

1.10. Ofgem considers that this project and the initial conclusions outlined in this document will:

- ◆ improve the incentives for companies to continually seek out efficiency savings and to develop thinking on how these should be balanced with output incentives;
- ◆ improve the level of understanding and transparency in the regulatory process, which should both make for better and more consistent regulation and reduce the perception of regulatory risk; and
- ◆ as a result of both of the above, enable Ofgem to provide better protection for consumers in the future.

Next steps

- 1.11. The first opportunity that Ofgem will have to adopt the conclusions of this project will be for the price control review of the DNOs. In parallel with consultation on the issues outlined in this document, they will be reflected in the July 2003 document, which will set out Ofgem's initial thinking on the DNO price control review for consultation. Subject to the results of this consultation, Ofgem expects to adopt the approaches proposed for the price controls identified above at the earliest opportunity – which will be at the next relevant price control review unless there are valid reasons why changes should be made during the existing price control periods.

Responding to this document

- 1.12. The project scope and structure is wide ranging, and as such Ofgem would like to hear the views of all those with an interest in the development of network monopoly price controls, including consumers and their representatives, investors and City analysts and the companies themselves.
- 1.13. Ofgem would welcome comments on the issues raised in this document and the forthcoming first consultation document on the DNO price control review by 22 August. Any comments should be sent to:

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- 1.14. Unless otherwise marked as confidential all responses will be published by placing them in Ofgem's library or on our website. It would be helpful if responses could be submitted both electronically and in writing. Any questions on this document should, in the first instance, be directed to Cemil Altin.

2. General principles for price control regulation and consistency of regulatory frameworks

Introduction

- 2.1. This Chapter sets out some high level principles that Ofgem intends to adopt for the price control regulation of network monopoly companies. These are intended to provide a guide against which the price control framework will be developed. The Chapter also sets out Ofgem's further thoughts on the consistency of the regulatory framework across different sectors – particularly between electricity transmission and distribution. It also sets out Ofgem's thoughts on how the timing of price control reviews across different sectors may be harmonised.

General principles for price control regulation

- 2.2. As explained in the August 2002 and February 2003 documents, Ofgem's objectives for any price control will reflect:
- ◆ Ofgem's statutory objectives and duties;
 - ◆ the Network Operators' (NWOs') statutory duties and licence requirements; and
 - ◆ other influences – including the views of consumers, NWOs and other interested parties and guidance that Ofgem receives from the Secretary of State on social and environmental matters.
- 2.3. In general, Ofgem considers that, where competition is not feasible, the most appropriate way to protect consumers' interests is through a system of incentive regulation which gives companies financial rewards for delivering outcomes that are in the interests of consumers. Effective regulation requires a credible and sustainable framework, which is transparent and consistent in application, but

which is capable of evolving over time to meet changing circumstances and to take account of varying degrees of uncertainty.

- 2.4. One of the main benefits of incentive regulation is that it leaves the detailed decisions where they are usually best taken, with company management. In general, it is not appropriate for Ofgem to tell companies how to run their business or to intervene in investment and operational decisions.
- 2.5. Any form of incentive regulation will only reward those aspects of desirable behaviour which can be measured, monitored and incentivised. It is therefore necessary to rely on broader obligations, and these are an essential component of the regulatory regime. For example, the DNOs have statutory duties:
- ◆ to develop and maintain an efficient, co-ordinated and economical system of electricity distribution; and
 - ◆ to facilitate competition in the supply and generation of electricity.
- 2.6. Compliance with these duties (and a host of other legal obligations, including health and safety and environmental matters) is an important part of the way that the regulatory framework protects consumers. The companies and Ofgem have a common interest in ensuring that the regulatory framework facilitates the achievement of these duties.
- 2.7. At each review, Ofgem and the industry have an opportunity to revisit the working of the regulatory framework. If companies' financial incentives and consumers' interests are not aligned, then it should be in everyone's interests to modify the framework to try to align them. It should be clear to all that the regulator's primary objective to protect consumers means that, should there be "loopholes" in the framework that allow companies to benefit financially from behaviour that is contrary to their duties or to consumers' interests, these will be addressed. While Ofgem recognises the potential adverse implications of retrospective action, should any company take advantage of an opportunity for what might be termed "gaming the system" in this way, it would be taking a high risk approach for short-term rewards and should not expect to recover any additional costs that might be involved in reversing its position. For example: companies that make use of pension fund surpluses to fund staff reductions should not subsequently expect funding from consumers through the price

control to make up any resultant shortfall in the pension fund – this is the responsibility of the company and ultimately its shareholders; similarly if a company under-invests (where this is not the result of cost efficiencies or efficient project deferral, but rather of not making investments required to maintain an efficient and economic network) and earns excess profits, and problems of quality and security of supply arise in the future, shareholders rather than consumers should fund the additional expenditures to rectify the situation.

2.8. Where the regulatory framework does align the interests of consumers with the financial incentives that companies face, then it is entirely appropriate that companies have the potential to earn superior returns for out-performing expectations.

2.9. In order to maximise the benefits of incentive regulation, it is important that the framework is:

- ◆ transparent in how it operates and in how decisions to adapt the framework over time are made;
- ◆ predictable in its application, so that companies making investment decisions know in advance (as far as practicable) the way in which their investments will be remunerated;
- ◆ consistent – over time and across companies – in particular to avoid perverse incentives; and
- ◆ sufficiently flexible to cope with uncertainties and changing circumstances so that companies can continue to develop and operate their networks on an economic, efficient and co-ordinated basis and can respond to the needs and requirements of their customers.

2.10. Consistent with these principles, Ofgem has taken a number of steps, both through this project and more generally, to improve the transparency and credibility of the regulatory regime. Over the last few months there has been a high degree of engagement, through open workshops, working groups and bilateral meetings with NWOs and other interested parties to improve understanding and develop ideas for improving the regulatory framework.

2.11. Ofgem also recognises that it is important that decisions are justified and explained. Two important aspects of this are:

- ◆ linking decisions to the objectives for the particular project. The August 2002 document explained that it is important that the objectives for a price control review are set out at the beginning of the project. When key decisions about price controls are made it should be possible to link these back to the original objectives for the review; and
- ◆ making use of Regulatory Impact Assessments (RIAs) – Ofgem has committed to producing RIAs, including environmental impact assessments, for all significant new policies. The Energy White Paper indicates that this will enhance transparency until there is opportunity to provide statutory backing for these assessments through primary legislation.⁹ In terms of price control reviews, Ofgem's thoughts are that it would be appropriate to set out an initial RIA at the beginning of the project, which would explain why price controls need to be reviewed, including identifying the costs of the project and the benefits that may be expected to accrue and how the project may be expected to impact on environmental issues. During the review itself, as decisions are taken, it may also be appropriate to set out additional RIAs for any new significant policies (or changes to existing policies). Ofgem would also expect to set out a final RIA for the overall price control review when final proposals are published, which would include an overall assessment of the impact of the price control, including on environmental issues.

2.12. Frontier Economics and Ofgem have developed a framework that will help identify the most appropriate regulatory response for dealing with uncertainty. A broad outline of this framework was set out in the February 2003 document.¹⁰

2.13. Ofgem intends to use this framework at the time of a price control review to help identify, in advance, the most appropriate regulatory response to uncertainties that may arise over the course of the price control period. The

⁹ Energy White Paper: Our energy future – creating a low carbon economy, Department of Trade and Industry (DTI), February 2003, page 114. Ofgem reiterated this commitment in its Corporate Strategy, 2003-6, Ofgem, March 2003.

¹⁰ The report produced by Frontier Economics, on dealing with uncertainty, sets out the framework in detail. Developing network monopoly price controls
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continued use of this framework will build credibility in the regulatory framework as it should allow a consistent approach (both across companies and over time) to be used for identifying the most appropriate regulatory response to uncertainty.

- 2.14. It is also appropriate to consider whether there should be additional mechanisms for dealing with unexpected events that arise during a price control period (and in particular which impact on companies' costs and/or incentives). Ofgem's initial thoughts in this area are set out in Chapter 3.

Consistency of regulatory frameworks

- 2.15. The February document set out Ofgem's further thoughts on the level of consistency in the regulatory frameworks in place for electricity transmission and distribution. It explained that the way in which the electricity distribution networks are managed and operated is likely to change over time – driven primarily by increased amounts of distributed generation connecting to the distribution networks in the future. This could mean that DNOs' networks increasingly exhibit characteristics of the transmission system. In the light of this, Ofgem sought views on whether there are any aspects of the electricity transmission framework that should be applied in electricity distribution and the most appropriate timing for doing so, including the regulatory, financial, technical and commercial issues that would arise.
- 2.16. Ofgem also sought views on whether greater consistency of regulatory arrangements would be appropriate to encourage replacement of DNO-transmission shared Grid Supply Point (GSP) assets at the same time.

Views of respondents

- 2.17. Respondents argued that it would not be appropriate, at this stage, to consider introducing greater consistency between the regulatory frameworks for electricity transmission and distribution. It was pointed out that there are significant differences between the transmission and distribution networks which mean that it is unlikely that similar regulatory arrangements and incentives will be required over the next price control period. Some respondents suggested that it may be appropriate to review the situation if distribution networks begin to

increasingly exhibit characteristics of the transmission system – but that the earliest this should be considered is at the time of the next price control review in 2008/09.

- 2.18. Respondents argued that in assessing the future capital expenditure requirements of the DNOs, Ofgem should allow DNOs to replace GSP assets at the same time as the transmission company, if this was the most effective and efficient approach.

Ofgem's further thoughts

- 2.19. It is important that the arrangements in place between electricity transmission and distribution are consistent – although this does not necessarily mean that the regulatory frameworks will be the same. Any convergence between the operation of transmission and distribution networks is likely to emerge over a long period of time – and is only likely to be partial. This is because the majority of consumers' electricity demand will probably continue to be met by 'traditional' (i.e. non-distributed) generation. There are also a number of important differences between the distribution networks and the transmission system which are likely to remain even if there is increased convergence.
- 2.20. Distribution networks have millions of connection points compared to the few hundred in transmission. The distribution networks comprise a wide range of voltage levels which have distinct design and operating characteristics whilst there is less variation in transmission. Distribution networks, particularly at lower voltage levels, have numerous multi-ended circuits, which have the potential for reconfiguration in operational timescales. This greater complexity has a number of implications for the regulatory arrangements in distribution including:
- ◆ **use of system and access arrangements** - modelling the costs of distribution network usage is difficult and the resultant charges could be quite volatile. Unpredictable charges may not provide appropriate cost signals to networks users and could, of themselves, act as barriers to entry and could impact on competition in supply. As a consequence, charges for the use of the distribution networks (called Distribution Use

of System – DUoS – tariffs) are likely to remain relatively simple, at least for smaller customers;

- ◆ **faults and constraints** - distribution networks tend to comprise a higher mileage of circuitry than transmission systems. Faults on networks tend to be correlated with network length. Because transmission systems operate at higher voltages they are constructed to physically larger dimensions than distribution networks, which mean that they are less likely to be affected in storms or by other factors. Specific incentives have been introduced for distribution companies to manage the level of faults experienced on their networks and for NGC as transmission system operator to manage operational constraints. At present it would not seem appropriate to make any significant changes to improve the level of consistency in these areas until or unless there are changes in the underlying way in which the distribution networks are operated; and
- ◆ **introducing market mechanisms and incentives** - as distribution networks have millions of connected parties, the vast majority of which are domestic consumers or small scale industrial/commercial customers, it would be difficult and very costly to introduce market based arrangements for incentivising the release of incremental capacity. In the light of this it would be more appropriate to use simpler mechanisms, such as revenue drivers, to accommodate changes in demand or to incentivise additional investment, as is used under the existing electricity TO price control for NGT, in the event that the amount of generation connecting to the network is more than the baseline assumed in setting the price control.

2.21. The regulatory arrangements that are already in place for transmission and distribution seek to achieve similar objectives – namely to provide incentives to companies to:

- ◆ operate efficiently – the incentives for cost efficiency are provided through the main RPI-X price control for the DNOs and for NGT through the electricity and gas TO price controls and the System Operator (SO) incentive mechanisms;

- ◆ invest efficiently – the way in which investment is treated under the existing price controls means that companies have strong incentives to invest on an efficient basis to meet the requirements placed upon them (see Chapter 3). The gas SO incentive mechanism seeks to ensure that the companies can respond on an efficient basis to market signals for the release of incremental capacity; and
- ◆ respond to customers' demands – the SO incentive schemes are designed to allow the transmission system operator to respond to the demands of their customers; as part of the DNO price control review Ofgem will be looking at improving the incentives on companies to respond to the needs of their customers – including undertaking a customer survey and, where practicable, introducing more flexible arrangements into the price control.

2.22. The differences between the distribution networks and the transmission system mean that there are different types of costs and outputs for which incentives are required. This means that although the objectives of the regulatory frameworks are the same the specific arrangements may differ – although it is important to ensure that they are not inconsistent. On this basis, it is not appropriate to introduce fundamental changes to the distribution regulatory framework, at this price control review, to bring it more in line with that which is in place for transmission. It was explained above that two of the key principles for regulating network monopoly companies should be ensuring that the regulatory framework is flexible and the provision of incentives to manage costs efficiently and deliver any required outputs. As increased amounts of generation connect to the distribution networks, it will be important to understand how this impacts on the incentives and arrangements that companies require to operate an economic, efficient and coordinated network. If companies require additional incentives, or other changes need to be made to the existing arrangements, Ofgem would seek to introduce these if customers would benefit. Any significant changes would be evaluated by a Regulatory Impact Assessment.

Other issues

Replacement of shared GSP assets

- 2.23. It is important that the price control and other regulatory arrangements provide incentives to companies to invest efficiently. If the way that DNOs are regulated precludes efficient decisions regarding replacement of shared GSP assets, Ofgem will consider modifications to the framework as part of the distribution price control review and also consider the impact on NGT and other transmission companies.

Harmonisation of price control review dates

- 2.24. In view of the discussion above in relation to consistency, consideration needs to be given to whether it is appropriate for the price control review dates for monopoly businesses to be harmonised.
- 2.25. The following table shows the current price control review dates

Activity	Current review date
Electricity transmission (England & Wales)	1 April 2006 for TO 1 April 2004 for SO
Electricity transmission (Scotland)	1 April 2005
Electricity distribution (GB)	1 April 2005
Gas transmission (GB)	1 April 2007 for both TO and SO
Gas distribution (GB)	1 April 2007

- 2.26. The primary consideration in looking at whether greater harmonisation of review dates is appropriate is whether it will improve the protection afforded to consumers. There could, for example, be benefits from:
- ◆ facilitating comparative analysis of the performance of licensees carrying out similar activities, which can be an important part of regulatory oversight, and

- ◆ aligning the assumptions, such as financial market projections, used in setting in the price controls of companies engaged in similar activities, and aligning the incentives they face.

- 2.27. The most pressing issue relates to the new price controls for the Scottish transmission businesses, which are due to be implemented from 1 April 2005. The proposed new GB-wide transmission and trading arrangements are also due to be introduced at a similar time. These proposals will involve the appointment of a GB system operator (currently assumed to be NGC¹¹) which will have a contractual interface with the Scottish transmission companies in their role as transmission owners. This interface will introduce a strong linkage between transmission licensees in the way in which they carry out their functions. In some areas of interactions between the system operator and transmission owners there may also be licence conditions which provide for financial incentives between the system operator and transmission owners. A consistent approach to setting these incentives will be a relevant consideration in relation to harmonisation of review dates.
- 2.28. There is a strong case for adopting as consistent an approach as possible in the price controls for the different parts of the electricity transmission sector. To facilitate this, it is therefore proposed to conduct all the electricity transmission price controls at the same time. This would imply a one year roll forward of the current Scottish transmission price controls to bring the timing of the review into line with that of NGT's TO price control. Given the similarity in timetables and issues, it is proposed to assess the basis of this roll forward as part of the work to establish the price controls and incentives to apply under the proposed GB-wide transmission and trading arrangements.
- 2.29. There may also be a case for aligning the timing of the electricity transmission and gas transportation price controls. Potential advantages may include greater consistency of treatment of common costs and of incentive arrangements, and less need to duplicate work on common issues. One disadvantage would be in

¹¹ DTI/Ofgem have carried out a process for identifying the GB system operator, and a statement has been issued by the Minister for Energy and Construction that he is minded to accept the recommendation of the GB System Operator Selection Panel that the application by NGC for the role of GB system operator should be accepted (Hansard, 17 December 2002, Column 45WS).

terms of the peak of work arising from concentration of price control review timings, which may increase the costs of Ofgem and/or other parties and may make it more difficult for other parties engaged in aspects of the consultation process.

- 2.30. Common timing between gas and electricity transmission could be achieved by delaying all the electricity transmission price control reviews by a year (or a further year, in the case of Scotland) for implementation from 1 April 2007. Alternatively, the gas transportation reviews could be advanced by a year to take effect from 1 April 2006.
- 2.31. To the extent that the decision on aligning the timing of the electricity transmission and gas transportation reviews affects whether the roll-forward of the Scottish transmission price controls applies for one year or two, it will be important to reach a decision on this within the next few months. It is envisaged that the timetable for the work to roll forward the Scottish transmission price controls will be established in the near future and that planning can commence in parallel with the decision on whether this is to apply for one or two years.

Issues for consideration

- 2.32. Ofgem would welcome views on any of the issues raised in this Chapter and in particular on:
- ◆ the general principles of price control regulation;
 - ◆ the level of consistency in regulatory frameworks;
 - ◆ Ofgem's proposal to roll forward the Scottish Transmission price controls to align the timing of the full review with the transmission owner price control review in England and Wales; and
 - ◆ whether it would be appropriate to increase the level of harmonisation in review dates between electricity transmission and gas transportation, and if so, how this should be achieved.

3. Assessing costs and incentives

Introduction

- 3.1. This Chapter sets out Ofgem's further thinking in the light of responses to the February document and the reports produced by Frontier Economics on a number of areas related to assessing costs and incentives for regulated network monopoly companies including:
- ◆ how Ofgem intends to deal with the periodicity of incentives;
 - ◆ how Ofgem intends to deal with potential distortions of incentives between opex and capex;
 - ◆ the period of time that companies should be allowed to retain efficiency savings before they are passed to consumers;
 - ◆ the treatment of non-operational capital expenditure;
 - ◆ how to deal with uncertainty or new obligations that companies are exposed to between price control reviews; and
 - ◆ the incentives to invest.

Assessing efficiency and projecting costs

- 3.2. Price controls have been put in place to achieve two main objectives:
- ◆ to protect consumers from the abuse of monopoly power, of which an important aspect is allowing them to share in the benefits that companies realise from efficiency savings; and
 - ◆ to provide companies with a future level of revenues and incentive arrangements to allow them to meet their statutory duties and licensed obligations including operating an economic, efficient and co-ordinated network.
- 3.3. In setting price controls, Ofgem has sought to meet these objectives by:

- ◆ assessing the efficiency of companies in a particular year (or years);
- ◆ making a projection of the future level of costs that an efficient company is expected to incur over the period of the next price control for:
 - opex;
 - capex; and
 - through the allowed cost of capital, financing costs and taxation; and
- ◆ identifying the incentives that companies require to operate and invest efficiently and meet the requirements placed on them.

3.4. This system has worked well since privatisation. Costs have fallen significantly and companies have broadly delivered the requirements that have been placed on them – including in terms of the quality and security of supply.

Improvements have been made to regulatory arrangements over recent years to help ensure that the two main objectives identified above continue to be met. The work under this project represents an important step forward in this respect.

3.5. The August and February documents explained that a range of methods and techniques have been used to assess companies' efficiency and to make a projection of the future level of costs that would be required by an efficient company. These have included benchmarking and analysis of companies' own costs and market data.

3.6. In assessing the level of allowed revenue it is important to ensure that an appropriate balance is struck between the two objectives outlined above. The particular methods and approaches that are used for assessing efficiency and projecting costs forward are a means to achieving this aim. Ofgem will continue to use a range of techniques and methods for assessing efficiency and projecting future costs and in bringing these together will have regard to the objectives identified above. A degree of pragmatism will need to be applied in the final assessment of projected costs although it will be important to explain in a transparent way how efficiency and projected costs have been assessed and how they have been used to derive the allowed level of revenue. This assessment will need to take account of the relative strength and weaknesses of the different techniques that have been used.

- 3.7. It is not Ofgem's intention to specify how companies should operate their networks – rather as explained above, to provide companies with incentives to operate and invest efficiently and to meet the requirements placed upon them. It is important that companies have commercial freedom in this respect if they are to seek out innovative ways of working which will lead to greater levels of efficiency from which consumers can subsequently benefit. The regulatory arrangements are designed to encourage efficient behaviour and the most efficient companies will earn returns that are greater than the allowed cost of capital if they outperform the cost assumptions set by the regulator and deliver the outputs required of them. Companies that fail to meet the cost and output assumptions set by the regulator will earn a return that is below the allowed cost of capital.
- 3.8. The rest of this Chapter sets out Ofgem's further thoughts in a number of specific areas relating to the incentives provided to companies – particularly on costs.

Periodicity of incentives

- 3.9. The February document explained that the issues raised by the periodicity of incentives are best resolved by allowing companies to retain the benefits of an efficiency saving – both capex and opex – for a fixed period of time regardless of when the saving is made. A number of issues were identified that would need to be considered in implementing this commitment.

Views of respondents

- 3.10. All respondents broadly welcomed the commitment to allow companies to retain efficiency savings for a fixed period of time. It was argued that this would provide continuous incentives on companies to seek out efficiency savings and help mitigate the timing distortion created by the present arrangements. Some respondents suggested that the commitment should be applied retrospectively (i.e. to efficiency savings achieved before 2003/04) whilst others agreed that it should be used to affect future incentives (i.e. applied to savings achieved from 2003/04).
- 3.11. A number of respondents argued that for capex:

- ◆ companies should be able to retain both the depreciation allowance and the cost of capital on any efficiency savings; and
- ◆ no distinction should be made between underspends derived from the deferment of investment or from projects being delivered at a lower cost than that assumed in setting price controls – it was argued that this may distort incentives and discourage companies from adopting innovative asset risk management solutions. It was also suggested that the Asset Risk Management Survey (ARM) would provide an assurance that underspends were not at the detriment of the integrity of the network.

3.12. One respondent argued that the introduction of a fixed retention period for efficiency savings could provide a greater return to inefficient companies compared to those which are frontier (or best) performers.

Ofgem's further thoughts

3.13. Allowing companies to retain efficiency savings for a fixed period of time should benefit both companies and consumers by helping to ensure that the regulatory arrangements do not distort companies' decisions about when they make efficiency savings. Ofgem does not consider that the application of fixed retention periods on their own will weaken incentives on companies that are frontier (or best performing) companies. It will be important to understand how the introduction of a fixed retention period, in combination with the approach used to assess efficiency and project future costs, impacts on companies' incentives. It is not Ofgem's intention to penalise the most efficient companies as this would not be consistent with the principles outlined above.

3.14. Applying the fixed retention period to opex and capex savings that have been achieved before 2003/04 would not provide any benefit to consumers. Changes to regulatory arrangements only affect companies' future behaviour and will not have any impact on efficiency or network performance delivered to date. On this basis, the commitment to retain efficiency savings for a fixed period of time will only apply to savings achieved from 1 April 2003.

3.15. Ofgem recognises that where a company does defer an investment project this can represent an efficient decision and the company should be allowed to benefit from the efficiency saving that has been achieved. It is also difficult to

split capex efficiency savings between those that are generated from the delivery of projects at a lower cost than was assumed in setting the price control from those generated from deferring investment projects. On this basis, Ofgem intends to allow companies to retain the benefits of all capex efficiencies regardless of how they have been achieved. Ofgem will need to ensure that an appropriate balance is achieved between the incentive towards capex efficiency and the delivery of outputs and other requirements placed on companies. As explained in Chapter 2, it would not be appropriate for consumers to fund improvements in the network where performance has deteriorated as a result of inefficient under-investment in the network. This means that Ofgem will look closely at previous behaviour and investment levels in assessing the future level of revenue that a company requires to meet its licensed and statutory obligations.

- 3.16. Ofgem intends to allow companies to retain the benefits of both the depreciation allowance and the cost of capital for capex efficiencies that they make for the current review period.
- 3.17. The February document explained that the commitment to introducing a fixed retention period for efficiency savings made from 2003/04 should also apply to: the gas TO price control for NGT's LDZs and NTS; the electricity TO price control for NGT; and the electricity TO price control for the Scottish Transmission companies. Ofgem will need to consider the form that these arrangements will take.

Distortion of incentives between opex and capex

- 3.18. The February document explained that the existing arrangements can provide companies with distorted incentives between capex and opex and that this may mean companies have incentives to adopt practices and interpretations of accounting standards that give rise to greater capitalisation of costs and the adoption of an inefficient mix of opex and capex in operating their networks. The document suggested that it may be appropriate to provide more balanced incentives between capex and opex and to make use of total cost analysis when assessing companies' efficiency.

Views of respondents

- 3.19. A number of respondents recognised that the present arrangements do give rise to a distortion of incentives between operating and capital expenditure. Some respondents argued that this distortion could be reduced by providing more balanced incentives by changing the amount of time that companies are allowed to retain efficiency savings. One company argued that there is little scope for the substitution of expenditure between opex and capex.
- 3.20. A number of respondents supported the principle of using some form of total cost model to help assess the efficiency of companies. It was argued that this would provide more balanced incentives between capex and opex. It was pointed out that there are a number of practical difficulties to using a total cost model, including identifying the appropriate cost drivers for opex and capex and dealing with inherited issues, such as the state of the network at privatisation and the level and pattern of capital expenditure. It was suggested that results would need to be interpreted with caution and in conjunction with other forms of analysis. One respondent argued that total cost modelling was not a proven method for assessing efficiency and that it could undermine incentives to invest in the network as there would be no certainty that expenditure would be added to the Regulatory Asset Value (RAV). It was also argued by some respondents that improving the definition of capex and opex in the Regulatory Accounting Guidelines (RAGs) would help to reduce the scope for companies to inappropriately misallocate expenditure.

Ofgem's further thoughts

- 3.21. It was explained above that Ofgem intends to allow companies to retain the benefits of efficiency savings – both capex and opex – for a fixed period of time regardless of when the saving is made. This does not mean that the proportion of the saving retained by the company will be equal between opex and capex. This is for two main reasons.
- 3.22. The first of these is that under the present regulatory arrangements the benefit that a company realises from an opex saving is greater than that for a capex saving of the same size and duration. This is shown in Table 1 which sets out

the proportion of a £1 million efficiency saving that is retained by a company under different retention periods for the following types of efficiency:

- ◆ a one-off opex saving – this could include lower than expected maintenance faults resulting from good weather and fewer faults on the network. The benefits of this saving would not be realised again;
- ◆ a permanent opex saving – this could include lower maintenance costs derived from the introduction of more efficient operating practices – for example more efficient use of depots and work-teams;
- ◆ a one-off capex saving – this could include the deferral of an investment project (for example because demand did not materialise), the benefits of which (i.e. the delayed costs) are not expected to be realised again; and
- ◆ a permanent capex saving – this could include the implementation of innovative asset management techniques that enabled a problematic item of equipment to be retained in service rather than replaced permanently.

3.23. The table shows that, even where the retention period is the same, the proportion of an efficiency saving retained by a company will differ depending on the nature of the saving.

Table 1: Comparison of the retention of opex and capex efficiency savings

Retention period (years)	Operating expenditure (one-off) %	Operating expenditure (permanent) %	Capital expenditure (one-off) %	Capital expenditure (permanent) %
2	100	13	17	2
3	100	18	24	4
4	100	24	31	7
5	100	29	38	11
6	100	33	43	14
7	100	38	49	18
8	100	42	53	22
9	100	46	58	26
10	100	49	62	30
11	100	52	66	34

Notes: Uses a discount rate of 7%. For operating expenditure, calculations are based on a recurring saving of £1 million per year. For capital expenditure, calculations are based on a one-off saving of £1 million in a given year for an asset with an assumed regulatory asset life of 40 years. It is also assumed that prices are reset to actual costs at the end of the retention period. If the assumed asset life was 20 years then the figure for a one-off capital expenditure saving would be 47% and it would be 13% for a permanent saving, assuming a 5 year retention period.

3.24. In practice, it is difficult to categorise efficiency savings in this way; incentives to achieve efficiency savings are also affected by the way in which efficiency itself is assessed; and the balance between one-off and permanent savings will vary across companies. Observation would suggest that the majority of opex savings tend to be permanent whilst capex efficiencies have tended to be driven by one-off savings although companies have, over the last few years, begun to introduce more innovative asset management techniques which could deliver further permanent capex savings.

3.25. There does not appear to be any realistic solution which equalises the retention rates across all four columns in Table 1. On this basis, it is not appropriate to change the amount of time that efficiency savings are retained in order to equalise the retention rate across different 'types' of efficiency saving.

- 3.26. The second reason why there may be differing incentives between opex and capex is that the efficiency of companies has been primarily assessed on the basis of operating costs.
- 3.27. The February document explained that one way of mitigating this would be to assess efficiency on the basis of some measure of total costs. This could also be supplemented by looking at the outputs that companies deliver as a way of assessing overall efficiency (or the 'value for money') achieved by a company. The report produced by Frontier Economics suggested that although it is possible to assess efficiency on a total cost basis there are a number of difficulties with doing so – particularly in defining a measure of capital costs. Ofgem recognises these issues and it intends to undertake work in the next few months to develop its thinking further on an appropriate approach for using total cost modelling. As explained above, assessing efficiency is a means of helping to achieve the objectives of price controls, and a range of techniques and methods will be used to provide a balanced assessment of efficiency. Where it is clear that a particular approach is not as robust as others the results will need to be interpreted and applied with more caution.
- 3.28. Ofgem also intends to improve the reporting of costs through the Regulatory Accounting Guidelines (RAGs) to help ensure that companies do not misallocate costs (for example by inappropriately capitalising costs). Ofgem will work with the companies to help improve reporting in this area.

Retention period for efficiency savings

- 3.29. The February document explained that it is necessary to consider the length of time for which network monopoly companies are allowed to retain the benefits of any efficiency savings before they are passed back to consumers. The document explained that in deciding on the retention period a number of factors need to be considered including:

- ◆ ensuring that companies have appropriate incentives to seek out efficiency savings;

which needs to be balanced against ensuring that:

- ◆ consumers are provided with an appropriate level of protection in terms of the prices that they pay and the quality of service they receive; and
- ◆ the longer term performance and security of the network is maintained.

Views of respondents

- 3.30. The majority of network monopoly companies argued that the incentives to achieve efficiency savings need to be strengthened in order to provide continuing incentives for companies to seek out efficiency savings. A number of the network monopoly companies argued that the retention period should be set in such a way as to provide a 50:50 share of efficiency savings between companies and consumers. It was argued that a 50:50 sharing rule would be optimal for both consumers and companies where there is a linear relationship between cost reduction and incentives.
- 3.31. One network monopoly company argued that assessing the strength of incentives for efficiency by looking at the benefits retained by companies and consumers is not appropriate as there is no guarantee that price reductions from monopoly parts of the industry will be automatically reflected in consumers' final bills. It argued that the best way to protect consumers would be to set service and reliability targets.
- 3.32. One respondent argued that the retention period should be modelled on the length of time that efficiency savings would be retained in a competitive market.

Ofgem's further thoughts

- 3.33. The strength of incentives for cost efficiency that are provided to companies needs to strike a balance between the two objectives of price controls identified above - namely:
- ◆ protect consumers from the abuse of monopoly power of which an important aspect is allowing them to share in the benefits that companies' realise from efficiency savings; and

- ◆ provide companies with a future level of costs and incentive arrangements to allow them to meet their statutory duties and licensed obligations including operating an economic, efficient and co-ordinated network.
- 3.34. Ofgem does not see any theoretical justification to suggest that a 50:50 sharing rule between consumers and companies, for efficiency savings achieved under network monopoly price controls, would provide an appropriate balance between these two objectives. In a competitive market companies would retain the benefits of efficiency savings until they are competed away by other players in the market, i.e. there is no guaranteed retention period. The incentives created under price controls provide a proxy for the lack of these competitive pressures and provide incentives on network monopoly companies to operate efficiently.
- 3.35. As such, of more relevance in considering the most appropriate retention period is how companies have behaved in the past and how they are likely to behave in the future. The starting point for consideration of the strength of the incentives must be an assessment of whether existing incentives are too strong or too weak.
- 3.36. Ofgem does not consider that there is strong evidence that the strength of incentives to achieve efficiency savings needs to be increased (or weakened) by increasing the retention period. Indeed the performance of many of the regulated companies under the present arrangements would seem to suggest that the existing incentives to achieve efficiency savings are sufficiently strong to influence companies' behaviour. The 2001/02 regulatory accounts broadly show that DNOs are achieving on average around a 9 per cent return on the RAV which is about 2.5 per cent above the allowed cost of capital. In terms of opex, the DNOs' standard controllable costs were around 22 per cent below the assumptions underlying the price controls in 2001/2.
- 3.37. It is also difficult to identify on a robust basis a full range of output measures that could be monitored (or incentivised directly) to counter balance a significant increase in the incentives to achieve efficiency savings. Even if all outputs could be incentivised directly, stronger cost efficiency incentives would require stronger output incentives, which may have a significant impact on the overall risk profile of a company.

- 3.38. Companies are also provided with incentives to improve efficiency in the way in which efficiency is assessed and in the assumptions that are used for projecting costs. In particular, as explained in the report produced by Frontier Economics, the use of benchmarking can significantly increase the incentive power of the regulatory arrangements. Ofgem recognise that it is not possible to use benchmarking across all areas of the gas and electricity industry and that in these circumstances the incentives to achieve efficiency savings may be weaker – but not necessarily to the extent that companies do not have sufficient incentives.
- 3.39. Given these considerations, and in light of the commitment to introduce a fixed retention period, Ofgem considers that the appropriate retention period for efficiency savings made during the existing price control periods is 5 years – i.e. equivalent to the duration of the price control. This conclusion will be reviewed at the next relevant price control review on the basis of how companies have actually performed. If there is evidence that the strength of incentives is such that there is not an appropriate balance between the two objectives outlined above, Ofgem would consider whether any changes should be made to the strength of incentives.

Treatment of non-operational capital expenditure

- 3.40. The February document explained that, to the extent that expenditure on non-operational capex is intended to create future efficiencies in either capex or opex, or improvements in future network performance, it would appear appropriate to allow companies to recover the projected efficient level of costs from consumers over the period in which the benefits are likely to accrue. One way of achieving this would be to include projected non-operational capex in the Regulatory Asset Value (RAV) and depreciate the capital expenditure over an appropriate period of time.

Views of respondents

- 3.41. Most respondents supported the proposal to include non-operational capex in the RAV. It was argued that this would improve incentives that companies have to use non-operational capex to seek out cost efficiencies or improve network performance. One respondent argued that some elements of non-operational capex, such as tools and office furniture, should be retained as an operating cost

item. It also argued that even if actual non-operational capex was greater than the forecast level it should be included in the RAV. Another respondent argued that no distinction should be made between types of non-operational capex as this could unnecessarily complicate the reporting and monitoring of costs. Two respondents suggested that the period of time over which non-operational capex should be depreciated should be linked to the actual (or average) accounting life of the assets. Another respondent suggested that the asset life should be five years.

- 3.42. One respondent pointed out that, for the DNOs, cashflow may be one of the main constraints to be dealt with at the next price control review and that any increase in capitalisation may add pressure on the financeability of companies.

Ofgem's further thoughts

- 3.43. Ofgem considers that it is appropriate to remunerate companies for non-operational expenditure over the period in which the resulting benefits are expected to accrue. Based on historic levels of non-operational capex, Ofgem does not expect that an increase in capitalisation in this respect will place undue pressure on the financial position of companies. Ofgem intends to use an assumed asset life as a proxy for the period of time in which benefits accrue from expenditure on non-operational capex. A generic asset life will be assumed for all types of non-operational capex that are included in the RAV. Ofgem's initial thoughts are that this should be broadly consistent with the amount of time over which these types of assets are depreciated in companies' accounts at the moment.
- 3.44. Ofgem's initial view is that, given the difficulties of monitoring non-operational capex at a detailed level, all categories will be included in the RAV, i.e. no distinction will be made between IT and other forms of non-operational capex such as office furniture.
- 3.45. It is important that consumers benefit from any efficiency savings that companies achieve from under-spending against the projected level of non-operational capex. It is important to avoid creating distorted incentives in relation to other categories of capex. On this basis, Ofgem intends to allow companies to retain

the benefits of any efficiency savings on non-operational capex for a fixed period of time.

- 3.46. It is not appropriate that companies should be remunerated for inefficient non-operational capex. On this basis, it is important to consider the circumstances in which an over-spend against the projected level of costs should be incorporated into the RAV. It was suggested in the February document that this may be appropriate where innovative solutions are developed and a clear link can be demonstrated to improved efficiency or network performance, such that consumers benefit overall. If a company requests to include a non-operational capex overspend in the RAV this will be assessed on a case by case basis and Ofgem would expect the company to demonstrate that efficiency or network performance had been improved and that consumers have benefited overall.

Dealing with uncertainty, new obligations and costs

- 3.47. In setting price controls, it is necessary to estimate the future level of costs that an efficient company should incur over the price control period. It is also necessary to forecast other variables, such as the number of consumers and the number of units distributed or transported over a network. It is likely that the assumptions underlying the price control will not correspond exactly to what happens in reality. One way of dealing with uncertainty would be to reduce the period of the price control to allow the regulator to make more use of up to date information. However, this would impact on the incentives that a company has to achieve efficiency savings, increase regulatory intervention and burden and could increase the perception of risk.
- 3.48. Ofgem's preferred way of dealing with uncertainty is to try to ensure that there is a suitable degree of flexibility in the price control arrangements. There are a number of features of the existing regulatory arrangements that are designed to achieve this objective: including revenue drivers relating to the number of units distributed for the DNOs and the amount of generating capacity connecting to the electricity transmission network; and the incremental capacity release incentive mechanism for the gas transmission System Operator. However, it is not always possible either to identify a relevant output measure that can allow the price control to flex automatically or to create a mechanism where companies can respond to market signals. In these circumstances it may be

necessary to consider whether alternative arrangements should be put in place to deal with uncertainty.

3.49. Chapter 2 explained that Frontier Economics and Ofgem have developed a decision-making framework for dealing with uncertainty which will be used both to aid decisions at price control reviews and, where necessary, in considering how to address substantial new costs, should they arise between reviews. Under the existing arrangements, where companies have been exposed to substantial new costs between reviews, these have tended to be dealt with on a case by case basis. In certain cases, after considering the issues, Ofgem has written to companies to assure them that costs efficiently incurred will be recognised in setting the next price control. In addition, where it is clear that new costs have arisen that impact on the financeability of a company, Ofgem would need to consider whether any interim adjustment would need to be made to the price control.

3.50. This system appears to have worked well in the past and achieved a reasonable balance between protecting incentives and dealing with unexpected costs. It is necessary to consider whether such an approach remains appropriate or whether there would be advantages in introducing more formal arrangements for dealing with new cost obligations between reviews. If any changes are made, it will be important to ensure that:

- ◆ this does not have a negative impact on the incentives companies have to achieve efficiency savings;
- ◆ the changes provide benefits in terms of reducing the perception of risk associated with the recovery of new costs where these are efficiently incurred; and
- ◆ where appropriate, the changes provide incentives to companies to manage new costs that arise between price control reviews on an efficient basis – rather than simply allowing them to be passed through to consumers.

3.51. In the water industry, formal arrangements for dealing with new cost obligations have been put in place and under the SO incentive scheme for electricity

transmission there are formal arrangements for dealing with income adjusting events.¹² Ofgem has not yet reached a decision on whether any features of these arrangements are appropriate for the price controls of the network monopoly companies and intends to consider this further during the forthcoming DNO price control review.

Incentives to invest

- 3.52. This section sets out Ofgem's thoughts on some of the issues associated with investment under network monopoly price controls including the incentives provided to companies.
- 3.53. Under the existing price control arrangements, Ofgem will make a projection of the level of capex that an efficient company would require over the next price control period (typically five years) to meet its licensed and statutory obligations. It is difficult for the regulator to estimate with a high degree of confidence the level of capex that companies will require. This is because of uncertainty over the appropriate level of capex and because the regulator does not have access to the detailed information that companies have on the factors affecting their investment requirements – i.e. there is an information asymmetry.
- 3.54. Companies also have an incentive to underspend the projected level of capex that is estimated by the regulator as they retain a significant share of the underspend, although this may be offset by financial incentives (and other obligations) on the delivery of outputs. These obligations and outputs include the requirement to operate an efficient, economic and co-ordinated network and specific incentives on other areas, such as quality of supply. In the absence of output incentives and other obligations, the incentive on a company is therefore not to invest as they earn a greater return from the price control from taking this decision. Ofgem considers that these incentives are broadly appropriate although there are a number of issues to consider as set out below.
- 3.55. There can be a strong incentive on companies to overstate their investment requirements at a price control review given the information asymmetry and the

¹² Income adjusting events under NGC's 2002/03 system operator incentive scheme: A consultation document – Ofgem, May 2003.
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incentive to underspend the regulator's projection. It is with this context in mind that the regulator must assess the future level of capex. The risks associated with getting the projection significantly wrong are that:

- ◆ companies' actual levels of capital expenditure are a lot lower than the projected level – where the underspend is not driven by genuine efficiencies this will mean that prices to customers will be higher than they necessarily need to be; or
- ◆ companies' revenues may not adequately remunerate the capex required to meet their statutory and licensed obligations.

3.56. It can be argued that these risks are asymmetric and that it would be better to overestimate the required level of investment as it is possible to pass the benefit of efficiency savings to consumers in setting the next price control and to take account of any overestimates in setting capital expenditure allowances for the next price control period. Reliance on this cycle of events is not conducive to an informed and effective regulatory dialogue.

3.57. There may be a number of ways of improving on the present situation including:

- ◆ gaining a better understanding of how companies have prepared their capex forecasts, including looking in detail at the underlying assumptions that have been used and reviewing in more detail their capex forecasting models – although it is not practicable for the regulator to examine all of the information that a company uses to put together its capex forecasts. Reviewing the approach, assumptions and models that companies have used might help Ofgem to identify where a company has systematically overstated its forecast. Over time, this should reduce the incentive on a company to submit an inflated forecast and allow the regulator to place more weight on a company's projections;
- ◆ where it is possible to identify and quantify investment drivers (or output measures) these can be incorporated within the regulatory arrangements to reduce the level of uncertainty regarding the projected level of investment. This would mean that the regulator would estimate a baseline (or underlying) level of investment that is required and then use investment drivers to ensure that companies received additional revenue

as circumstances or the demands of consumers changed. Examples of such output measures include that for new generators connecting to the electricity transmission network under the TO price control and for iron gas mains replacement under the TO price control for Transco's LDZs and NTS; and

- ◆ considering whether it would be possible to introduce more flexibility into the arrangements such that the projected level of capex is not necessarily viewed as the possible maximum level of investment that a company should undertake. At present, companies do not have clarity about how any overspend against their capex projections will be treated in setting the next price control. This can provide a disincentive to companies to undertake additional investment as it is unclear whether it will be remunerated and could encourage companies to overstate their projections. Ofgem's initial thoughts are that where additional spending is justified (for example to improve network performance, in response to new obligations or the demands of consumers), then it may be appropriate for companies to be remunerated, at least to some extent, for the costs that they incur. It is important to ensure that companies are not provided with an undue incentive to spend more than the projected level of capex – unless this is justified robustly. On this basis, it may be appropriate for a company to earn a lower return on costs associated with an overspend, at least until the next price control period. This could be achieved in a number of ways, including initially using a rate of return lower than the allowed cost of capital; or only rolling forward the investment by RPI or interest rates until it is included in the RAV at the next price control review.

This approach could also be extended further and applied to forward investment that companies may undertake, i.e. investment for extending or reinforcing the network that is ahead of realised demand or constructed generation. Ofgem recognises that in some circumstances it may be efficient for a company to undertake investment beyond the level immediately required – for example companies may decide that the capacity of the network should be increased beyond a new customer's specific requirements in anticipation of additional capacity being

required as a site development extends in the future. In some circumstances, it may not be appropriate for the company to be remunerated in full until the additional capacity (or asset) is actually being used. It may be possible to make use of some form of 'used and useful test', whereby a company was allowed to earn a return lower than the allowed cost of capital initially, but subsequently a higher (or premium) return to compensate for the additional risk associated with forward investment, once the asset is in use. This would be analogous to some form of sliding scale arrangement.

Issues for consideration

3.58. Ofgem would welcome views on any of the issues raised in this Chapter and in particular on:

- ◆ the retention period for efficiency savings;
- ◆ the most appropriate way of dealing with uncertainty and new obligations and costs; and
- ◆ incentives to invest.

4. Financial issues

Introduction

- 4.1. The February document set out Ofgem's thinking on a number of financial issues that are common to all network monopoly companies, including:
- ◆ obligations and duties with respect to the financing of companies;
 - ◆ the cost of capital;
 - ◆ assessing the Regulatory Asset Value (RAV) and the approach to depreciation; and
 - ◆ financial modelling and ratios.
- 4.2. The document also sought views on the assessment and treatment of pensions costs that companies would be expected to incur over the period of the price control.
- 4.3. This Chapter sets out Ofgem's further thinking on these issues in the light of respondents' views.

Obligations and duties with respect to the financing of companies

- 4.4. The February document explained that both Ofgem and licence holders have duties and obligations with respect to the financing of companies. These are set out in the Utilities Act 2000 and the licenses that companies hold. In setting price controls, it was explained that Ofgem must ensure that:
- ◆ an efficient company should be able to earn a return on its RAV that is at least equal to the allowed cost of capital; and
 - ◆ companies are able to raise finance from the capital markets on reasonable terms.

Views of respondents

- 4.5. One respondent commented specifically on the discussion of financing duties. It broadly agreed with Ofgem's general approach but suggested that in addition to credit ratings and the financial indicators used by the debt market, Ofgem should also consider the criteria for successful equity rights issues, particularly where there is a need for increased investment.

Ofgem's further thoughts

- 4.6. Ofgem considers that its broad approach to the financing duties and obligations remains appropriate. In assessing the financial impact of a price control on a company, Ofgem will need to consider whether it can finance the level of investment that is required. In doing so, it will look at the scope for the company to raise new debt and, where appropriate, equity finance.
- 4.7. There are two related issues that need to be considered in relation to financing duties and obligations:
- ◆ the financial ringfence – Ofgem needs to consider whether there is a need to strengthen the financial ringfence provisions which are included in companies' licenses. The emergence of complicated financing structures following recent mergers and acquisitions, particularly in relation to inter-company transactions and financing arrangements between the licence holder and other affiliates, may require some modifications to the ringfence to ensure that the licence holder and consumers are adequately protected. Particular considerations include whether it is appropriate to improve the timeliness of information provided, to tighten definitions to limit cashflows to group companies and to have a fall-back position should a company's creditworthiness fall to levels where it is a particular concern. If changes to the ringfence appear appropriate, this will be subject to further consultation;
 - ◆ special administration – Ofgem has responded to the Department of Trade and Industry (DTI) consultation supporting the introduction of a special administration regime in the event of the financial failure of a NWO.¹³

¹³ DTI Consultation on Proposals for a Special Administrator Regime for Energy Network Companies – Developing network monopoly price controls
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These powers should help facilitate a smooth transfer of ownership or establishment of alternative financing arrangements whilst ensuring that consumers' interests in respect of the continuity and security of supply are protected and that network services continue to be provided.

The cost of capital

- 4.8. The February document explained that in running a business a company will incur financing costs in the same way as it incurs operating and capital costs. 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 (the RAV) equal to the return required by providers of finance (cost of capital). The February document set out Ofgem's initial thinking on issues that need to be considered when estimating the cost of capital. This section sets out Ofgem's further thoughts in the light of respondents' views and the report produced by Smithers & Co (a firm of financial consultants) who were appointed jointly by the UK economic regulators to produce a report on certain aspects of the cost of capital.¹⁴ It would not be appropriate for Ofgem to set out its views on the appropriate level of the cost of capital for the DNOs (and its various components) until further analysis has been undertaken – this section focuses on the principles that Ofgem intends to use in estimating the cost of capital.

Implications of Smithers & Co report

- 4.9. The main points that emerged from the Smithers & Co report were:
- ◆ the Capital Asset Pricing Model (CAPM) is well known and used extensively, including by regulators. The report concludes that there is no clear successor to CAPM for practical cost of capital estimation;
 - ◆ that it is possible to restate the CAPM formula so that, if the value of beta is equal to one, there is no need to calculate the equity risk premium and

Ofgem's response – Ofgem, June 2003

¹⁴ A study into certain aspects of the cost of capital for regulated utilities in the UK – Smithers & Co, February 2003.

the risk free rate of return separately and that it may be preferable to focus on the aggregate market equity return;

- ◆ CAPM assumes that the return on investing in a market index covers all assets – not just equities – and that institutions which hold a significant proportion of utility shares also hold other assets, such as property and debt. Ideally, the market portfolio should reflect the mix of assets of the typical investor in the company;
- ◆ in estimating the cost of equity it is only the beta of the regulated company that is relevant;
- ◆ in many, but not all cases, using daily market data to calculate the cost of equity might give more accurate results than using weekly or monthly data; and
- ◆ that regulatory risk “arises only when the regulator’s actions introduce systematic (i.e., non-diversifiable) risk ...[that is] when the regulator takes actions that cause the returns of the firm to be correlated with some systematic risk factor”.¹⁵

Views of respondents

- 4.10. Respondents that commented welcomed the joint regulators’ cost of capital study by Smithers and Co and broadly supported the overall approach that Ofgem has used previously to calculate the cost of capital, including the use of CAPM – even though it requires the use of estimates and assumptions which can lead to a range for the allowed cost of capital. It was suggested that it is important that Ofgem sets out a stable and predictable framework that should be used for estimating the cost of capital. One respondent argued that Ofgem should continue to estimate the cost of capital on a forward looking basis to ensure consistency with the approach used at the last DNO price control review. It was also argued that it is important that the cost of capital is not set at a level that is too low to incentivise companies to invest. A number of issues were raised about the specific components of the cost of capital:

¹⁵ Page 9 of the Smithers & Co report
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- ◆ **level of gearing** – it was argued that it is important that the level of gearing that is assumed in setting the price control allows companies sufficient flexibility to finance future levels of investment. It was also suggested that the assumption that is used for the level of gearing should not encourage companies to adopt high levels of gearing. It was also argued that the level of gearing that is assumed should be consistent with a credit rating that is comfortably within the investment grade category. Some respondents suggested that an assumed level of gearing of 50 per cent (consistent with the existing DNO price controls) should be used for setting revised price controls for the DNOs;
- ◆ **taxation** – the majority of respondents argued that Ofgem should use a post tax (or company specific) approach for making an allowance for the expected tax liabilities that companies would be expected to incur. This was for a number of reasons:
 - changes in the tax regime mean that the tax liabilities that companies are expected to incur are likely to increase in the future and that the impact would differ across companies which would mean that it would not be appropriate to use a generic assumption;
 - that using a post tax approach would provide a disincentive to companies to adopt high levels of gearing; and
 - it improves the level of consistency across regulated sectors given that a post tax approach is used by Ofwat

It was also argued that there was no evidence from the water sector that using a post tax approach would weaken the incentives that companies have to manage their tax liabilities efficiently;

A small number of respondents argued that Ofgem should continue to use a pre-tax approach for estimating the cost of capital as long as an appropriate adjustment was made to the tax allowance to cover the increase in expected tax liabilities. It was argued that using a pre-tax approach would ensure that companies have incentives to manage their tax liabilities efficiently;

- ◆ **incurred fixed costs of debt** – the majority of respondents argued that Ofgem should recognise the costs that companies have incurred in relation to the fixed costs of debt. It was suggested that the decision to take on fixed cost debt was an efficient financing decision and that these costs should be reflected in the cost of capital. It was argued that a company specific adjustment should be included in the cost of capital calculations.

A small number of respondents argued that it would not be appropriate to make an adjustment for the incurred fixed costs of debt. It was suggested that companies can use market instruments to hedge against movements in interest rates – although it pointed out that it would be necessary to include the costs of these transactions in calculating the cost of debt. One respondent suggested that there should not be a generic adjustment for the incurred fixed costs of debt, although it may be appropriate to make company specific adjustments in exceptional circumstances.

Ofgem's further thoughts

4.11. It is important that the cost of capital is estimated in a transparent way. Set out below are some principles that Ofgem intends to adopt for estimating the cost of capital which should improve the level of understanding and transparency:

- ◆ where possible estimates of the various components of the cost of capital should be based on forward looking market based data as this provides the most robust estimate of future rates. Where it is not possible to use market data (for example when estimating beta for companies that are not traded or that are part of larger groups) then Ofgem will look at comparable companies and general market data (including general accounting data) and the assumptions used in previous price control reviews;
- ◆ given the uncertainty surrounding estimates of the inputs into CAPM, Ofgem sees merit in considering the aggregate return on equity alongside the traditional building block approach. The relative weight placed on these approaches will depend on the characteristics of the underlying data and the extent to which the equity risks of the regulated business are similar to the market average;

- ◆ increases in the supply and liquidity of government gilts may mean that in future it might become easier to derive robust estimates of the forward looking risk free rate from the return available on gilts. Ofgem will need to consider whether there are any remaining structural factors within the markets that impact on the observed rates of return;
- ◆ Ofgem intends to assess the expected tax position of each company as part of the financial modelling at each review. Where companies' expected tax liabilities (on the basis of the gearing used to assess the cost of capital) differ significantly from allowances implicit in the approach used at previous reviews for reasons other than company efficiency or temporary timing differences which are expected to reverse, it may be appropriate to use company-specific allowances for tax liabilities. In addition, Ofgem would intend to bring the treatment of tax efficiencies more into line with arrangements for other cost efficiencies and pass the benefits on to customers after a period of time, rather than retaining a fixed assumption indefinitely. This would include passing to customers the tax benefits of gearing levels higher than that assumed when setting the cost of capital – which would have the benefit of reducing the incentive on companies to adopt highly geared structures within the licence entity (see paragraphs 4.6 - 4.7 above). The tax allowances included in the price control could be presented either as a monetary value additional to a post-tax cost of capital or as part of a pre-tax cost of capital – the former is more likely to be appropriate if tax allowances differ between companies but this would mainly be a presentation matter;
- ◆ in estimating the allowed cost of capital Ofgem intends to use a level of gearing that is consistent with companies maintaining a credit rating that is comfortably within the investment grade category. This should provide companies with sufficient flexibility to respond to unexpected events and meet the requirements placed on them. It is not Ofgem's intention to prescribe or endorse any particular capital structure, but rather to provide companies with appropriate incentives for financial efficiency. Further work needs to be undertaken, including consulting

with the rating agencies, before any decisions can be taken about the gearing assumptions used in estimating the cost of capital;

- ◆ Ofgem recognises that perceptions of regulatory risk are unlikely to be helpful in terms of decision-making by company management and will take steps to clarify and improve the transparency of the regulatory regime where it is practical and appropriate to do so. A number of important steps have already been taken in this respect, including the publication of Ofgem's approach to undertaking price control reviews and the setting out of key principles that will be used in setting the price controls; and
- ◆ in view of the relatively stable recent trends in real interest rates, in general Ofgem is not minded to provide additional allowances to reflect historic debt that is now out of the market. However, we will consider the merits of specific points made to us on this issue by companies and will keep the position under review, particularly if there is a significant change in market rates.

Assessing the RAV and the approach to depreciation

4.12. The February document explained that in order to secure continuing access to investment funds on acceptable terms, network monopoly companies need to provide a return on the capital invested in their business – both the capital employed at flotation and investments made since then. Ofgem explained that it would not be appropriate to make changes to the method of calculating (and the value of) the initial RAV as this could have a negative impact on the perception of regulatory risk – although views were sought on a number of issues relating to investments going forward, including:¹⁶

- ◆ the treatment of assets which have been disposed of and the related condition in companies' licence;
- ◆ the treatment of non-operational capex (which is discussed in Chapter 3); and

- ◆ the approach to depreciation particularly where companies are required to finance a significant increase in investment.

Views of respondents

- 4.13. Respondents welcomed Ofgem's commitment to not changing the method for calculating the initial RAV. It was suggested that this would reduce regulatory uncertainty and the perception of risk.
- 4.14. One respondent argued that deducting from the RAV the value of assets that have been disposed of could lead to companies being left with stranded assets. Other respondents argued that companies need to be provided with incentives to manage asset disposals efficiently. It was suggested that companies should be allowed to retain the benefits accruing from asset disposals for five years before the savings are passed back to consumers. It was also argued that the approach to asset disposals should be consistent across companies. Some respondents argued that there is no need to review the licence conditions relating to asset disposals and suggested that Ofgem should clarify their concerns in this area.
- 4.15. Some respondents argued that the approach to depreciation needs to consider both the longer term path of costs and revenue and the balance of interests between both present and future consumers and the need to ensure that companies can finance their licensed activities. One respondent argued that it would not be appropriate to expense replacement capex (rather than include it in the RAV) as this would mean that companies would not be able to earn a return on this investment. It suggested that an approach similar to that used to provide incentives towards efficiency to NGT in relation to its iron mains replacement programme could be adopted. Another respondent argued that it would be appropriate to expense replacement capex as this would ensure that present consumers fund the maintenance of the network in its current condition. It suggested that both present and future consumers should fund enhancements to the network as both groups would benefit from an improved network. It pointed out that such an approach would be similar to that used by Ofwat.

¹⁶ Issues that are specific to the DNOs will be included in the July 2003 document on the next DNO price control review.

Ofgem's further thoughts

- 4.16. Ofgem confirms that it does not intend to change the method used for assessing the initial value of the RAV. Changes may be required where parts of the business become competitive (e.g. metering) or are separated out from the core regulated business (e.g. through commercial transactions) or, in exceptional circumstances, to reflect other changes in the regulatory framework.
- 4.17. It is important that companies have incentives to manage their assets efficiently including decisions regarding the disposal of assets. It is also appropriate that consumers benefit from the efficiency savings that companies make from the disposal of assets – consistent with the approach taken towards sharing the benefits of operating cost efficiencies. Chapter 3 explained that Ofgem intends to allow companies to retain the benefits of capex and opex savings for a fixed period of five years before they are passed back to consumers. A similar approach is appropriate in relation to benefits received from asset disposals. On this basis, Ofgem will make an adjustment to the RAV to deduct the disposal proceeds received from the sale of assets (or where these have been transferred out of the licensee) five years after the year in which the disposal was made.
- 4.18. The approach to depreciation will depend on a number of issues including:
- ◆ balancing the interests of both present and future consumers;
 - ◆ ensuring that companies can finance their licensed activities including that they can raise finance from the capital markets on reasonable terms;
 - ◆ the impact on incentives to invest efficiently; and
 - ◆ consistency of approach across companies.
- 4.19. Ofgem recognises that issues of intergenerational equity are important. Making significant changes to the approach to depreciation (e.g. expensing replacement expenditure) could mean that prices would increase significantly relative to where they would otherwise be, which may be a particular concern at a time when there are other pressures on prices, for example due to increased investment levels. Any changes to the approach to depreciation will therefore

need to consider all the factors above – and in particular, will not affect the value of cashflows in net present value terms.

Treatment of pension fund costs

4.20. The February document explained that in setting price controls Ofgem makes an allowance for the efficient level of costs it expects companies to incur over the period of the price control, including costs companies incur to fund their pension schemes. The document explained that a number of issues need to be considered when assessing the appropriate allowance to make for pension costs:

- ◆ how the schemes of companies compare with practice in the competitive market;
- ◆ if the scheme is in deficit (surplus), how this has arisen or is expected to arise, including the nature of the deficit (surplus), i.e. whether it is permanent or expected to be short lived; and
- ◆ the impact that funding a pension scheme deficit may have on the financial position of a company.

Views of respondents

4.21. Respondents welcomed the recognition that the funding of pension costs is an important issue for a price control review. It was suggested that the efficient level of pension costs needs to be assessed in a transparent, fair and consistent way.

4.22. Respondents pointed out that a large number of regulated company pension schemes are now in deficit. It was argued that these deficits have arisen for a number of reasons including:

- ◆ the ending of dividend tax relief for pension funds;
- ◆ the increased life expectancy of scheme members which has increased the expected liabilities; and

- ◆ negative equity growth since the last price control review has exposed pension funds assets as a significant proportion of the schemes' funds are invested in equities.

4.23. It was argued that this would mean a significant increase in the contribution rates paid by companies into the pension funds – which would increase the level of pension costs. Respondents argued that it is appropriate that pension costs are funded through the price control – including the costs of funding any deficits. Two respondents argued that when operating costs were assessed at the last DNO price control review this was with reference to a (frontier) company whose costs were depressed by the existence of a pension scheme surplus, leading to low contribution rates. It was also argued that regulated utilities have certain obligations which other, non-regulated companies, are not subject to – for example the Electricity Act 1989 provides protection in terms of retirement benefits for people who were members of the pension scheme at the time of privatisation.

4.24. One respondent argued that there are two broad options for dealing with the issue of pension costs – which will be influenced by a decision about who bears the risk of pension costs:

- fully expose consumers to the costs (benefits) of funding: or
- balance the historic benefits that consumers have received with exposure to the costs that need to be covered to make up the current deficits, such that the schemes achieve stability by 2010.

4.25. It also argued that if comparisons were made to competitive market practices this would be with engineering firms with a large labour force, taking into account the obligations and constraints faced by regulated utilities.

Ofgem's further thoughts

4.26. At privatisation, the successor companies to British Gas, the Central Electricity Generating Board (CEGB) and the area electricity boards all participated in schemes for the provision of defined pension (and other) benefits to qualifying staff based on final salaries. As noted above, the legislation providing for the vesting of assets and liabilities of the former state enterprises in the successor

companies and their privatisation also entrenched the rights of scheme members at the relevant vesting dates. These included substantially all existing and former full-time employees.

- 4.27. The principal pension schemes concerned are the Lattice (formerly British Gas) Group Pension Scheme and the Electricity Supply Pension Scheme. A number of other schemes are also in operation. Although new employees may no longer be eligible to join the defined benefit sections of these schemes, the large majority of present members are entitled to defined benefits. The liabilities represented by these entitlements are very substantial, imposing significant costs on employers which – having regard to the demographic profiles of the memberships – are likely to continue for many years to come.
- 4.28. In carrying out previous price controls, Ofgem has not looked at pension costs and their funding in isolation. NWOs must, like any other employer, compete in the labour market for staff with the skills and experience required to enable them to carry out their duties effectively and efficiently. Ofgem has therefore seen pension costs as only one component of overall employment costs. In looking at what constitutes an efficient cost Ofgem has focused at this overall level, recognising that it is a matter for each company to decide the various elements of salary and other benefits that make up total employment costs.
- 4.29. The last quarter of the twentieth century was a period of relatively high real investment returns, in which the value of pension fund assets generally grew faster than their liabilities. As a result, significant surpluses were recorded in both the British Gas and Electricity Supply Pension Schemes, lowering the charges made by companies against income in accounting for pension costs and enabling them to reduce the level of annual contributions they made to their pension funds. Pension costs and their funding have therefore not generally been an issue in previous price control reviews. For this reason, Ofgem has not, to date, developed and set out its thinking explicitly on this aspect of employment costs.
- 4.30. Since 2000, the level of investment returns, especially in equity markets, has been substantially lower. Moreover, there is now a general expectation that real investment returns are not likely in the near future to revert to the levels seen in the previous quarter century. In addition, more recent evidence of mortality rates

and other demographic factors indicates that, on average, total pension costs are likely to be greater as a proportion of total benefits from employment than in the past. In combination, these factors, together in some cases with enhancement of pension benefits, have eroded or eliminated surpluses.

- 4.31. In the light of these factors, it is likely that the cost of providing defined benefit pensions has increased – in some cases significantly – both in comparison to earlier estimates and as a proportion of total employment costs. In particular, employers are likely to face the need to make increased regular contributions to their pension schemes. It is therefore important that Ofgem explain how it intends to deal with pension costs at future price control reviews.
- 4.32. Ofgem has therefore developed a set of guidelines to frame its approach when considering pension costs. It is recognised that there may be practical difficulties in implementing some of these and that it may be necessary to make pragmatic decisions in some instances. Where this is the case, it will be important to explain why a different approach is appropriate.
- 4.33. It is important to note that the guidelines are concerned only with the basis on which allowance should be made in setting price controls for the pension element of employment costs, in order to ensure that consumers are properly protected. Implementation of the guidelines will not in any way affect either the rights that an individual member of a pension scheme has with regard to that scheme (which are solely a matter for the member and employer, and the trustees of the relevant pension scheme, concerned) or the obligations of employers (and, where applicable, of employees) to contribute funds to the pension schemes they sponsor or of which they are members. Neither will the guidelines have any direct effect on the terms and conditions of employment offered by companies, whether individually negotiated or covered by collective agreements. Ofgem has no powers that could be exercised in such a way as to alter the legal arrangements governing either pension schemes or employment arrangements more generally.
- 4.34. Nevertheless, it is important for employers and employees (and those who represent their interests) to recognise that there can be no blank cheques. Gas and electricity consumers should no more be expected to bear the cost of providing pension benefits at unsustainable levels than are the customers of

companies operating in competitive sectors of the economy. In these sectors, market forces determine how far a company is able to recover its costs from customers. A company whose costs are out of line with its competitors must adjust or risk failure. This applies equally to pension costs as to other types of costs. Network monopolies should not be immune from similar pressures to ensure their employment costs, including those relating to the provision of pension benefits, are not out of line with those of efficient companies operating in comparable competitive sectors.

4.35. Ofgem's initial views on the appropriate approach for it to take to pension costs are set out and discussed below in the form of proposed guidelines. Following consultation, Ofgem intends to finalise and promulgate a statement of principles that it will in the future apply in relation to pension costs when setting NWO price controls.

- ◆ *customers of network monopolies should expect to pay the efficient cost of providing a competitive package of pay and other benefits, including pensions, to staff of the regulated business, in line with comparative benchmarks;*

Consumers should not be expected to pay the excess costs of providing benefits that are out of line with private sector practice, nor for excess costs avoidable by efficient management action. Ofgem will continue to benchmark overall employment costs, to ensure companies have correct incentives to manage their costs, including pension costs, efficiently;

- ◆ *in principle, each price control should make allowance for the ex ante cost of providing pension benefits accruing during the period of the control, and similarly for any increase or decrease in the cost of providing benefits accrued in earlier periods resulting from changes in the ex ante assumptions on which these have been estimated;*

Ex ante estimates of pension costs are highly sensitive to the assumptions used regarding demographic factors and the relationship between future salary growth and investment returns. Over time, actual experience may diverge from ex ante estimates. It is therefore important to update estimates at relatively frequent intervals, in order to adjust for such

variances. This helps to ensure that what are, by their nature, long-run costs are recognised and provided for as they accrue. Such an approach should result in a balanced approach to the protection of all stakeholders' interests, both present and future;

- ◆ *pension costs should be assessed using actuarial methods, on the basis of reasonable assumptions in line with current best practice.*

In particular, Ofgem will expect the level of scheme funding to be assessed on the basis of forward looking assumptions regarding long-run investment returns and other key variables. Companies will need to provide up-to-date actuarial calculations (including the most recent formal actuarial valuation of the relevant schemes) to support their cost estimates. In the case of the 2004 review of electricity distribution price controls, Ofgem's initial view is that estimates of pension costs should be based on the triennial actuarial valuation of the Electricity Supply Pension Scheme due to be performed as at 31 March 2004, amongst other information. This may necessitate some changes to the traditional timetable for preparation of these valuations. Ofgem will wish to discuss these with the companies and the relevant scheme actuaries.

- ◆ *increases or decreases in the future costs of providing accrued benefits resulting from under- or over-funding in prior periods will need to be considered on a case-by-case basis.*

Where the price controls prevailing in prior periods have made allowance for pension costs at a reduced level, compared to the full actuarial assessment of regular pensions cost, it will in general be appropriate for a subsequent price control to allow in full for any increase in future costs arising in that price control period that is attributable only to the reduction.

It seems likely that this will presently be true in most if not all cases, in view of the substantial surpluses in the funds of privatised companies on the basis of actuarial assumptions used at previous valuations, with the result that, under SSAP24, the net accounting charge for pension costs in each year will have shown such a reduction. Previous price controls

were in general based on companies' efficient accounting charges, although the exact relationship may have varied from case to case.

An exception will be made in cases where the level of employer contributions made to the relevant scheme in any year was below the price control allowance. In such cases, companies will be expected to absorb any increase in future pension costs to the extent revenues related to pension costs allowed for under the price control have not in fact been contributed to the scheme (including in respect of investment returns foregone).

It is possible that in at least some cases it will not be straightforward to establish what allowance for pension costs were implicit in earlier price controls. In such cases, the time and resources required to perform an exhaustive analysis may be disproportionate to any realisable benefit in terms of consumer protection. A pragmatic approach may therefore be needed. For example, it might be appropriate to assume, for these purposes, that the implicit annual allowance was equal to the efficient and attributable proportion of the company's recorded accounting charge based on headcounts and average unit payroll costs.

- ◆ *increases or decreases in the future cost of providing accrued benefits resulting from differences between ex ante and ex post investment returns in prior periods will also need to be considered on a case-by-case basis.*

Employers, together with trustees, are in a position to exercise material influence over arrangements for investment of pension funds and it would be inappropriate for customers to bear excess costs resulting from poor management.

Nevertheless, it would be invidious to judge investment policies in hindsight and any attempt to do so might encourage excessive caution, increasing overall pension costs in the long run. Therefore, in the absence of significant evidence of material stewardship failure, Ofgem considers it would not be appropriate to specifically reward or penalise companies whose pension funds have realised above or below average

investment returns, compared to other schemes having comparable liability profiles.

On this basis, customers will to a large degree bear the risk of investment under-performance and benefit from out-performance, and companies will be protected to the same degree. This should have a commensurately beneficial impact on their cost of capital, compared to unregulated companies, to the benefit of customers. Conversely, if companies were fully exposed to investment risk in relation to their pension funds, the consequent negative impact on their cost of capital may be expected to disadvantage consumers.

Companies will nevertheless face an incentive to manage their investment risks efficiently. Those whose pension funds have realised above (or below) average investment returns will see their overall employment costs decreasing (or increasing) compared to their peers or their own historical performance. They can therefore expect to be regarded as more (or less efficient) than their peers or in comparison to their previous performance. Overall, there should be no material adverse effect on incentives for efficiency;

- ◆ *liabilities in respect of the provision of pension benefits that do not relate to the regulated business should not be taken into account in assessing the efficient level of costs for which allowance is made in the price control.*

This means that it is for shareholders, rather than consumers, to fund liabilities associated with other businesses carried on by the wider group, or that were formerly carried on and have been sold, separated, transferred or closed, regardless of whether the relevant business was or is conducted by the NWO or by another entity. Where such liabilities have been retained by the NWO's pension scheme and are under-funded, the burden of making good the attributable deficit will therefore fall on shareholders.

This element of the proposed approach flows directly from the principle, entrenched in every NWO licence, that the regulated business should neither give nor receive cross-subsidies, and is thus consistent with the

approach taken to all other categories of cost in setting price controls. Ofgem does not, therefore, expect that it will prove controversial.

Nevertheless, because at past reviews pension costs have not in all cases been subject to separate review (for the reasons cited above), it is possible that present or previous price controls have in practice been set on the basis of inappropriately allocated pension costs. Even in those cases where pension costs were considered separately from other elements of employment cost, Ofgem's review did not extend to the basis on which pension costs had been allocated between the regulated and unregulated businesses.

Application of this element of the approach to pension costs at future price control reviews might, therefore, lead to treatment that is different from the basis on which, in practice, such costs were treated at past reviews. Ofgem recognises the benefits of consistency in regulation. On the other hand, once errors or omissions in the regulatory approach become apparent, failure to modify the approach for the future would itself risk creating perverse incentives. In particular, it might increase the incentive to misallocate or overstate costs and to conceal information from the regulator. Moreover, if cross-subsidies are allowed to continue, this could prevent, restrict or distort the further development of competition in the contestable segments of energy markets.

It is unclear how far the implicit treatment of pension costs at past reviews will have benefited companies at the expense of consumers or vice versa. As noted above, in general consumers will have benefited from the recognition of pension fund surpluses, which reduced accounting charges. This will also have muted the impact of any misallocation. It might therefore be disproportionate to seek retrospectively to claw back any benefit companies may have derived from misallocation at past reviews.

In the light of the deficits now emerging in the principal pension schemes, the impact of misallocation is likely to be much greater at forthcoming reviews. Correspondingly greater importance will attach to ensuring that this element of the approach is applied even-handedly. In

principle, it will be necessary to allocate the aggregate liability within schemes so as to proxy the position that would prevail had the regulated business always operated a stand-alone scheme. It is likely, however, that this will give rise to some practical difficulty, especially in the case of companies that have undergone substantial corporate restructuring.

A degree of approximation may therefore be required, either because the data necessary for exhaustive analysis is not available (which is likely in the majority of cases, if not all), or because the time and resources required would be disproportionate to the realisable benefit for customers. This would necessarily entail risk of error.

Nevertheless, it will be necessary to ensure the risk of error is shared between company and customer in an unbiased way, in order not to distort incentives nor burden customers with unwarranted cost. Similar allocation exercises are undertaken for commercial purposes, for example in the context of the sale and purchase of businesses whose staff are members of group pension schemes, where each of the purchaser and the vendor requires assurance that the basis of allocation is fair and reasonable as regards his own interests. The custom and practice of the treatment of pension liabilities in the mergers and acquisitions market may therefore provide an acceptable basis for regulatory purposes also.

- ◆ *companies will also be expected to absorb any increase (and may retain the benefit of any decrease) in the cost of providing enhanced pension benefits granted under severance arrangements which have not been fully matched by increased contributions.*

This means that in cases where companies have used enhanced pension benefits to encourage early retirement as part of a set of measures to improve efficiency or restructure the business but, in view of a pension fund surplus existing at the time, have not made contributions to fund the increased cost of providing such benefits, the company should first make good this element of any deficit before any increased pension costs are passed on to customers. To do otherwise would be unfair to companies which have borne the full cost of staff rationalisation themselves. It might also result in customers paying twice for severance

costs for which explicit allowance was made in some previous price controls.

Issues for consideration

4.36. Ofgem would like to hear views on any of the issues raised in this Chapter and in particular on:

- ◆ any changes that should be made to the financial ringfence and the implication of the introduction of a special administration regime;
- ◆ the approach to the cost of capital including the treatment of tax costs; and
- ◆ the treatment of pension costs.