Electricity Distribution Price Control Review

Impact Assessment

November 2004 265b/04

Summary

This document sets out Ofgem's Impact Assessment (IA) for the revised price controls for electricity distribution network operators. These controls are due to come into effect from 1 April 2005, subject to their acceptance by the electricity distribution network operators.

The document builds on an earlier draft version of the IA, which was produced as part of the price control review.[1]

[1] Electricity Distribution Price Control Review – Draft Impact Assessment, September 2004, Ofgem ref 222b/04

Table of contents

1. Introduction

Impact Assessments (IAs)

1.1. Ofgem is required to produce IAs by the Sustainable Energy Act (SEA), which amends the Utilities Act 2000.

1.2. The SEA introduced a new section 5A to the Utilities Act which requires the Authority to carry out an IA or publish the reasons why it considers that an IA is unnecessary before implementing its proposals:

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

1.3. Ofgem considers that policy decisions are important if they are likely to lead to significant costs and/or benefits for consumers; if they are likely to result in significant transfers between consumer 'groups'; if they have a significant impact on licensees; if they have a significant impact on the environment; and if they represent a significant change in Ofgem's approach to carrying out its functions.

1.4. In September 2004, Ofgem published guidance on how it will conduct IAs.[2] It noted that where possible, the costs and benefits will be quantified, while it recognised that this is not possible in all cases.

Ofgem's statutory objectives

1.5. Ofgem's principal objective as set out in the Electricity Act 1989 as amended by the Utilities Act 2000 and the Energy act 2004 is to protect the interests of consumers (present and future), wherever appropriate by promoting effective

[2] Guidance on impact assessments, September 2004, Ofgem ref 229b/04

competition. The Electricity Act as amended also sets out other important duties for Ofgem[3], including:

- securing a diverse and viable long-term energy supply;
- ensuring that licence holders are able to finance their statutory and licensed obligations;
- having regard to the effect on the environment of activities connected with the generation, transmission, distribution or supply of electricity; and
- having regard to the interests of individuals who are disabled or chronically sick, of pensionable age, living on low incomes, or residing in rural areas.

1.6. Ofgem also must have regard to the guidance provided to it by the Secretary of State on social and environmental issues.

Consultation Procedure

1.7. Ofgem is not specifically seeking responses to this document. However, any questions or comments on the content of this IA should in the first instance be directed to Paul O'Donovan, who can be contacted on 020 7901 7414 or by email at Paul.ODonovan@ofgem.gov.uk

1.8. Comments or complaints on the manner in which this consultation process has been conducted should be sent to:

Mick Fews
Head of Licensing
Ofgem
9 Millbank
SW1P 3GE

Email Michael.fews@ofgem.gov.uk

[3] See sections 3(A) – 3(C) of the Electricity Act 1989 as amended by the Utilities Act 2000 and the Energy Act 2004

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2. Developing an IA for revised price controls

Context of the price controls

2.1. Price controls are an integral part of the regulatory framework that provides both protection to consumers from monopoly power and appropriate incentives to companies to meet the requirements placed upon them.

2.2. The next five years are expected to present significant challenges to the DNOs. Investment is rising and quality of service is expected to improve. It is important that the regulatory framework provides the appropriate incentives for the companies to meet these challenges in an effective and efficient manner. These challenges are reflected in the objectives for the price control review as follows:

- providing appropriate incentives to DNOs to develop and operate their networks in an economic, efficient and co-ordinated manner;
- providing clear and consistent incentives to DNOs to help ensure they provide an appropriate quality of service to consumers – including incentives for timely and efficient investment in the network;
- seeking to ensure that the DNOs can finance their licensed activities commensurate with an efficient level of expenditure;
- providing DNOs with appropriate incentives to connect and utilise distributed generation;
- providing appropriate incentives to help to ensure that longer term security of supply is maintained;
- reflecting Ofgem's responsibilities with regard to environmental and social issues; and
- ensuring that competition is promoted in the provision of supply, connection and metering services, and in generation.

2.3. The price controls form an integrated set of arrangements rather than a range of separately proposed policy options. This IA identifies the impact of the price controls on key stakeholders including, where possible, the costs and benefits

that are expected from the implementation of the revised controls. Where appropriate, the IA also assesses the environmental impact of the new price controls. In particular, this IA focuses on the expected impacts on consumers, reflecting Ofgem's principal objective.

2.4. Whilst DNOs will be significantly impacted by the price control proposals if they are implemented, they can reject the overall price control package - resulting in a referral to the Competition Commission. Although the proposed polices may have an impact on other parties, such as third party engineering contractors, the IA focuses on those stakeholders which are likely to be most affected by the new arrangements.

Background to the impact assessment

2.5. Ofgem set out its initial thoughts on an overall IA for the price control package in its initial consultation document in July 2003. So far, Ofgem has produced initial IAs for the incentive scheme for distributed generation, the Innovation Funding Incentive (IFI) and Registered Power Zones (RPZs)[4] and for metering and quality of service[5]. It also produced a draft IA for the total price control in September 2004.

2.6. This version of the IA builds on the draft published for consultation in September 2004 and on earlier IAs on specific policy proposals. No responses were received to this September draft document.

[4] As published in an appendix to the October 2003 and December 2003 consultation documents. The IFI & RPZ IA was published in March 04.
[5] As published in appendices to the March 2004 document

3. Overall assessment of the revised price controls

3.1. This Chapter sets out an overall assessment of the revised price controls – both in terms of the objectives set out at the beginning of the review and identifying the major expected costs, benefits and impact of the price controls on key stakeholders.

Meeting the objectives of the price control review

3.2. The objectives for the review were first set out in the initial consultation paper for the price control review which was published in July 2003. The objectives for the review reflect three main factors:

- Ofgem's statutory objectives and duties – primarily those set out in the Electricity Act as amended, but also in other relevant legislation;
- the duties and licensed obligations of the DNOs; and
- the views of other interested parties, including guidance from the Secretary of State on Social and Environmental issues.

3.3. The objectives for the price control review were developed, over a number of months, in full and open consultation with the DNOs and other key stakeholders.

3.4. Table 1 below provides an assessment of the price control against the objectives. Although it is not possible to conclude in advance whether the objectives will be met over the period of the next price control it is possible to set out the key issues that have been considered, the steps that have been taken and the policy responses that have been implemented to help ensure that they are achieved.

Table 1: Steps taken to meet the objectives of the review

Objective	Steps taken & policies implemented
Providing clear and consistent incentives to DNOs to help ensure they provide an appropriate quality of service to consumers – including incentives for timely and efficient investment in the network	Ofgem has reviewed the overall incentive framework as part of the price control review. A key objective of this has been to ensure that DNOs have an appropriate balance of incentives to deliver an appropriate quality of service to consumers, invest in the network and continue to deliver efficiency savings. The incentives for quality of service that were introduced under the IIP have worked well and there is some evidence that consumers are willing to pay more for improved service. As a result, the incentives for quality of service have been strengthened. The targets that underpin these incentives and which companies will be expected to deliver have also been reset – using an improved method based on detailed disaggregated data supplied by the DNOs. The incentives and arrangements for restoring supplies following severe weather have also been clarified and strengthened. The incentives that companies have to invest in the network are primarily driven by their statutory and licence obligations, supported by the allowed cost of capital, the 'outputs' (and associated incentives) that companies are required to deliver and the strength of incentive to underspend/overspend the allowed level of costs. The allowed cost of capital (discussed below) has been set at a level which will allow DNOs to finance their licensed activities including providing an appropriate return to investors. As discussed, the incentives to deliver improved quality of performance have been clarified and strengthened. The incentives for underspend/overspend on capital expenditure have been set by reference to a sliding scale mechanism which provides flexibility and varying incentives depending on companies' forecast level of capex and the view of Ofgem's consultants. The sliding scale mechanism is intended to provide incentives for efficient spending; reduce the risk that the price control causes under-investment; allow but not encourage overspends; reduce the possibility for 'high' capex companies to make high returns from underspends; and avoid strong incentives to underspend by cutting corners and not delivering outputs or by storing up problems for subsequent periods.
Seeking to ensure that the DNOs can finance their licensed activities commensurate with an efficient level of expenditure	Ofgem has assessed the financial impact of the revised price controls on the DNOs. This has been done by looking at the level and path of key financial ratios over the period of the new price control to ensure that they are consistent with DNOs maintaining a credit rating that is comfortably within investment grade. Discussions with credit rating agencies have suggested that the 'test' values used by Ofgem are conservative and some agencies have suggested less restrictive ratios on some measures. In one case, Ofgem has adjusted the balance between PO and X for a company whose financial indicators on the

	basis of Ofgem's modelling deteriorated over the price control period. This approach reflected the specific circumstances of this price control. Having made this adjustment, Ofgem's view in the light of discussions with the credit rating agencies and other market participants, is that a stand alone licensee would, operating efficiently and on the basis on which the price control was set, be able to retain a credit rating comfortably within investment grade.
Providing DNOs with appropriate incentives to connect and utilise distributed generation	Ofgem is introducing new incentive arrangements for DNOs in relation to distributed generation. This takes the form of a partial pass-through of costs (of 80 per cent) and an incentive rate of £1.50/kW/yr of generation connected to encourage DNOs to connect generators quickly and efficiently. Caps and collars on the level of return that can be earned under the scheme are also proposed to protect both DNOs and generators. Ofgem is also providing incentives to DNOs to develop 'Registered Power Zones – RPZs' which are intended to encourage DNOs to develop innovative ways of connecting new generation to their network. This is intended to lead to more efficient and better quality connection solutions. Ofgem has also reformed the existing charging framework for connection of distributed generation – from a 'deep connection charging' approach to one where generators triggering network reinforcement pay a smaller one-off charge followed by an ongoing charge for use of the distribution network.
Providing appropriate incentives to DNOs to develop and operate their networks in an economic, efficient and co-ordinated manner	The main incentive that DNOs face in this regard is that failure to comply with their statutory and licence obligations could result in enforcement action and/or penalties. DNOs are also subject to incentives regarding cost efficiency and network performance, and increasingly face potential competition in developing new connections. The level of baseline capex that has been allowed is that which has been assessed as being at an appropriate level to operate their networks in an economic, efficient and co-ordinated manner. It includes investment to meet changes in the level and nature of demand on the network, which is known as "load-related" capex.
Providing appropriate incentives to help to ensure that longer term security of supply is maintained	The requirement to develop economic, efficient and co-ordinated networks applies in the long term as well as the short term. Ofgem has proposed stronger incentives on DNOs to improve network resilience to severe weather events, and additional expenditures have been provided for through the vegetation management cost allowance and the sliding scale capex mechanism. The level of baseline capex that has been allowed is that which has been assessed as being consistent with

	maintaining current network performance levels including security of supply – this is known as non-load related capex.
Reflecting Ofgem's responsibilities with regard to environmental and social issues	Ofgem has specific responsibilities with respect to social and environmental issues as identified in the Electricity Act 1989 as amended. Ofgem also has other environmental duties as set out in various other Acts.[6] The overall price control is consistent with these responsibilities and the guidance provided by the Secretary of State on such matters. There are a number of areas of the overall price control proposals that can be considered to have an environmental and social aspect to them. Ofgem has responded to the challenges raised by the Government's environmental objectives by putting in place new incentive and charging arrangements for DNOs in relation to distributed generation. Ofgem's duties and responsibilities in this area extend as far as ensuring that regulatory barriers to the development of distributed generation are removed and that appropriate incentives are in place for DNOs to respond to the demands of generators for connection to and use of the distribution system. Ofgem's responsibilities do not extend as far as ensuring that the Government's targets for renewable power and CHP are met or putting in place arrangements that would lead to generators and/or demand consumers funding an inefficient or inappropriate level of costs. Ofgem has strengthened the incentives that companies have to reduce the level of electrical losses on their network. This should provide environmental benefits in the form of reducing the amount of additional power that needs to be generated to compensate for losses. Ofgem has provided a mechanism for DNOs to log up capital expenditure to carry out a modest amount of undergrounding in national parks and areas of outstanding natural beauty. DNOs will need to take advice from local environmental groups and/or planning bodies in deciding how best to prioritise this expenditure. Ofgem has put in place arrangements for reporting on other environmental outputs which should provide a better picture of DNOs wider environmental impact.

[6] For example, the Environment Act 1995 and the Countryside and Rights of Way Act 2000.

Ensuring that competition is promoted in the provision of supply, connection and metering services and in generation	In order to facilitate the development of competition in the provision of metering services these activities are being removed from the main price control and arrangements put in place to protect consumers' interests as effective competition develops. Changes in the charging arrangements are intended to improve transparency and benefit competition in connections, supply and generation.
Where possible Ofgem should try to resolve key policy issues at an early stage so that regulated companies have more certainty about the price control	Where possible Ofgem has tried to resolve key policy issues as early as possible in the review process. This has been possible with the majority of issues associated with the form, structure and scope of the price control- most of which were set out as clear statements of intent in the March 2004 Policy document. The majority of the key issues on the incentive scheme for distributed generation were also concluded by March 2004 with further points of detail and clarification published in June 2004. The June initial proposals document also set out detailed proposals for quality of supply incentives and targets. As the review has progressed new issues have emerged and Ofgem has brought forward solutions – for example the proposed sliding scale mechanism was a response to issues that emerged from the cost assessment.
Ofgem should ensure that the consultation process is open and transparent and that all interested parties have an opportunity to contribute to the review process	Ofgem has taken steps to try and ensure that the consultation process has been as transparent as possible. This began with consultation on the approach to the price control review including on the key issues, objectives and timetable for the project in August 2002 as part of the project on developing network monopoly price controls. There has been a series of consultation documents and open letters which have sought views of interested parties across a wide range of issues.[7] In total Ofgem has received 156 responses to its various consultations from different organisations. Unless responses have been marked as confidential they have been placed on Ofgem's website. Ofgem also set up a number of working groups with the DNOs to consider key issues for the review such as incentives, uncertainty, cost assessment (including financial issues) and quality of service. These groups, which for the most part, have met throughout the project on a regular basis, have been very important in building a

[7] A full list of documents published as part of this review are set out in Appendix 1.

	greater understanding of the price control review and in helping identify and develop solutions to issues that have emerged. Ofgem has published several reports produced by various consultants it has engaged during the review, this has included reports on cost assessment issues, cost of capital and a survey of consumers' willingness to pay and their priorities.[8] Throughout the review process, Ofgem has also held bilateral meetings with a wide range of interested parties including the DNOs, suppliers, consumers and their representatives, unions, financial institutions and environmental groups. A committee of members from the Authority was set up in January 2004 to consider key issues for the review. This has met with senior management from each of the DNOs on three occasions at key stages of the review. Ofgem held two public workshops during review (on 7 November 2003 and 20 April 2004). These have been attended by a wide range of interested parties with between 80-90 participants at each event. Slides and briefings papers for these workshops have been placed on Ofgem's website along with summaries of the key issues raised. Ofgem also held city analyst briefing sessions following publication of the Initial Proposals and September Update documents to explain the price control calculations and key issues. Ofgem has also tried to make better use of its website. This has included developing a dedicated microsite for the price control review[9] which has included an explanation of why and how price controls are set.

[8] These are included in the list in Appendix 1.
[9] See http://www.ofgem.gov.uk/ofgem/microsites/microtemplate1.jsp?toplevel=/microsites/distpricecontrol&assortment=/microsites/distpricecontrol

Risks and unintended consequences

3.5. This section discusses the key risks and unintended consequences that may arise from the revised price controls. These break down into four main areas:

- that the allowances that have been made to cover the costs of the DNOs are either too high or too low; and/or
- the incentive framework is not appropriate (i.e. ensuring that it does not encourage undesirable behaviour from DNOs and/or create perverse or unbalanced incentives);
- that targets that have been set for losses and quality of service are either too demanding or easy for the companies to achieve; and
- that competition in metering is not sufficiently developed to protect the interests of customers from 1 April 2007 meaning that the duration of the price control must be extended.

Appropriateness of cost allowances

3.6. In assessing the appropriate cost allowances for an efficient DNO, Ofgem has considered a wide range of evidence including:

- DNOs' cost forecasts and business plans including subsequent information submissions – historic and forecast business plans have been subject to a detailed analytical review process in order to understand their actual performance especially in relation to DPCR3 and to understand future cost pressures the DNOs could be facing;
- comparative assessment of companies' costs –operating (and fault) costs for each DNO were subjected to a rigorous normalisation exercise. These costs were compared using regression analysis (corrected ordinary least squares on an upper quartile basis). The base regression used the 14 DNOs as data points and alternative regressions looked at total cost (using various measures of capital stock and a cash basis) and the effect of mergers. The relationship between operating costs and quality of

service was also considered as an issue but not incorporated into the analysis due to the lack of a statistically significant relationship;

- bottom up modelling of costs – this was undertaken for specific activities and resulted in an additional tree cutting allowance being included for DPCR4;

- advice from consultants - including on capex (PB Power), benchmarking (CEPA), future scope for efficiency gains (CEPA), operational efficiency (Ernst & Young), consumers' willingness to pay (Accent), tax (Ernst & Young) and on pension costs (Ernst & Young and Deloitte and Touche). Ofgem was also advised by Duncan Whyte, former COO and FD of Scottish Power, across a range of issues ; and

- responses to consultation documents and other inputs including at public workshops.

3.7. It is important to ensure that the allowances do not jeopardise quality and security of the network and that they allow companies to meet their statutory and licence obligations and maintain a credit rating that is comfortably within the investment grade category. There is also the risk that the allowances are set too high and companies earn excess profits – although in the long run this can be corrected at the next price control review.

3.8. Ofgem has recognised that the risk to consumers, DNOs and other stakeholders of setting an allowance that is too low could be greater than if it was too high. In recognition of this, additional flexibility has been introduced to the price control framework, through both the sliding scale mechanism and the treatment of overspend and the specific re-openers for dealing with uncertain cost items (Traffic Management Act costs and ESQCR).

3.9. All the work that Ofgem has undertaken suggests that the cost allowances that have been made are both achievable by an efficient company and consistent with it meeting its licensed and statutory obligations. DNOs will have to decide whether this is the case when they consider Ofgem's Final Proposals. If they decide to reject the proposals the matter will be referred to the Competition Commission for a decision.

3.10. Ofgem has also considered the cost allowances for the metering price control. As the costs of metering are being removed from distribution then if the price control is set too high it may result in inefficient market entry. This will also be of short-term detriment to consumers. However, if the price control is set too low then it will stifle competition which is likely to damage consumers' interests in the medium term.

3.11. Ofgem has undertaken a close examination of the costs of a metering business as part of formulating the price control by investigating the costs of those DNOs who contract out their metering obligations and is confident that it has set metering price controls at the right level to encourage competition.

Appropriateness of the incentives framework

3.12. It is difficult to say with certainty that the incentive framework will produce all of the desired outcomes, as it is not possible to determine precisely whether the strength or form of the incentives are correct or how companies will react to them. It is only as the price control period progresses, and companies' behaviours are revealed, that it is possible to conclude with more certainty whether the incentive framework is appropriate.

3.13. That said, it is important that there is a good understanding of the incentive framework that DNOs will operate within as this will help to ensure that companies are being incentivised to deliver results that are beneficial to all stakeholders, including themselves, both in the short and long term. It also helps avoid the creation of conflicting or perverse incentives and encourage companies to respond to the demands of their customers.

3.14. In its February 2003 consultation document on developing network monopoly price controls[10], Ofgem set out a number of steps for developing an overall incentive framework:

[10] Developing network monopoly price controls – Update document, Ofgem, February 2003, 05/03.

- identifying the areas where incentives need to be provided to companies – this can be to incentivise 'virtuous' behaviour or to disincentivise 'undesirable' behaviour;

- where appropriate, identifying the outputs that companies are required to deliver;

- considering the form of any incentive that may be required to encourage companies to deliver particular outputs or behave in a certain way; and

- developing the detail of the incentive 'mechanism' – including 'valuing' (or determining the appropriate strength) of the incentive.

3.15. In essence, the design of the overall incentive framework should be guided by:

- Ofgem's statutory duties and objectives;

- the DNOs statutory and licensed obligations; and

- the preferences and willingness to pay of consumers and other customers of the DNOs.

3.16. It is possible to identify three main 'areas' of desirable behaviour that DNOs should be encouraged to exhibit:

- **cost efficiency** – in terms of opex, capex, financing costs and taxation;

- **output delivery** – there are a number of areas where DNOs are being incentivised to deliver outputs:

    - *quality of service*:

        - number and duration of interruptions to supply;

        - telephony – speed and quality of response;

        - severe weather restoration; and

        - discretionary reward for best practice in other service areas, e.g. vulnerable consumers.

- *reducing electrical losses;*
- *connecting distributed generation and providing ongoing network access; and*

- **investment in the network** – DNOs need to be incentivised to invest in their network for a number of reasons:
  - to maintain network performance including resilience and security of the network in the short and long term;
  - where appropriate, to improve network performance including resilience and security of the network;
  - to respond to the demands of their customers – demand consumers, generators and suppliers; and
  - to help deliver the required outputs.

3.17. Incentives can also be provided to DNOs to encourage them to exhibit *more innovative behaviour* in the way that they operate and invest in their networks. Successful R&D and innovation can lead to improved efficiency (both operational and investment), better quality of service, lower levels of losses and more robust connections – in this way it can have a beneficial impact on the three main areas of behaviour identified above.

3.18. It is also important that DNOs are not incentivised or encouraged to adopt behaviour that is not desirable. To a large extent, undesirable behaviour will be the opposite of the three main desirable types of behaviour identified above (e.g. not providing a good quality of service) and are therefore already 'covered'. However, there are some other forms of undesirable behaviour that should not be encouraged. These include:

- exploiting the information asymmetry that exists between the regulator and regulated companies either at, or between, price control reviews; and
- discouraging transparency, particularly in relation to accurate cost forecasting and reporting.

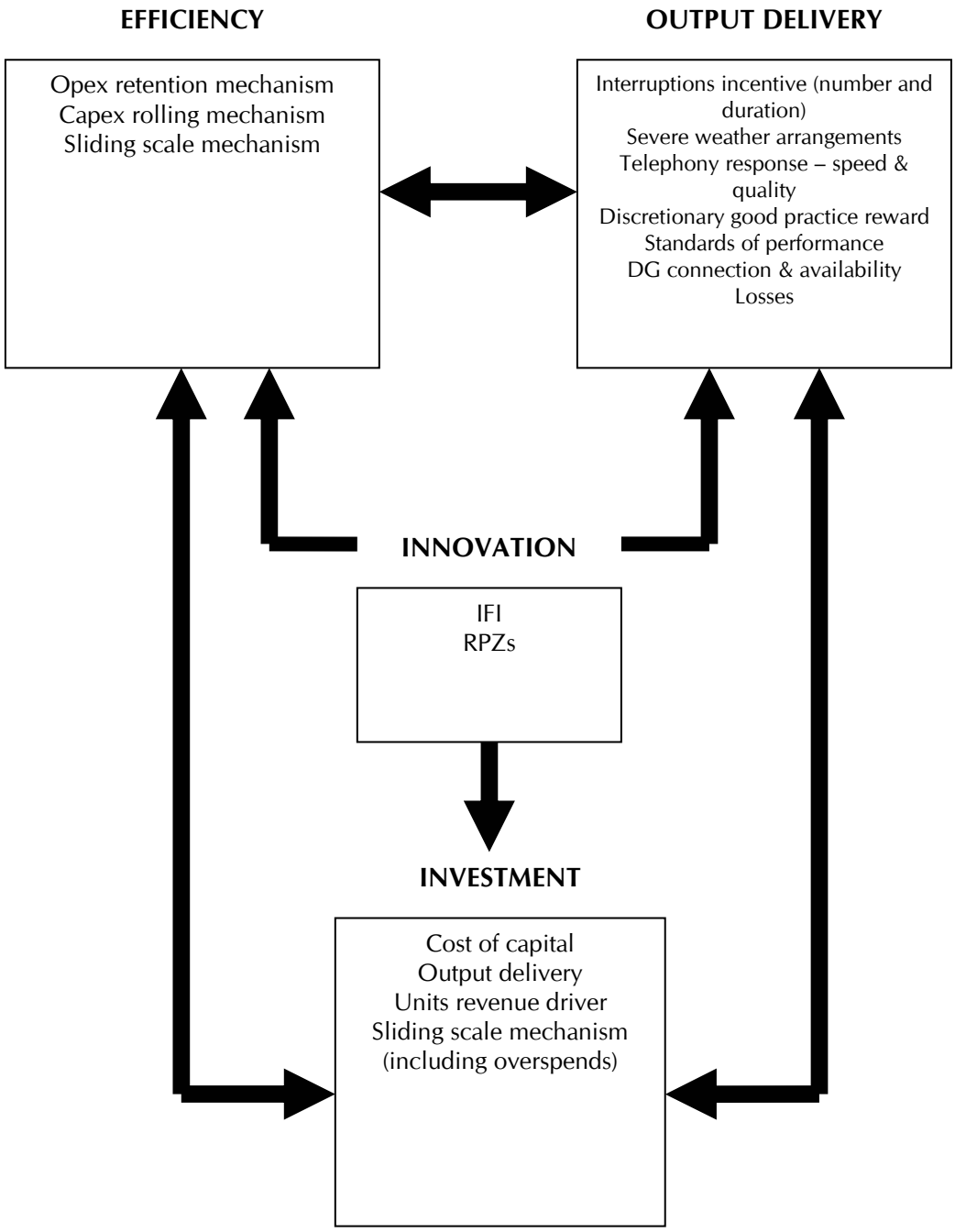
3.19. This price control review provides an opportunity to review the existing incentive framework, particularly in the light of experience, to assess:

- **whether there are any 'gaps'** – for example, whether there any new challenges that DNOs need to respond to or behaviours that should be encouraged (or discouraged):
  - new incentives are being introduced to encourage DNOs to respond quickly and efficiently to requests for connection from distributed generators;
  - incentives are also being provided to DNOs to adopt more innovative approaches to running and investing in the network through the IFI and RPZ mechanisms;
- **the balance and relationship between the incentives:**
  - the balance of incentives between cost efficiency and quality of service is now more appropriate, particularly in an environment where investment is rising and cost reporting is not robust. Quality incentives have been strengthened and the introduction of the sliding scale mechanism provides a better balance between incentives for investment and cost efficiency;
- **whether there are any perverse behaviours or unintended consequences that have become apparent:**
  - a sliding scale mechanism for determining the size of the capex allowance and the strength of incentives for efficiency has been introduced to help overcome the information asymmetry and to encourage more accurate cost forecasting;
- **whether the strength and form of incentives are appropriate to encourage the desired behaviour or deliver the outputs that are required:**
  - the incentives for supply restoration (including under severe weather) have been strengthened and companies can now earn rewards for outperforming the interruption targets;

- the incentives to reduce electrical losses have been increased significantly; and

- the form of incentive for telephony response has been modified from a relative scheme to one where companies' rewards and penalties will depend on their own performance.

3.20. The behaviours that the incentive framework is designed to encourage (or discourage) will be related in some way – although it is difficult to quantify the relationships precisely, particularly as the incentives are not directly comparable in all instances. It is therefore partly a matter of judgement as to whether the balance of incentives is appropriate - and this is mainly informed by experience. The main relationships are shown in the diagram below including the 'mechanisms' that are used in each area to incentivise DNOs.



Appropriateness of Targets

3.21. The targets that have been set for DNOs for the number and duration of interruptions are based on a much more robust approach than was taken at the last price control review. Comparisons have been made between companies at a disaggregated level to identify the potential for further improvement for each

DNO. The targets can be delivered at reasonable cost – consistent with consumers' willingness to pay.

3.22. DNOs have expressed broad support for the revised incentive framework for losses as set out by Ofgem. Three DNOs identified company specific factors in relation to the calculation of the targets, which have been adjusted as follows:

- United Utilities – 0.2 per cent increase in the target to offset adjustments made to consumption data, and agreed with the regulator, over the period 1995/96 to 1997/98. These adjustments were made due to an error in reported consumption and losses data in the period immediately following privatisation;
- SP Manweb – 0.4 per cent increase in the target to remove any distortion arising due to a fall of 3,000 GWh in electricity distributed to EHV sites between 1994/95 and 1998/99; and
- SSE-Hydro – 0.2 per cent increase in the target to correct for an error in the calculation of the target associated with the application of the distributed generation adjustment and a further small adjustment in relation to historic data.

Competition in metering

3.23. A separate metering price control in electricity is an important part of establishing competition in metering services, largely because it prevents cross subsidies from the distribution business into the metering business. Such a cross-subsidy could restrict the introduction of competition into metering as a competitive metering firm may be unable to compete with below-cost DNO metering charges. The cost of the metering activities will have to be recovered through the metering price control.

3.24. If price controls covered only the installed base of meters then this effect would dampen competition for the large majority of customers, although competition would be possible in the new meter sector. This would mean a slow start to competition and deny its benefits for some time to the large majority of

customers. Given economies of scale in the metering business, it might also deter new entry altogether.

3.25. A separate price control will also facilitate the sale of metering businesses by providing the DNO and any possible buyers with certainty as to the value of the business. The sale of metering businesses may result in new entrants into metering service provision, further promoting competition.

3.26. An alternative, suggested in consultations on the metering price control, to setting the price control to reflect the costs of a metering business was a cross subsidy that equalised charges for PPMs and credit meters. This would give lower charges for PPMs in the short term. However, Ofgem's primary statutory objective is to promote the interests of consumers through competition where this is appropriate. Formalising this distortion would be against the interests of the majority of customers, and would prevent the normal operation of commercial incentives in a way likely to damage the longer-term interests of PPM customers themselves.

3.27. These customers are interested not so much in meter charges, but in the final retail bill, and many currently installed PPMs create significant maintenance and infrastructure costs for retailers. Competition will enable suppliers to innovate so as to reduce the final bills by improving the end-to-end process, as well as introducing more customer-friendly functionality.

3.28. In contrast, if a cross-subsidy were put in place, it would be expected that a supplier would seek to obtain their domestic credit meters from a different source from the DNO because of the inflated domestic credit MAP charge. The result would be significant losses for the DNO in metering services, which would, in the medium-term, mean PPM charges would need to be adjusted back up since the source of the cross-subsidy would have disappeared. This could in effect leave PPM consumers no better off in the medium term but have encouraged inefficient entry into MAP for domestic credit meters.

3.29. A PPM cross-subsidy does not appear to be sustainable, and could deny consumers the benefits flowing from competition. Therefore, it appears most appropriate for Ofgem to protect the interests of consumers through promoting competition.

3.30. It is also unclear as to whether a cross subsidy created by Ofgem in metering would be legal under UK or EC competition law. There is provision for regulatory arrangements that prevent or distort competition, where this is necessary for the delivery of a service of general economic interest. However, the distortion to competition needs to be demonstrably necessary and proportionate, and this does not appear to be the case here since consumer benefits can be captured through competition.

3.31. It is unlikely that the new price controls will have a material impact on competition in any other sectors of the industry. However, Ofgem will need to ensure that the charging methodologies used by DNOs do not distort the development of competition in any of the areas outlined above. If it becomes clear that DNOs are distorting competition either through the structure and level of charges or in other ways Ofgem will consider what action would be appropriate to remedy the situation.

Key issues and options

3.32. This section sets out the key issues that have been considered and policy options that have been adopted including the rationale for the decision. Further details on specific issues are set out in the various documents that have been published over the course of the price control review.

Table 2 (a): Key policy issues and options adopted

Area/Issue	Policy Options	Adopted Option	Rationale
Duration of the price control	♦ "do nothing" (5 years) ♦ lengthen price control period ♦ shorten price control period	"do nothing" (i.e. remains 5 years)	Given uncertainty with respect to Distributed Generation (DG) and the impact this will have on DNOs' costs, it is appropriate not to change the duration of the price control period for DPCR4.
Inflation measure	♦ "do nothing" (RPI) ♦ CPI	RPI	Consistency with basis of cost projections
NGC Exit charges	♦ "do nothing" (pass-through) ♦ incentive mechanism	Pass-through	Given the limited scope for DNOs to influence NGC exit charges and their reduction through the implementation of PLUGS, they will be treated as a pass-through at this review
Business rates	♦ Pass-through ♦ incentive mechanism	Pass-through	Once rateable values are set, DNOs have little influence on rates costs.
Shetland	♦ pass-through ♦ incentive mechanism	Treat as pass through (estimated costs £7m pa)	As SSE-Hydro's purchase costs are predictable but the market price is less so, it is appropriate to treat these costs as a pass through
EHV charges	♦ "do nothing" ♦ include in price control	Include in price control but any new EHV connections made during DPCR4 will be treated as excluded services until DPCR5 when Ofgem expects to include them in the price control	To increase transparency and provide greater protection to EHV customers
Revenue driver	♦ "do nothing" ♦ review weightings plus components of driver ♦ capacity driver	Retain 50:50 split Use actual consumer numbers Zero weighting on EHV Revised weightings for LV1, LV2, LV3 and HV	The weights are being revised to better reflect the cost drivers
Losses	♦ "do nothing" ♦ simplify mechanism ♦ review incentive rate	Simplify mechanism - remove all adjustments except modified generation adjustment 5 year rolling incentive Incentive rate of £48/MWh	Losses target set taking account of 2003/04 outturn performance. The incentive rate is more closely aligned with the cost of lost energy.
Uncertainty	♦ "do nothing" ♦ some form of re-opener	No general mechanisms for dealing with uncertainty	Specific re-opener for Traffic Management act costs and ESQCR costs

	♦ comfort letter		
Cost categorisation	♦ "do nothing" ♦ equalise opex and capex incentives	Retain differential incentives	Retain strong incentives for cost efficiency but improve cost reporting regime to prevent its manipulation
Strength of capex incentives	♦ "do nothing" ♦ weaken capex incentives for all companies ♦ sliding scale mechanism	5 year rolling retention mechanism for capex Introduction of sliding scale mechanism for investment incentives	Reward companies which have provided realistic forecasts and provide incentives which reflect the effort involved in making efficiency savings. More flexible treatment of overspend
Metering	♦ "do nothing" ♦ separate from distribution price control	Separate from distribution price control	Promote development of effective competition
Cost of capital (pre/post tax)	♦ "do nothing" ♦ post-tax approach	Post-tax cost of capital	Ofgem has adopted a post-tax approach to determining price control revenues for this price control in order to reflect the additional costs that will be borne by the companies as a result of changes to Inland Revenue rules.
Approach to tax	♦ fixed allowance ♦ risk sharing mechanism ♦ pass-through	Fixed allowance	A risk sharing mechanism could be unduly complicated and could be susceptible to manipulation. A traditional approach to opex incentives has been used and it is desirable to maintain incentives for efficiency.
Treatment of embedded debt	♦ "do nothing" ♦ make an allowance for costs of embedded debt	Provide no allowance for embedded debt	Customers should only pay for the efficient financing costs incurred by companies. It is for companies to manage their debt portfolios to achieve an efficient cost of debt
Depreciation/financing issues	♦ where appropriate make some form of adjustment for financeability ♦ make no adjustment for financeability	Given SPN's specific circumstances in this price control, Ofgem has rephased cash flows into the later years of the price control by giving them an X of +2 and a corresponding reduction in the PO value. They have also been given an additional allowance of £2m	Ofgem has ensured that DNOs can finance their activities.
Financial ring-fence	♦ "do nothing" ♦ cash-lock up mechanism ♦ maximum gearing level ♦ strengthening credit rating requirement	Cash lock up mechanism	Clarifies how the existing financial ring-fencing arrangements would be enforced when a licensee's investment grade credit rating is in doubt through codifying a cash lock up mechanism in the licence
Pensions	♦ "do nothing"	Apply guidelines and allow partial	To improve transparency and protect consumers by

	♦ treat pension costs in accordance with the guidelines	recovery of ERDCs	ensuring that consumers only pay the efficient costs of providing a competitive package of pay and other benefits. Partial recovery of ERDCs to reduce risks for DNOs given the uncertainty of treatment and to reflect consumer benefits from reduced costs.

Table 2 (b): Key Cost assessment issues and options adopted

Area/Issue	Policy Options	Adopted Option	Rationale
Approach to opex assessment	♦ base regression of 14 DNO Opex + faults supported by alternative regressions ♦ other analysis	Ofgem has used the higher of the base regression and the average of the base and the alternative regressions	The alternative regressions provide additional information on efficiency
Treatment of fault costs	♦ follow the accounting split between opex and capex ♦ treat all fault costs as opex ♦ assess fault costs separately from opex and capex	Treat all fault costs as opex	This is the most robust way of consistently comparing DNOs opex and fault costs, both costs share similar cost drivers.
Normalisation (including regional factors)	♦ "do nothing" ♦ make adjustments to normalise data	Make adjustments to normalise data including adjustments for regional factors of £6.1m to EDF-LPN and £1.6m to SSE-Hydro	Conditions in LPN and SSE-Hydro are clearly different to the other DNOs so adjustments have been made to put them on a comparable basis. This ensures the basis of comparison of 2002/03 costs to determine relative efficiency of DNOs is robust.
Choice of CSV	♦ "do nothing" ♦ revise	Ofgem has used a CSV with the following weightings: 50% network length, 25% units distributed and 25% customers. The change in CSV may disadvantage EDF-LPN so Ofgem has given them an additional allowance of £1.7m	DNOs views on this differ. The weightings Ofgem have used represent an appropriate balance of costs drivers and the additional allowance for EDF-LPN removes the risk of them being disadvantaged
Choice of (Top Down) benchmark	♦ frontier ♦ upper quartile ♦ average	Ofgem has used a benchmark based on the upper quartile	Upper quartile benchmark, no glidepath plus frontier shift produces a level of costs that are efficient achievable and sustainable. This is robust and allows consumers interests to be protected and strengthens

Glidepath for achieving benchmark costs	♦ assume companies achieve benchmark costs by 2004/05 ♦ assume companies achieve benchmark costs after 2004/05 (i.e. a glidepath)	No glidepath included except for singletons (see below)	incentives for cost efficiency. Frontier shift is also supported by evidence from DNO business plans and a productivity study
Frontier shift	♦ assume no on going efficiency ♦ use a frontier shift	Ofgem has used a 1.5% frontier shift for opex and faults.	
Treatment of mergers	♦ apply assumptions on efficiency across all DNOs ♦ treat single DNOs differently	Singleton DNOs given a glidepath to achieve upper quartile costs and the starting position is their own costs or the singleton upper quartile whichever is higher	Recognises that although the upper quartile benchmark is achievable by all DNOs singletons may take longer to achieve efficiencies than merged DNOs
Tree-cutting and other future costs	♦ "do nothing" ♦ provide an additional allowance	Additional allowances for increased tree-cutting, quality improvements and storms	These additional allowances take account of tree cutting that are higher than reflected in the base year (2002/03), costs of improving QoS and exceptional costs not included in normalised costs e.g. storm costs
Assessment of capex	♦ use Ofgem's own assumptions of capex ♦ use company forecasts	PB Power view based on a review of DNO forecasts and benchmarked modelling	Where appropriate company forecasts have played a part in setting capex allowances but in order to protect consumers Ofgem has also considered the views of PB Power
Sliding scale (capex)	♦ "do nothing" ♦ use a sliding scale	Use a sliding scale	The sliding scale has been introduced to improve capex incentives
Cost of capital (level)	♦ "do nothing" ie, retain at current level ♦ change level	Change level to 5.5% (Vanilla WACC)	Ofgem has adopted a level for the cost of capital which is consistent with DNOs being able to attract investment in the markets whilst not adversely affecting their investment rating status
ESQCR	♦ "do nothing" ♦ reconsider in 2008	Reconsider in 2008	Costs will be considered after site surveys are complete in 2008 at which point costs will be clearer
Fluid Filled Cables (FFC)	♦ "do nothing" ♦ consider outside of the main price control	Continue to consider the issue and make proposals once this work is complete	More important to make a properly considered decision than to include within Final Proposals timetable
RAV roll forward	♦ roll RAV forward consistent with assumptions underlying DPCR3 ♦ roll RAV forward on some other basis	Roll RAV forward consistent with assumptions underlying DPCR3.	This is the basis for setting capex allowances in DPCR3

Table 2 (c): Key quality issues and options adopted

Area/Issue	Policy Options	Adopted Option	Rationale
Overall financial exposure to incentives arrangement	♦ keep current level of exposure ♦ Increase exposure to arrangements	increase exposure to incentive arrangements	The results of Accent's survey point towards a degree of willingness to pay which could be reflected in stronger incentives. Quality of service incentives have been effective & are generally accepted by companies
Severe Weather arrangements	♦ "do nothing" ♦ maintaining existing interim storm arrangements ♦ introduce revised storm arrangements	Introduce revised storm arrangements with a new category of medium-sized events and increased revenue exposure	Rapid restoration following storm events is a key priority for customers, who show a high willingness to pay for improvements in this area. Ofgem therefore considers it is appropriate to strengthen the incentives. It is also appropriate to learn from experience of the current arrangements and distinguish between medium and larger size weather events
Incentives for paying compensation under the restoration standard and storm arrangements	♦ "do nothing" ♦ DNOS more pro-active in making payments to consumers & equivalent reduction in price control revenue where they do not make a payment ♦ require automatic payments	DNOs more pro-active in making payments to consumers & equivalent reduction in price control revenue where they do not make a payment	Given low awareness of standards it is important that companies are more pro-active in making payments to consumers. The proposed mechanism removes any disincentive for companies to pay out to consumers.
Compensation for HV connected business consumers	♦ maintain existing arrangements ♦ introduce significantly higher compensation levels for such customers	Maintain existing arrangements	Business consumers are not willing to pay for improved compensation arrangements. Such customers can choose the security of their connection or buy standby generation
Multiple interruption standard	♦ tighten the standard ♦ maintain the current level ♦ relax the standard	Maintain current level	Customers give a relatively low priority to improvements in this standard, while there are high costs involved in improving performance further. The research indicates that consumers are reluctant to accept a relaxation in the standard.
Form of interruption incentive scheme	♦ maintain a similar form of scheme with penalties for failing targets in each year and rewards for outperformance over duration of the scheme ♦ move to a symmetric scheme	Move to a symmetric scheme	Setting of targets for quality has become more robust as information on and understanding of quality performance has improved. On this basis, it is appropriate that DNOs have the opportunity to earn additional revenue if they perform well.

Treatment of severe weather events	♦ maintain existing exceptional events clause ♦ fully exclude impact of severe weather from interruption incentive scheme	Fully exclude impact of severe weather from interruption incentive scheme	There is general support for fully excluding the impact of severe weather events from the interruptions incentive scheme and incentivising restoration separately
Interruption targets	♦ base all targets on current average performance ♦ sets targets which involve some closure in performance gaps for poorer performers.	Sets targets which involve some closure in performance gaps for poorer performers.	The proposed targets and allowances are aimed to achieve a balance between rewarding companies that have done well and incentivising them to do better and encouraging companies who have done less well to improve. Ofgem believes the targets represent a reasonable balance between the cost and value of improving interruptions
Interruption incentive rates	♦ maintain existing rates ♦ apply increased exposure and incentive rates	Apply increased exposure and incentive rates.	The results of Accent's survey point towards a degree of willingness to pay which could be reflected in stronger incentives. Interruption incentives have been effective & are generally accepted by companies
Telephony incentives	♦ retain a relative scheme for quality of telephone ♦ introduce a scheme with fixed targets for the quality and speed of response ♦ remove telephony incentives	Introduce a scheme with fixed targets for the quality and speed of response	Good information is one of the key priorities for consumers. Following the introduction of the existing scheme, there has been a substantial improvement and narrowing of quality of telephone response across companies. Ofgem believes it is important to maintain strong incentives while simplifying the arrangements
Environmental issues	♦ "do nothing" ♦ introduce new environmental reporting measures ♦ introduce new measures and incentives	Introduce a new mechanism allowing DNOs to log up capital expenditure for a modest amount of undergrounding. Introduce new environmental reporting measures.	Ofgem has statutory duties with regard to the environment. There is some evidence that customers value visual amenity and have willingness to pay for improvements through their electricity bills. Ofgem has made a commitment to introduce a small number of environmental KPIs.
Discretionary reward	♦ "do nothing" ♦ introduce a discretionary reward scheme	Introduce a discretionary reward scheme	There was significant support for introducing a discretionary reward to cover aspects of customer care not addressed by the more mechanistic incentive arrangements.

Table 2 (d): Key distributed generation issues and options adopted

Area/Issue	Policy Options	Adopted Option	Rationale
Responding to government's objectives for renewable and CHP power	♦ do nothing ♦ review incentives for connection and structure of distribution charges	An incentive scheme for DNOs to encourage them to connect distributed generation quickly and efficiently is being introduced.	Reduces barriers to entry for smaller generators, encourages efficient investment by DNOs and reduces barriers to achieving government objectives
Level of pass-through	♦ 100 per cent ♦ some other level	The level of pass-through of 80 per cent is being adopted.	This is to provide a balance between providing incentives for efficiency and protecting DNOs from cost uncertainty
Incentive rate	♦ any value	An incentive rate of £1.50/kW/yr of generating capacity connected is being introduced. An additional £0.5/kW/yr allowance has been made for SSE-Hydro for the additional costs of connecting generation in their authorised area.	The incentive rate was based on analysis and consultants' advice on the system costs for connecting DG as provided by the DNOs. It is also dependent on the level of pass-through chosen.
Value of O & M	♦ any value	A figure of £1/kW/yr has been used although this will be reviewed at the next price control review.	This is based on information provided by the DNOs as well as consultants' views on efficient level of O&M costs.
Stranded assets	♦ provide some protection to DNOs ♦ provide no protection to DNOs	Where a DG asset becomes stranded due to commercial failure of the generator or where expected volume does not emerge, DNOs will be able to recover the pass-through element of costs from demand consumers via the main price control.	This is to strike an appropriate balance between the risks borne by the DNOs, DG and the consumers.
Rate of return	♦ provide caps and collars on rate of return ♦ allow unlimited upside return & downside risk	In addition to partial pass-through and treatment of stranded assets, DNOs are also guaranteed a minimum rate of return across the portfolio of their DG projects equal to the cost of debt. At the same time, a maximum limit is also introduced at twice the allowed cost of capital.	As the volume and cost of distributed generation that will connect in the period 2005-10 is uncertain and there is limited robust information on which to base the parameters of the incentive, the cap and floor provides the appropriate balance between the risks borne by the DNOs, DG, and the consumers.

High cost projects	♦ treat separately ♦ include in DG incentive scheme	For projects with system costs above a threshold of £200/kW, the costs beyond the threshold will be paid by the generator as part of their connection charges.	The threshold was based on the portfolio of DG project costs as provided by the DNOs.
Micro-generation	♦ include in DG incentive scheme ♦ exclude from DG incentive scheme	Micro-generation will be included within the incentive scheme.	To exclude micro-generation from the DG incentive scheme could be considered discriminatory and could create perverse incentives.
Incentives for ongoing network access	♦ provide an incentive to DNOs to provide ongoing access to the network ♦ provide no incentive to DNOs to provide ongoing access to the network	Incentives for providing ongoing network access are being introduced in the form of a 0.2p/kW per hour incentive.	The incentive complements the hybrid mechanism of pass-through and £/kW/yr incentive rate, so that not only are DGs connected efficiently, they are also provided on-going network access.

Table 2 (e): Key IFI & RPZ issues and options adopted

Area/Issue	Policy Options	Adopted Option	Rationale
R&D in DNOs	♦ do nothing ♦ incentivise R&D investment ex-ante ♦ incentivise R&D investment ex-post	An ex-ante incentive has been developed with an average 80% pass-through over the price control period.	The incentive is structured to achieve an appropriate risk/reward balance for the DNO and significant value for consumers.
Innovation in DG connections	♦ do nothing ♦ enhanced DG incentive ♦ DNO retention of incremental benefit of innovation	The £/kW element of the DG incentive has been increased for RPZ connections	The incentive is structured to be consistent with the DG incentive and to achieve an appropriate risk/reward balance for the DNO.

Table 2 (f): Key metering issues and options adopted

Area/Issue	Policy Options	Adopted Option	Rationale
General approach	♦ do nothing ♦ integrated metering price control ♦ separate price controls for MAP and MOp	Separate price control for MAP and MOp	The price control is separated to facilitate the development of competition, while protecting the interests of consumers until effective competition is developed.
Duration of the price	♦ Five years	It is proposed that the price control for	Competition could well develop rapidly for new

control	♦ Shorter price control	future MAP and MOp will end on 1 April 2007 unless its removal is not in the best interests of consumers. Ongoing price control for meters installed before that date	meters, allowing price controls to be removed
Cross-subsidy for PPM	♦ separate price caps for credit and PPMs ♦ uniform cap for domestic credit and PPM	Separate MAP price caps for domestic credit and PPMs	Separate caps provide a balance between protection of customers interests while competition develops and ensuring that consumers receive the full benefits of effective competition. Cross-subsidy will create distortions that may limit these benefits.
Scope of the price control	♦ do nothing; ♦ basic metering services only	Price control will cover basic metering and data services	Provides a core regulated service until competition is effective whilst facilitating innovation in other services

Expected costs and benefits of the new price controls

Impact on charges

3.33. It is important to consider the expected costs and benefits of the revised price controls and the likely impact on key stakeholders. Where possible and practicable these have been quantified although this has not been possible in all cases.

3.34. Several of the main consultation documents have explained that the challenges that the sector faces will lead to higher costs – particularly those relating to investment. There are also outside pressures on costs, particularly in the case of pensions, business rates and taxation. Such factors are placing upwards pressure on charges. Companies have however already achieved significant efficiency savings during the present price control period and these will benefit consumers from 1 April 2005. Future targets that incorporate further improvement in efficiency are also proposed. These factors place downward pressure on charges.

3.35. Table 3 sets out Ofgem's proposals for the changes to distribution charges in 2005/06 as a result of the new price controls. Charges would then be allowed to rise by no more than the rate of inflation (i.e. RPI with X = zero) in subsequent years for all DNOs except for EDF-SPN whose revenue has been rephased so prices will rise by RPI +2 but there will be a corresponding reduction in PO. The Final Proposals document provides details on how the price control has been calculated and the major changes since the September Update document[11].

[11] Electricity Distribution Price Control Review – Update document, September 2004, Ofgem ref 222/04

Table 3: P0 proposals

Final proposals for P0

DNOs	June Initial Proposals	Change	September Update	Change	November Final Proposals
	%	%	%	%	%
CN - Midlands	-6.5%	2.0%	-4.5%	1.6%	-2.9%
CN - East Midlands	-10.8%	3.3%	-7.5%	1.8%	-5.7%
United Utilities	-1.8%	7.4%	5.6%	2.4%	8.0%
CE - NEDL	-11.5%	8.6%	-2.9%	-0.8%	-3.7%
CE - YEDL	-14.7%	1.8%	-12.9%	3.7%	-9.2%
WPD-South West	-0.2%	1.8%	1.6%	-0.1%	1.5%
WPD-South Wales	1.7%	5.6%	7.3%	-1.1%	6.2%
EDF - LPN	-2.5%	-1.7%	-4.2%	1.8%	-2.4%
EDF - SPN (note 2)	-3.7%	6.7%	3.0%	4.2%	7.2%
EDF - EPN	-4.6%	2.5%	-2.1%	2.0%	-0.1%
SP Distribution	8.4%	2.2%	10.6%	1.3%	11.9%
SP Manweb	4.0%	-9.5%	-5.5%	-0.4%	-5.9%
SSE - Hydro	-0.1%	2.8%	2.7%	1.2%	3.9%
SSE - Southern	6.1%	3.1%	9.2%	0.1%	9.3%
Average	**-2.5%**	**2.5%**	**0.0%**	**1.3%**	**1.3%**

Note:

1. The P0 figures for November include allowances for Innovation Funding Incentive (IFI). Those for June and September do not include IFI.
2. For comparability, EDF - SPN is shown on the basis of X = 0. Actual P0 will be 3.1%, with RPI + 2.

3.36. Distribution charges account for around 25 per cent of consumers' final bill so the changes in final prices that may arise would be significantly less than the figures in Table 3. The actual impact on consumers' bills will depend on two main factors – the way in which DNOs reflect the changes in revenue in the charges they levy for use of the distribution system (the structure of charges) and how suppliers reflect these charges in the prices they charge consumers.

Expected costs

3.37. It is also possible to consider the overall 'cost' of the price controls in other ways. This can be done by looking at the main components that make up the allowed costs under the price control.

3.38. Tables 4 (a) – (d) provide a high level analysis. The costs set out in these tables are those which Ofgem has assessed as the level that an efficient business would

require to deliver the required outputs and finance its licensed activities. Details on the cost assessment work are set out in the Final Proposals[12] document.

3.39. Tables 4(a) – (d) split the allowed costs into four main areas:

- **baseline costs** – these are the costs associated with *maintaining network performance* (quality and security of supply) *at the existing level* and accommodating expected growth in demand. The costs under this category cover those associated with investment in and running of the network on a day to day basis and the costs of providing a return to investors who provide finance to the DNOs. The table also sets out the impact of changes in certain external cost categories which need to be funded, namely business rates, pensions and taxation;

- **'incremental' costs** – these costs are intended to cover those associated with improving the quality of supply provided to consumers, a new incentive scheme for innovation and reducing the level of electrical losses;

- **costs funded by generators** – the costs associated with the DG incentive scheme and RPZs will be met by generators rather than being funded by demand consumers under the main price control; and

- **costs stripped out of the price control** – consistent with the proposal to set separate price controls for certain metering services these costs have been stripped out of the main price control and are shown separately.

All cost data is in 2002/03 prices. The £/consumer figures have been calculated by summing the allowances across companies for the 5 years and dividing by the total IIP customers number for 2003/04. They are not representative of the costs per domestic customer which will be much lower (of the order of half the amounts shown) as I&C customers make a much larger contribution on a per customer basis.

[12] Electricity Distribution Price Control Review: Final Proposals, November 2004, Ofgem ref 265/04

Table 4 (a): High level cost/benefit analysis - BASELINE PRICE CONTROL COSTS

	Expected costs	Expected benefits/what it provides
Capex	On average, total allowances provide for investment of £1,396m per annum over the next price control period, or £50/consumer per annum over the period of the price control, if current network performance is to be maintained. Note: pension costs are included in both opex and capex.	The level of baseline capex that has been allowed is that which has been assessed as being consistent with maintaining current network performance levels including security of supply. It also covers investment to meet changes in the level and nature of demand on the network.
Sliding scale capex	Sliding scale provides an additional £408m above the level needed to maintain the network	Allows DNOs to make additional expenditures, promotes capital efficiency and provides margin to cover the risk of additional capex needs
Opex	The 'level' of opex being funded by consumers is driven by three factors: the extent of efficiency savings already made and future assumptions on both efficiency and cost levels. Taking these together shows that the opex element of the price controls accounts for, on average, around £971 million per annum or £35/consumer. There are a number of factors 'outside' the direct control of DNOs that are placing upward pressure on costs – business rates and pensions. It is important that DNOs are allowed to recover the efficient level of costs associated with these factors. Taken together they account for a large proportion of the opex cost – on average, around £368 million per annum or £13/consumer. Note: pension costs are included in both opex and capex.	The level of opex that has been allowed is intended to cover the costs associated with the day to day running of the network – and is consistent with maintaining current levels of network performance. Opex covers staff costs, repairs and maintenance, planning, control, business rates and overhead costs.
Taxation	The DNOs are facing increased taxation costs largely due to the ending of the non-load agreement and therefore an average tax allowance of around £318 million per annum has been provided for DPCR4. This equates to, on average, £11/consumer.	This is a necessary cost of running a distribution business.
Financing costs	It is also important that DNOs are able to provide a return to the investors who provide funds to it – both debt and equity.	This is a necessary cost of running a distribution business.

	The Final Proposals document gives the allowed cost of capital as 5.5 per cent (on a vanilla basis). This equates to, on average, around £698 million or £25/consumer.	

Table 4 (b): High level cost/benefit analysis - INCREMENTAL COSTS

	Expected costs	**Expected benefits/what it provides**
Quality	The total costs that have been allowed to fund improvements in quality of service in this price control (including allowances for exceptional events of £123 million or around £4 per customer) period have been estimated at £348 million over the period of the price control or around £12 per consumer.	The revised targets for quality of service assume that improvements in national average performance of around 3 CI and 10 CML should be achievable over the next price control period. Better compensation for long outages following severe weather which should also encourage faster restoration.
Innovation Funding Incentive (IFI)	The total costs that DNOs will be able to recover under the IFI incentive mechanism are equal to 0.5 per cent of regulated turnover per annum – or around 60 pence per consumer per year. The level of pass-through associated with the IFI will fall by 5 per cent per annum over the period of the price control (i.e. from 90 to 70 per cent – i.e. DNOs will contribute at least 20 per cent on average to R&D activities with consumers meeting the balance).	The potential benefits that might be realised under the IFI were informed by work undertaken by Ofgem's consultants (Mott-MacDonald/British Power International – MM/BPI)[13]. This report estimated the potential benefits, by looking at a number of network innovations, at around £443 million in present value terms. Successful R&D may also bring other benefits including improved quality of supply, reduction in losses and on skills and recruitment.

[13] MM/BPI – Innovation in Electricity Distribution Networks, March 2004.

Table 4 (c): High level cost/benefit analysis - COSTS FUNDED BY GENERATORS

	Expected costs	Expected benefits/what it provides
DG incentive scheme	The incentive scheme for DNOs allows them to earn, on average, a rate of return that is 1 percentage point higher than the allowed cost of capital. These additional costs will, in most circumstances, be borne by generators.[14] Assuming an average cost of £50/kW (based on information submitted by the DNOs) the additional cost to generators of funding the 1 percentage point additional return is £0.35/kW/yr or for the following scenarios of different total new generation capacity: ♦ for 2000 MW capacity: £0.7m/year ♦ for 5000 MW capacity: £1.7m/year ♦ for 10000 MW capacity: £3.5m/year These costs are small particularly in comparison to the value of the Renewable Obligation Certificate – which at 3p/kWh would yield £92/kW for a renewable generator with a 35 % load factor.[15]	It is difficult to quantify the benefits of the DG incentive scheme – however it is designed to encourage DNOs to respond quickly and efficiently to requests for connection to the distribution network. If DNOs do respond to the incentives for efficiency and manage to cut connection costs by 6 per cent this will **fully offset** the increased charges from the higher rate of return. The new incentive scheme should also encourage a higher volume of generation capacity being connected to the distribution networks although this will be affected by other factors such as the obtaining of finance and planning consents. Increased DG connected to the distribution networks may also bring other benefits including reducing electrical losses or providing an improved quality of service. It may also provide environmental benefits if the proportion of renewable generation increases. If the new arrangements lead to around a 1-5 per cent increase in distributed

[14] In instances where a DNOs does not recover the pass-through element of costs incurred in providing the connection either because the generator does not connect or following connection ceases its commercial operation, DNOs will be able to recover the pass-through costs from demand consumers.
[15] Further details are in "Impact Assessment for distributed generation and structure of distribution charges", Ofgem, March 2004.
[16] Further details are in March 2004 IA for distributed generation and the structure of distribution charges.

		generation this could, based on a value of carbon of £35/tC, provide environmental benefits of between £1m to £5m.[16]
RPZs – DG connection innovation	The cost associated with the additional return provided under RPZs (three times the incentive rate under the DG incentive scheme with a cap of £0.5 million per annum), assuming full take up, is around £29 million in present value terms.	The potential benefits that might be realised under the RPZ incentive mechanism were informed by work undertaken by MM/BPI. This looked at a range of potential projects for connection innovation and estimated the benefits at around £121 million in present value terms.

Table 4 (d): High level cost/benefit analysis - COSTS STRIPPED OUT OF MAIN PRICE CONTROL

	Expected costs	**Expected benefits/what it provides**
Metering	The costs associated with metering services have been removed from the distribution price control to facilitate the development of separate metering price controls. Approximately £75 million per annum has been removed from operating costs within the main price control and £234 million has been removed from the RAV.	The separation of the metering price control should assist the development of competition in metering services, while providing protection to consumers until competition is sufficiently developed.

3.40. Some further details on the expected costs and benefits are set out below. Details on the costs and benefits associated with distributed generation, IFI and RPZs were set out in their respective IAs and are not repeated here.

Baseline costs

3.41. It is possible to break down the baseline price control costs into the main building blocks of allowed revenue:

- **capex** – this includes spending on assets, such as overhead line, underground cables and other plant, such as transformers. In setting the price control a projection is made of the level of capex that an efficient company would incur over the period of the price control. The benefits of capex are expected to last over several years so companies recover these costs over the assumed life of the assets, through an allowance for regulatory depreciation.

  The price control review has recognised that investment *generally needs to increase* if the performance of the networks is to be maintained. There have been a wide range of views across companies on the extent of the increase in capex that will be required over the next price control period. These have ranged from a decrease of 11 per cent to an increase of 106 per cent. On average, companies forecast an increase of 49 per cent from current levels of expenditure. There has also been a range in the quality of companies' forecasts – some of have been well justified, others less so.

  Where companies' forecasts are less well justified, there is a greater risk that underspend is due to forecast error rather than efficiency, or that a company needs to spend more money than it has been able to justify. Ofgem has therefore proposed the introduction of a sliding scale mechanism that will allow companies to increase capex by, on average 8 per cent, from PB Power's views on efficient levels of expenditure. This is around £408m over the period of the next price control or, on average, around £15/consumer. Table 5 shows the figures in more detail.

Table 5: Capital expenditure forecasts and allowances

DNO	Actual / forecast expenditure 2000-2005	Adjusted company base case forecast	PB Power view of DPCR4 capex (Base case)	Total allowance (excluding QoS)	Difference	Total allowance (including QoS)
	£m	£m	£m	£m	£m	£m
CN - Midlands	336	485	444	477	-8	501
CN - East Midlands	301	480	445	476	-4	485
United Utilities	347	457	439	466	9	466
CE - NEDL	228	268	263	277	9	277
CE - YEDL	242	358	346	367	8	371
WPD - S West	221	269	269	283	13	283
WPD - S Wales	191	171	171	179	8	186
EDF - LPN	260	536	398	452	-84	452
EDF - SPN	283	479	433	466	-13	487
EDF - EPN	438	745	609	674	-71	697
SP Distribution	253	375	335	361	-14	361
SP Manweb	240	455	363	404	-51	404
SSE - Hydro	165	208	189	204	-5	204
SSE - Southern	375	511	511	536	25	561
Total	**3882**	**5798**	**5216**	**5623**	**-175**	**5734**
Increase on 00-05		**49%**		**45%**		**48%**

Note:
In the above, the total allowance is the PB Power view plus sliding scale, see Appendix 3 for more details. This excludes capitalised faults and non operational capex and the pensions adjustment.

- **opex** – the allowed costs for opex are intended to cover the expenditure required for the day to day running of the network including staff and property costs, repairs and maintenance, planning and control, business rates and overhead costs. The baseline level of opex is consistent with the baseline level of capex and DNOs maintaining the current level of network performance. The allowed level of opex is based on assumptions on the future level of efficiency and cost pressures. Companies have achieved significant efficiency savings already and Ofgem is assuming that they can improve by 1.5 per cent annum from the upper-quartile benchmark level over the period of the next price control. However, offsetting this are significant additional costs for business rates and pensions – which for most companies do not outweigh the impact of achieved and assumed efficiencies. Taxation costs have also increased by on average £151m per annum. Further details are set out in Tables 6 and 7.

Table 6: Average opex allowances with additional rates and pensions allowances

DNOs	Average DPCR4 baseline opex allowance	Average DPCR4 business rates allowance	Average DPCR4 opex pensions allowance
	£m	£m	£m
CN - Midlands	61	21	7
CN - East Midlands	65	26	6
United Utilities	59	18	7
CE - NEDL	43	13	8
CE - YEDL	52	19	5
WPD-South West	47	17	6
WPD-South Wales	40	13	4
EDF - LPN	52	22	9
EDF - SPN	52	12	9
EDF - EPN	82	26	5
SP Distribution	56	32	2
SP Manweb	46	13	7
SSE - Hydro	38	13	2
SSE - Southern	69	36	13
Total (£m)	759	280	88
Total (£/consumer)	27	10	3

- **taxation –** an allowance for taxation has been provided to enable the DNOs to cover the costs they will face in DPCR4, which will increase largely due to the ending of the non-load agreement. The average allowances are set out in Table 7 below.

Table 7: Average annual tax allowances

DNO	Average Tax allowance
	£m
CN - Midlands	26
CN - East Midlands	26
United Utilities	23
CE - NEDL	14
CE - YEDL	24
WPD - South West	16
WPD - South Wales	14
EDF - LPN	23
EDF - SPN	12
EDF - EPN	25
SP Distribution	39
SP Manweb	14
SSE - Hydro	22
SSE - Southern	39
Total (£m)	318
Total (£/consumer)	11

- **financing costs –** this covers the costs an efficient company may be expected to incur in providing a return to the investors (debt and equity) who provide the capital it requires. The price control makes an allowance for these costs by estimating a return on the value of capital employed in the business (the regulatory asset value – RAV) equal to the return required by providers of finance (the cost of capital).

  The Final Proposals document gives the allowed cost of capital as 5.5 per cent (on a vanilla basis). The impact of the allowed cost of capital on the level of costs is shown in Table 8 – this differs across companies as there are different levels of RAV to which the average cost of capital is applied.

Table 8: Return on RAV for a cost of capital of 5.5%

DNOs	Average Return over DPCR4
	£m
CN - Midlands	57
CN - East Midlands	55
Unitied Utilities	54
CE - NEDL	34
CE - YEDL	46
WPD-South West	39
WPD-South Wales	30
EDF - LPN	53
EDF - SPN	43
EDF - EPN	70
SP Distribution	62
SP Manweb	44
SSE - Hydro	38
SSE - Southern	75
Total (£m)	698
Total (£/consumer)	25

Incremental costs - quality

Interruptions incentive mechanism

3.42. Ofgem has worked with the DNOs to carry out detailed benchmarking of quality of supply performance. This suggests that most companies can make further performance improvements at relatively low cost. The proposed package of targets under the interruptions incentive mechanism should deliver improvements of at least 4.2 per cent in the number of interruptions (3.3 CIs nationally) and 13.5 per cent in the duration of interruptions (10 CMLs nationally) by 2010.

3.43. Ofgem is also proposing to strengthen incentives by allowing companies to earn additional rewards from outperforming their targets and therefore providing further benefits to customers. For example, if companies beat their CML targets by 15 per cent (on average an additional improvement of 10 CMLs) they would be able to increase charges by 0.9 per cent of allowed revenue (or approximately 98 pence per customer).

Revised arrangements for severe weather

3.44. Ofgem is also putting in place revised arrangements for severe weather which are intended to strengthen and clarify the incentives that DNOs are provided with to restore supply following interruptions.

3.45. The main cost to DNOs of the new arrangements are the potential penalties associated with delays in restoring customers which are capped at 2 per cent of price control revenue. However, Ofgem is proposing to allow an annual cost allowance for exceptional events to cover an efficient level of compensation payments and fault costs relating to the events. DNOs will have an incentive to reduce the chance of events occurring or to mitigate the impact of the event through faster restoration. Across normal and severe weather the cost allowances amount to £47m per year in total or approximately £1.68 per customer per year (excluding capex).

Telephony incentives

3.46. The Accent customer survey found that consumers, on average, are willing to pay £22 for improvements in the information received following an interruption. While there are doubts as to the robustness of this result, it points to information being a key area of concern to customers. The existing incentives have already driven improvements in companies' performance. The maximum financial costs for consumers (and financial benefit to DNOs) are assumed to be the possible reward available to each company if it attains a score of 4.5 (on a scale from 1-5), which equates to 0.05% of price controlled revenue or around 5 pence per consumer. The maximum costs to DNOs (financial compensation to consumers) would be the possible penalties associated with not attaining the backstop score in the survey, which equates to a maximum of 0.25% of price controlled revenue or around £0.5m per DNO.

3.47. Ofgem has also proposed to introduce additional incentives for telephony performance during severe weather events. At present, there is no explicit assessment of telephony performance during this type of event. In the light of this, Ofgem is proposing that information should be collected in this area before incentives are introduced. The costs and benefits of introducing telephony incentives during severe weather events will need to be evaluated during the next price control period when more data is available.

Discretionary reward

3.48. Ofgem has proposed the introduction of a discretionary reward to cover aspects of customer care not addressed by the other aspects of the quality of service incentive arrangements. The financial costs to consumers of the discretionary reward for service are expected to be low. The maximum reward available each year is £1m, which equates to an average of 4 pence per consumer. Any associated increase in revenue will reflect better overall service to consumers.

Environmental reporting

3.49. Ofgem has also proposed introducing reporting arrangements on a limited number of environmental factors such as management of sulphur hexafluoride and oil-filled cables. Most of this information was previously collected by the Electricity Association (EA) – which is no longer in existence – and as such this information is no longer being collected and published on a systematic basis. Given that the information requirements are no more onerous than that required for good asset management or previously reported to the EA, Ofgem does not expect that providing it to the regulator will incur significant additional costs.

Incremental costs - losses

3.50. Electrical losses on distribution systems impose a cost on society, both financial and environmental. This cost has four main components:

- The cost of purchasing lost electrical units. This has been measured using forward prices for wholesale contracts for delivery up to summer 2007 where a cost of £27/MWh has been derived;
- The environmental cost of producing and transporting additional units of energy. The requirement to produce additional units of electricity to meet those units lost during transportation has significant environmental impacts specifically on CO_2 emissions;
- The cost of using the transmission system to transport the additional units to distribution system entry points. The transmission costs of distribution losses have been derived by estimating the contribution of distribution

losses to demands on the transmission system at peak periods. Ofgem has derived a cost of between £1 and £4/MWh; and

- The cost of providing, operating, and maintaining additional distribution assets to transport the additional lost units. The majority of distribution revenues relates to the costs of providing and maintaining distribution assets to accommodate peak demands, including the capacity utilised by lost units. Ofgem has estimated the cost associated with this as between £10 and £21/MWh.

3.51. Ofgem has proposed a reward (penalty) for reducing (increasing) lost units of electricity of £48/MWh. This is intended to enable DNOs to trade off the benefits of reducing losses (£48/MWh) against the costs of necessary investment or other costs, so that costs are only incurred if and to the extent that there is a net benefit.

Costs stripped out of the price control – metering

3.52. The costs associated with metering services have been removed from the distribution price control to facilitate the development of separate metering price controls. Approximately £75m per annum has been removed from operating costs within the main price control and £234m has been removed from the RAV.

3.53. The DNOs have obligations under their licence in regard to non-discrimination, and to comply with the REMA protocol, the DNOs have already been required to separate out their metering charges from those relating to use of the distribution system. No new separation costs are therefore created as a result of introducing a separate metering price control.

3.54. Price controls have been proposed to cover provision of basic meters at levels based on current purchase costs.

3.55. Ofgem has proposed to include a mark up of 1.5 per cent over costs in deriving the level allowed revenue for meter operation services (MOp). This approach recognises that MOp could be supplied separately in the future, so needs to attract a return that recognises the costs of providing a stand alone activity. The level has been set sufficiently high to meet the need of DNOs to finance

activities but not so high that it is adverse to the interests of consumers. However, Ofgem recognises that this will result in an increase in the cost of metering services to those electricity suppliers who still obtain their MOp from the DNOs.

3.56. Including this mark-up, Ofgem has proposed annual revenue caps on MOp totalling £96m.

Expected benefits

Baseline

3.57. It is difficult to assess the benefits that would accrue from the costs allowed under the baseline price control. This is because it would involve estimating the *absolute value* that 'society' places on continuing access to the distribution networks at the *existing levels* of quality and security of supply. It is difficult to do this where there is already a network in place that is serving consumers and of little practical benefit, since removing the networks is not a realistic option in the foreseeable future– although such assessments may be possible where 'new' networks (or points of connection) are being constructed.

3.58. The survey of consumers' willingness to pay, undertaken by Ofgem, suggested that consumers were broadly satisfied with existing levels of service but sought further *incremental (or marginal)* improvements in certain areas. It would seem clear that society as a whole would be adversely affected by any significant deterioration in performance which could lead to a serious failure in the network. For this price control review Ofgem considers that the evidence available suggests that consumers, *as a minimum*, want the distribution networks to *continue to perform at existing levels* – and for companies to seek out further improvements where these can be delivered at a reasonable cost.

3.59. This is the basis on which companies were requested to submit their cost forecasts. They were also asked to submit forecasts on the basis of an incremental improvement in service and for their own preferred scenario. The role of the regulator involves scrutinising and challenging these forecasts, and considering other evidence. This is used to set allowances at the efficient level of expenditure, commensurate with the level of service that consumers are

willing to pay for. It may be the case that some of the potential improvements in service and/or resilience may be 'too expensive' relative to consumers' preferences and therefore may be difficult to justify on a 'value for money' basis.

3.60. The review has recognised that, in some areas, maintaining and/or improving service will lead to higher costs.

Incremental - quality

Interruptions incentive mechanism

3.61. The value of reductions in the number of interruptions to consumers is difficult to quantify precisely. For example the survey work carried out by UMIST in the early 1990s suggests that the average cost of a one hour interruption is approximately 88p for domestic customers, £133 for commercial customers and £5,400 for industrial customers.[17] Recent survey work carried out by Accent on behalf of Ofgem[18] suggests much higher average costs of a one hour interruption of £65 for domestic consumers, £470 for small businesses, £5,270 for medium sized businesses and £62,000 for large organisations such as major manufacturers.

3.62. The valuation of benefits of reducing interruptions depends on the weightings between domestic customers and different types of business customers and the form of analysis used. However, taking a reasonably conservative estimate of £10 for the weighted average cost of a one hour interruption[19] across customer groups would imply average benefits to customers of approximately £47m per annum or approximately £1.70 per customer from DNOs meeting the new targets.

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[17] "Evaluation of reliability worth and value of lost load", K.K. Kariuki and R.N. Allan, IEE Proceedings for Generation, Transmission and Distribution, Vol. 143, No. 2 , March 1996. The numbers have been adjusted for inflation.

[18] "Consumers Expectations of DNOs and WTP for improvements in service", Accent Marketing and Research, June 2004.

[19] This estimate has been derived using the UMIST figures adjusted for inflation and assuming that 99% of the reduction in interruptions is experienced by domestic customers. Higher valuations and benefits to customers would be derived if greater weighting is placed on business and commercial customers

Revised arrangements for severe weather

3.63. Ofgem considers that the revised arrangements for severe weather provide good value for money for customers. The arrangements strengthen the incentives that DNOs have to restore supply following an interruption and should ensure that consumers receive compensation much more quickly than has previously been the case. As explained above, it is difficult to place a precise value on a reduction in the number of interruptions, but it is clear that the impact on consumers gets worse the longer they are off supply, particularly during periods of severe weather. It is also difficult to value the impact of improved arrangements for compensation payments. However, evidence from consumers following the October 2002 storms, which involved Ofgem determining over 3,000 disputes (therefore necessarily delaying compensation due to the volume of work involved), suggests that consumers do value prompt payment where it is due.

Telephony incentives

3.64. The revised arrangements for telephony incentives should ensure that performance remains at a satisfactory level, therefore ensuring consumers continue to get a good telephony service including with respect to the information they receive, but removes some of the complexity of administering the scheme – both for DNOs and Ofgem. The proposed arrangements should also remove some of the issues raised of potential bias in the survey as companies' performance will no longer be assessed on a relative basis.

Discretionary reward

3.65. Ofgem expects the discretionary reward to encourage best practice among DNOs in the areas of communication, service to priority consumers and corporate social responsibility. This incentive will help maintain an appropriate balance between cost efficiency and service delivery.

Environmental impacts

3.66. How the distribution networks are developed and managed has significant effects on the environment. The most important of these impacts are:

- actions by DNOs to reduce electricity losses could lead to substantial savings in carbon dioxide and other emissions, and
- the ability of DNOs to connect and make use of small scale generation will impact on the success of the Government's renewables and CHP policies.

3.67. Other areas in which DNOs have environmental impacts is through the amenity, waste and land pollution impacts of distribution networks, the management of sulphur hexafluoride (SF6), a potent greenhouse gas used as an electrical insulant, and the actions to incentivise power factor correction. All of these issues have been considered as part of the distribution price control review or associated workstreams.

Distributed generation incentives

3.68. The new incentive scheme should encourage a higher volume of generation capacity being connected to the distribution networks although this will be affected by other factors such as the obtaining of finance and planning consents.

3.69. It may also provide environmental benefits, such as the reduction of electrical losses, if the proportion of renewable generation increases. If the new arrangements lead to around a 1-5 per cent increase in distributed generation this could, based on a value of carbon of £35/tC, provide environmental benefits of between £1m to £5m.

Distribution losses

3.70. Approximately 6 to 7 per cent of electricity is lost as it is transported across distribution networks. Electrical losses on distribution systems impose a cost on society, both financial and environmental. This cost has four main components:

- the cost of purchasing lost electrical units
- the use of the transmission system in transporting additional units

- the cost of financing additional distribution assets to accommodate the additional electricity purchased for a given level of electricity supplied, and

- the environmental costs associated with producing and transporting additional units of energy.

3.71. The proposed incentive rate takes account of the environmental cost associated with losses, drawing on analysis of the social cost of carbon and consideration of emissions trading prices. At the margin, taking account of these factors may encourage loss reductions with a beneficial impact on the environment.

Undergrounding in national parks and areas of outstanding natural beauty

3.72. Ofgem has reviewed the approach to undergrounding in National Parks and Areas of Outstanding Natural Beauty since the publication of the September update paper. There is some evidence that customers value visual amenity and are willing to pay for improvements through their electricity bills. However, this is limited and Ofgem is therefore proposing that DNOs should be allowed to log up capital expenditure to carry out modest undergrounding in these areas. The maximum amounts of capital expenditure that can be logged up by each DNO under this mechanism equates to undergrounding 1.5 per cent of the overhead line network in these areas. The maximum cost across all DNOs for the price control period amounts to £64m.

3.73. Entitlement to log up costs will be subject to the DNO demonstrating that it has taken account of advice from local environmental groups and/or planning bodies in deciding how best to prioritise any expenditure on undergrounding.

Environmental reporting by DNOs

3.74. In addition to the reporting of environmental outputs that are specifically subject to the price control, such as losses and connection of distributed generation, Ofgem has proposed the inclusion of a small number of environmental reporting requirements. These include:

- SF6 use;
- use of insulating oils; and
- scope of environmental management systems.

3.75. Environmental reporting is a first step in understanding and managing environmental impacts. It can highlight significant environmental impacts and, if done on a consistent basis, allow for comparative assessment of companies. Reporting in itself may motivate changes in working practices that can improve environmental performance. There are a wide-range of other benefits to environmental reporting, including improved reputation, a stronger commitment to managing environmental issues and improved provision of operational information.[20]

Distributional effects

3.76. Ofgem does not expect the price control to cause significant new distributional effects between different 'types' of consumers. The price control does not prescribe how companies should run and operate their network as these decisions should be taken by company management. This means, for example, that Ofgem will not dictate to companies about how they should invest in the networks, achieve efficiency saving or improve quality of service.

3.77. The DNOs will need to reflect the new price controls in the charges they make for use of the distribution system. From 1 April 2005, the methodologies that companies use for setting these charges must be approved by Ofgem and must not discriminate between different types of consumer.

3.78. In terms of quality of service, some of the improvements in service may benefit some consumers more than others. The targets that have been set by Ofgem for the number and duration of interruptions to supply focus on companies' average performance. This means that companies may focus their attention in areas

[20] Environ (2001) Report on a Survey of Environmental Reporting Costs and Benefits. Report to Defra.

where there is greater scope for improvement in reliability – this could be in urban areas where there is more potential for improvements in average performance due to the higher number of consumers connected to the network. On the other hand, rural consumers may benefit more than consumers in urban areas from the revised arrangements for severe weather as they tend to be served by overhead networks which are more exposed to severe weather.

3.79. The scope of the price control has been extended to cover EHV consumers in order to provide greater clarity to the protection they are provided with by the regulatory framework. This does not, however, have any significant distributional impact between consumer groups.

3.80. The price caps for the provisions of a PPM have been set above the current levels of metering charges in Scotland, Central Networks (West) and Western Power Distribution's network areas. However, in other areas the price cap has been set below the present level of PPM charges. It is unclear how DNOs and suppliers will respond in areas where charges are able to increase, but if the short-term result is higher charges for metering in PPM retail bills, then this will have a disproportionate impact on vulnerable customer groups.

3.81. In the longer-term however, the impact of removing barriers to innovation is expected to be beneficial to all PPM users, through enabling service innovation that reduces end-to-end costs as well as producing a more user-friendly service.

Review and compliance

3.82. The new price controls will need to be implemented through modifications to the existing licence conditions or, where appropriate, the introduction of new licence conditions. Ofgem is consulting on the form and detail of the necessary licence modifications in conjunction with the release of the Final Proposals.

3.83. If the companies accept the proposals in principle, there will be a statutory consultation in early February 2005. If companies do not accept the licence modifications, Ofgem expects to refer the matter to the Competition Commission for a decision; if the companies accept the modifications, the licence conditions will come into force on 1 April 2005.

3.84. Once the new price controls have been implemented Ofgem will monitor companies' compliance against the relevant licence conditions. This will be facilitated through the collection of information from companies on a regular basis. Where Ofgem is satisfied that a company is, or is likely to be, in breach of a licence condition, Ofgem would need to consider what remedial steps may be appropriate.

3.85. It has become clear as the price control review has progressed that there has not been a consistent application of accounting definitions for reporting costs both across companies and over time. A significant amount of resources – both Ofgem's and the DNOs' – have been used to make adjustments to data to make it more comparable. It is clear that this situation is undesirable and that a review of the reporting framework is required so that both companies and Ofgem do not find themselves in a similar situation at the next price control review. All companies have expressed support for a review of the reporting framework and Ofgem has set out further details on this as part of the Final Proposals. This includes the objectives and key issues for the review and an initial timetable for taking the work forward.

Appendix 1

1.1 The following lists the series of consultation documents that have been issued over the course of this price control review process. The list is ordered in reverse chronological order, with each entry being prefaced by the Ofgem publication reference number where one exists.

1.2 All of these documents can be sourced from the "Ofgem's work - Distribution Price Control" section of the Ofgem website (www.ofgem.gov.uk).

265/04 - Electricity Distribution Price Control Review – Final Proposals

265a/04 - Electricity Distribution Price Control Review - Summary of responses to the September Update document

265b/04 - Electricity Distribution Price Control Review – Impact assessment

265c/04 - Electricity Distribution Price Control Review – Structure and scope of the price control licence modifications

265d/04 - Electricity Distribution Price Control Review – Revenue reporting Regulatory Instructions and Guidance

265e/04 - Electricity Distribution Price Control Review – Quality of Supply Regulatory Instructions and Guidance

265f/04 - Electricity Distribution Price Control Review – Distributed Generation, Innovation Funding Incentive and Registered Power Zone Regulatory Instructions and Guidance

222/04 - Electricity Distribution Price Control Review - Update Paper

222a/04 - Electricity Distribution Price Control Review: Summary of responses to June 2004 Initial Proposals

222b/04 - Electricity Distribution Price Control Review – draft impact assessment

181/04a - Information and Incentives Project - Second Draft of Regulatory Instructions and Guidance version 5: Open letter

181/04b - Information and Incentives Project - Second Draft of Regulatory Instructions and Guidance version 5

145/04 - Electricity Distribution Price Control Review - Initial proposals

145a/04 - Electricity Distribution Price Control Review Appendix – structure and scope of price control licence modifications

145b/04 - Electricity distribution price control review Appendix - Further details on the incentive schemes for distributed generation, innovation funding and registered power zones

145c/04 - Electricity Distribution Price Control Review Summary of responses to March Policy paper

145d/04 - Electricity Distribution Price Control Review Appendix – Developing Regulatory Impact Assessments

145e/04 - Electricity Distribution Price Control Review Appendix – The losses incentive and quality of service

145f/04 - Electricity Distribution Price Control Review Appendix - Consumer Expectations of DNOs and WTP for Improvements in Service Report (prepared for Ofgem)

145g/04 - Electricity Distribution Price Control Review Distributed generation, innovation funding incentive and registered power zones Regulatory Instructions and Guidance Version 1

Electricity Distribution Price Control Review: At-a-glance fact sheet (26 June 2004)

Electricity distribution price control - equalisation of OPEX and CAPEX incentives letter and spreadsheet (14 May 2004)

Innovation in Electricity Distribution Networks Final Report prepared by Mott MacDonald and BPI (8 April 2004)

62/04 - Electricity Distribution Price Control Review Policy document March 2004

62a/04 - Electricity Distribution Price Control Review -Background information on the cost of capital

62b/04 - Electricity Distribution Price Control Review Policy Document, Summary of DNO forecasts

62c/04 - Regulatory Impact Assessment for distributed generation and structure of distribution charges

62d/04 - Regulatory Impact Assessment for Registered Power Zones and the Innovation Funding Incentive

62e/04 - DG-BPQ Analysis - Summary of findings

62f/04 - Beta estimates for Ofgem

171/03 - Electricity distribution price control review - Second consultation

171a/03 - Electricity distribution price control review - Second consultation: Data and cost commentary appendix

171b/03 - Summary of responses to Electricity Distribution Price Control Review - Update paper 124/03, October 2003

171c/03 - Workshop Summary Electricity Distribution Price Control Review - 7 November 2003

156/03 - Productivity improvements in Distribution Network Operators - Final report

138/03 - Distribution Price Control Review 4 - A guide to the draft financial model

Summary of responses to the questions raised in the IFI/RPZ July discussion paper (17 October 2003)

124/03 - Electricity Distribution Price Control Review - Update paper

124a/03 - Electricity Distribution Price Control Review - Summary of responses to 68/03

Distribution Price Control Review 4: Forecast Business Plan Questionnaire (FBPQ) - Instructions and Guidance (8 October 2003)

110/03 - Expectations of Electricity DNOs and WTP for improvements in service - Stage 1 Quantitative research findings

109/03 - Background study on the use of benchmarking to assess efficiency for the 2005 Distribution Price Control Review

68/03 - Electricity Distribution Price Control Review: Initial consultation

67/03 - Electricity distribution price control review – metering issues: Initial consultation

Innovation and Registered Power Zones: A discussion paper (16 July 2003)

Distribution Price Control Review 4 - Business Plan Questionnaire Relating to Distributed Generation (DG-BPQ)

Distribution Price Control Review - Regulatory information (16 June 2003)

50/03 - Distribution Price Control Review 4 Historical Business Plan Questionnaire