Structure of electricity distribution charges

Initial decision document

November 2003

Summary

The "structure of electricity distribution charges" is the way in which connection and use of system charges are set and applied to users of distribution networks. The existing structure largely reflects the framework inherited at privatisation and is widely recognised to merit review to ensure that it is fit for purpose as the electricity distribution sector develops.

This document provides Ofgem's initial decision on the regulatory framework for the structure of electricity distribution charges to apply from 2005 and its future development. The consultation on the structure of electricity distribution charges has included three documents and three public workshops, which have generated a wide range of views and extensive debate.

Ofgem's initial conclusions were set out in June 2003. Respondents argued strongly for a predictable regime to be clarified quickly. There were a range of views on what this regime should be and some concern over the feasibility of implementing wide-ranging changes by April 2005. In light of these comments, Ofgem has therefore modified the proposed approach.

The clearest and most tractable problems with the current structure will be addressed for implementation in April 2005. A parallel process will be established for the development of a fuller solution which will allow for further discussion of alternative approaches and avoid overly rushed implementation of new and potentially uncertain models. This document sets out the approach to implementing the interim solution and how the longer term arrangements will be developed.

By April 2005:

- there will be a common connection "boundary" (ie scope of connection charges) for demand and generation;
- generators will no longer pay 'deep' connection charges – connection charges will only incorporate reinforcement up to one voltage level above the point of connection and then only on a proportionate basis;
- new generators will face use of system charges within a framework designed to avoid unnecessary unpredictability;

- distribution companies will be required to justify their approach to setting tariffs; and

- work will be under way on development of long-term models to set tariffs.

Existing generators will not be required to pay distribution use of system charges prior to 2010. It is envisaged that a decision on the approach to charging for all users to apply in the longer term will be made in 2006.

The approach set out in this paper is intended to cover the great majority of connections. However, it is recognised that there may be exceptional cases that need to be treated on a case-by-case basis.

An Implementation Steering Group has now been established to advise on the details of arrangements applying from 2005 and to begin consideration of longer term arrangements.

Ofgem welcomes any comments on the decisions and proposals set out in this document or on the issues still to be resolved. Respondents are requested to provide comments by 22 January 2004.

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1. Introduction

1.1. The current structure of electricity distribution charges largely reflects the framework inherited at privatisation, with some variation across the distribution network operators (DNOs). These charging structures treat distribution-connected generation very differently from demand customers and from transmission-connected generation. In the 1980s and 1990s this was not a major problem, partly due to the limited volume of distributed generation. Increasingly over time, it has been and is being seen as a flaw. Further, even for demand customers, charging structures are now beginning to diverge across DNOs without an assessment of the benefits and costs of these shifts. It is therefore timely to review the structure of charges.

1.2. Ofgem formally launched this review with an initial consultation in December 2000. An update paper followed in October 2002 and a public workshop was held in February 2003.

1.3. The June 2003 initial conclusions document[1] built on the material set out in earlier consultation documents with the aim of developing robust long term charging structures for connection to and use of local distribution systems. In particular, the June 2003 document set out Ofgem's initial conclusions in relation to:

- the principles that should underpin charges for connection to and use of distribution networks;
- the boundary between connection and use of system charges to be adopted from 1 April 2005; and
- a revised framework for use of system charges.

1.4. Ofgem received 28 responses to the June 2003 initial conclusions document from a variety of interested parties, including DNOs, generators, suppliers, customers, academics, and equipment manufacturers. Copies of all non-

[1] 'Structure of electricity distribution charges: Initial conclusions' June 2003 43/03

confidential responses are available from the Ofgem website (www.ofgem.gov.uk).

1.5. In July 2003, Ofgem held public workshops in London and Glasgow to discuss the key issues and conclusions discussed in the June 2003 initial conclusions document. Representatives from DNOs, supply businesses, customers and other interested parties attended the events. A summary of the discussions and copies of the presentations can be found on the Ofgem website, together with other material relating to this project.

Project update

1.6. Since the publication of the June 2003 initial conclusions document there have been a number of developments in the project including:

- the creation of the 'implementation steering group' (ISG) to assist in the development and implementation of the new charging regime. The group comprises a range of representatives from different industry stakeholder groups. The aim of the group is to facilitate further discussion about the commercial, regulatory and technical aspects of the proposed charging framework. The terms of reference and minutes of the first two ISG meetings are available from the Ofgem website at http://www.ofgem.gov.uk/ofgem/work/index.jsp?section=/areasofwork/distributioncharges

- on 26 June 2003, the European Parliament and Council published a directive concerning common rules for electricity markets within the European Union[2]. This directive establishes common rules for the generation, transmission, distribution and supply of electricity. Amongst other things, the directive stipulates that regulatory authorities shall be responsible for fixing or approving the methodologies used to calculate or establish the terms and conditions for connection to and access to networks, including distribution tariffs. These arrangements must be implemented no later than 1 July 2004.

[2] Directive 2003/54/EC of the European Parliament and the Council of June 26 2003 concerning common rules for the internal market in electricity and repealing Directive 96/92/EC

- in October 2003, Ofgem published an update document on the distribution price control review. The document sets out Ofgem's further thinking on a number of important areas of the price control review. In particular, the document sets out further thoughts on the incentives that DNOs may require to encourage connection and utilisation of distributed generation. The document also summarises the information that DNOs have provided in relation to costs of connecting distributed generation capacity between 2005 and 2010.

Purpose of this document

1.7. In response to the June 2003 initial conclusions document, several stakeholders commented that the proposal to establish robust long term charging arrangements for 1 April 2005 was extremely challenging. A number of parties expressed concern that the detailed implications of Ofgem's proposals require careful consideration and that further work was required to develop and implement the revised charging framework.

1.8. Ofgem has given careful consideration to the views expressed by the key stakeholders and recognises the difficulties in establishing long term charging arrangements within the present uncertain climate. Nevertheless, in order to further consumers' interests, it is important to begin a process that moves towards the desired outcome, taking account of the views of existing and prospective network users. In light of this, the purpose of this document is to set out Ofgem's conclusions in relation to the high-level charging framework. In particular, the document sets out proposals in relation to:

- the charging principles that should underpin charges for connection to and use of distribution networks;
- the boundary between connection and use of system charges that should be adopted from 1 April 2005; and
- interim charging arrangements to apply from 1 April 2005.

1.9. As noted above, further work will be required in order to develop and implement robust long term charging arrangements. This document sets out Ofgem's vision for the long term charging arrangements, to apply from 1 April

2010 at the latest, and highlights the key issues for further consideration. It is envisaged that these areas will be progressed during 2005/06.

Regulatory Impact Assessment

1.10. As part of the June 2003 initial conclusions paper, Ofgem set out a draft Regulatory Impact Assessment (RIA) of the proposed changes to the structure of electricity distribution charges. Most respondents welcomed the inclusion of a draft RIA. Few respondents commented on the quantitative analysis and those few generally did not provide specific comments on the estimates of costs or benefits. Some respondents stated that it was not possible to provide such comments at this stage.

1.11. In the light of these responses and the decision to adopt a phased approach to the implementation of the project, focusing first on those aspects that are less complex to implement, a revised draft RIA is included at Appendix 1. This RIA builds on the draft RIA published in the June 2003 document. The final RIA will be published with the decision on the longer term arrangements.

Structure of this document

1.12. The structure of this document is as follows:

- **Background (chapter 2)** – this chapter outlines the legal framework and provides an update on related policy areas;
- **Ofgem's initial decision on the structure of electricity distribution charges (chapter 3)** – this chapter sets out a high-level overview of Ofgem's initial decisions, explaining the evolution of Ofgem's thinking since the June 2003 document;
- **Longer term framework (chapter 4)** – this chapter explains Ofgem's views on an appropriate structure of electricity distribution charges to meet the challenges of the future, the reasons why further consideration is needed on some aspects of the changes and those that can be taken forward for 2005;

- **Interim arrangements (chapter 5)** – this chapter sets out Ofgem's decisions on the main features of the arrangements to apply from April 2005 and explains how the detailed outstanding issues will be resolved;

- **Implementation (chapter 6)** – this chapter describes the approach to and timetable for the implementation of changes;

- **Draft Regulatory Impact Assessment (appendix 1)** – this appendix builds on the draft RIA published as appendix 1 in the June 2003 document in light of the initial decisions given in this document;

- **Summary of responses (appendix 2)** – this appendix summarises the responses to the June 2003 initial conclusions document.

Project timetable

1.13. Ofgem has met with many interested parties to discuss a variety of issues in relation to this project since it began in June 2000. A major focus for these discussions has been the impact of large amounts of distributed generation on distribution networks and the implications for the long term structure of electricity distribution charges.

1.14. The table below sets out the timetable for the remainder of the structure of charges project. This sets out the key output milestones for the implementation phase of the project. The next update paper has been brought forward from July 2004 (as envisaged previously) to April 2004 to allow for licence modifications if required prior to the implementation date of the Directive on the internal market in electricity. A more detailed implementation timetable is given in chapter 6.

Table 1.1: Updated project timetable

Date	Milestone
December 2003 (and approximately every two months thereafter until end of 2004)	Meeting of the Implementation Steering Group
April 2004	Ofgem update document detailing changes required to the regulatory framework (licence modifications etc)

1 July 2004	Implementation deadline for EU Directive 2003/54/EC
November 2004	Ofgem update document Publication by DNOs of indicative DUoS charges for 2005/2006
1 April 2005	Implementation of interim arrangements
Mid 2005	Consultation on the long term charging model
Early 2006	Second consultation on the long term charging model DNOs to publish details of proposed use of system models and methodologies and also indicative charges to apply from the implementation of the long term arrangements
Mid to late 2006	Ofgem to publish final proposals on the long term charging model

Responding to this document

1.15. It would be helpful to receive comments from those with an interest in the issues raised in this document and the attached draft RIA, including DNOs, suppliers, distributed generators, customers and their representatives. Comments should be received by 22 January 2004. Where possible, responses should be sent electronically to:

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Distribution and Financial Affairs
Office of Gas and Electricity Markets
9 Millbank
London
SW1P 3GE
E-mail: distributionpolicy@ofgem.gov.uk

1.16. All responses will be held electronically in Ofgem's Research and Information Centre. In addition, they will normally be published on the Ofgem website unless they are clearly marked confidential. Where possible, consultees should

put confidential material in appendices to their responses. Ofgem prefers to receive responses electronically so that they can be easily placed on the website.

1.17. Should you have any questions regarding the issues raised in this document, please contact James Richardson on 020 7901 7027, David Young on 020 7901 7407 or Gary Keane on 020 7901 7330.

2. Background

2.1. The June 2003 paper set out the background to Ofgem's review of the structure of electricity distribution charges. This included:

- the objectives of the review;
- the context of industry structure and developments;
- existing charging arrangements and criticisms thereof; and
- an overview of related policy areas.

2.2. This section does not repeat this background, but gives an overview of the legal context and outlines developments in the related policy areas since June.

Legal framework

2.3. The Electricity Act 1989 provides the basis of much of the legal framework for Ofgem's work in the electricity sector generally and in particular on the structure of charges. The Act also puts in place obligations and powers for DNOs that are relevant to this review.

2.4. Section 7 of the Act provides the Authority with the power to include in a licence such conditions as appear to it to be requisite or expedient having regard to its general duties as set out in sections 3A to 3C. Section 23 sets out that the procedure for the determination of connection disputes is subject to the discretion of Ofgem. In addition, standard licence condition (SLC) 4C of the electricity distribution licence provides the Authority with the power to settle terms of use of system and connection agreements in dispute.

2.5. Section 16 of the Act sets out that DNOs are under a duty to connect on request for the purpose of enabling electricity to be conveyed to or from any premises. This may include the provision of lines and plant necessary to make the connection. Section 19 gives DNOs the power to recover from the person requiring the connection any expenses that are reasonably incurred in providing the lines and/or plant. The connection charges regulations (see 2.9) are made pursuant to section 19.

2.6. Some of the standard conditions of the electricity distribution licence are particularly relevant to the provision of and charges for use of system and connection by the DNOs.

2.7. SLCs 4-4B place obligations on DNOs in providing connection and use of system. This includes procedures for developing transparency in charges, a requirement to be non-discriminatory in provision of use of system and connection, and a requirement to offer terms for connection and use of system. SLC 4B contains a description of the 25 per cent rule[3] as it currently operates.

2.8. SLC 25 contains an obligation for DNOs to publish a long term development statement. The statement should provide users with technical information about the structure of a DNO's network in order to allow users to assess the capability of the network. This information is of particular interest for new generators seeking connection to the network. The DNOs have complied with the direction to publish made by Ofgem in 2002. Some of the issues involved were considered in a consultation document issued by Ofgem in 2001[4].

2.9. The Electricity (Connection Charges) Regulations[5] came into force in 2002. The regulations provide for where a DNO has not fully recovered from an initial connectee all of its expenses incurred in the initial provision of electric lines and electrical plant to make a connection to premises or a distribution system. The DNO may recover an amount in respect of expenses from a second comer that requires a subsequent connection which uses those lines and plant. The regulations make particular provision in the case of domestic premises - where a first connectee has paid all of the DNO's expenses in respect of the provision of lines and plant, the DNO must recover from a second connectee and refund to the initial connectee an appropriate proportion of the relevant expenses based on the maximum power required by the second connectee. In June 2002, Ofgem issued a consultation document discussing the operation of the regulations[6].

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[3] see paragraph 5.5 for a fuller explanation of the operation of the 25 per cent rule
[4] 'Proposed Electricity Distribution Licence Condition 25 – Form of Long Term Development Statement. Consultation Paper' June 2001
[5] S.I. 2002/93
[6] 'Electricity (Connection Charges) Regulations. A consultation document' June 2002

2.10. The Electricity (Connection Charges) (Amendment) Regulations 2002[7] extended the scope of the refund mechanism to apply to non-domestic premises from 1 June 2003. This could include the partial reimbursement of initial connection charges paid by distributed generators. In addition, the amendments changed the determination of all refunds as an appropriate proportion of expense to be based on capacity rather than power. The amendment regulations are an interim measure and form part of a wider initiative to remove inappropriate charges or incentives that could discourage the development of distributed generation.

EC Directive 2003/54/EC and EC Regulation 1228/2003

2.11. On 26 June 2003, the European Commission published Directive 2003/54/EC concerning common rules for the internal market in electricity. The Directive replaces Directive 96/920EC, which had paved the way for liberalisation of the electricity markets of European Community Member States. Ofgem intends to put in place appropriate licence modifications by the implementation deadline of 1 July 2004. Charging methodologies can be approved subsequently. Also on 26 June 2003, the Commission published Regulation No 1228/2003 on conditions for access to the network for cross-border exchanges in electricity.

2.12. Many of the requirements of both the Directive and the Regulation have already been satisfied by the liberalisation of the electricity industry in Great Britain. However, there may be some areas which require changes to the existing regulatory framework. A number of the provisions may impact particularly on the programme of work on the structure of electricity distribution charges. Ofgem will carefully consider the impact of these provisions and will make arrangements to take account of any necessary changes to the existing regulatory framework.

2.13. One part of the Directive that relates to the structure of charges is Article 23 'Regulatory Authorities'. Article 23(2) states that the

"regulatory authorities shall be responsible for fixing or approving, prior to their entry into force, at least the methodologies used to calculate or establish the

[7] S.I. 2002/3232

terms and conditions for … connection and access to national networks, including … distribution tariffs".

2.14. Ofgem currently monitors and enforces relevant licence conditions. These cap the overall level of charges and require charges to be non-discriminatory and published in a form approved by Ofgem. However, Ofgem does not currently explicitly approve either the methodology for setting tariffs or the tariffs themselves.

2.15. The Regulation is entitled "on conditions for access to the network for cross-border exchanges in electricity", and relates to the harmonisation and setting of transmission and interconnector charges. The regulation provides for guidelines in relation to "a progressive harmonisation of the underlying principles for the setting of charges".

2.16. In light of the provisions contained within the Directive and Regulation, Ofgem will take forward the proposal for the introduction and approval of charging methodologies for DNOs highlighted in the June 2003 document. This issue is discussed in more detail later in this document.

Related policy areas

2.17. The review of the structure of electricity distribution charges relates to a number of other policy areas as explained in the June paper. It is not the intention to explain all of these areas again here – readers are referred to Ofgem's website for further information. This section is restricted to noting the main new developments since June 2003. Areas where there have been significant developments in the period since June include:

- the distribution price control review. Ofgem consultation papers in July and October discussed potential changes to the price control treatment of charges for distributed generation and Extra High Voltage (EHV) connected customers; and

- transmission charging. Ofgem will shortly publish a paper on distortions between charges for generators depending on whether they are located

on the transmission or distribution network[8]. In addition, NGC has progressed its review of charges, developing proposals to move to a "super-shallow" connection boundary, with associated adjustments to charges faced by existing generators. Network users can then make informed decisions about the relative costs of connecting at different voltages or locations and weigh any cost savings against other costs and/or benefits.

[8] particularly in the context of the 132 kV network which is classified as transmission in Scotland and distribution in England and Wales

3. Ofgem's initial decisions on the structure of electricity distribution charges

3.1. This chapter outlines Ofgem's initial decisions for the structure of electricity distribution charges. It outlines the key proposals that were consulted upon in the June 2003 document, summarises the key themes that were evident from the responses and explains the evolution of Ofgem's thinking since the June document. The decisions are explained in more detail in chapters 4 and 5 of this document.

Initial conclusions

3.2. Distribution businesses presently have different charging arrangements for demand and generation. Generators face connection charges that cover the costs of all new assets and reinforcement triggered by the connection (so-called "deep" connection charges). Demand customers face connection charges that cover the costs of new assets plus reinforcement up to one voltage level above the point of connection, subject to a de minimis threshold (termed "shallowish" connection charges),[9] plus use of system charges on an ongoing basis.

3.3. Ofgem's initial conclusions paper in June discussed the issues raised by this policy and various alternatives, including a policy of "shallow" connection charges whereby a new connectee would only be charged through connection charges for new assets required (initially at least) for its sole use. The June paper outlined initial conclusions as to the appropriate balance of objectives going forward as being that:

- shallow connection charges and locationally varying use of system charges should apply for demand and generation customers connected at Extra High Voltage (EHV);

[9] The reinforcement contribution rule is described in paragraph 5 of SLC 4B

- some reinforcement costs in connection charges (i.e. "shallowish") and a simple use of system tariff by DNO area should apply for customers connected at lower voltages (LV and HV);

- there should be requirements on DNOs to develop a charging methodology that facilitates competition and is cost reflective so as to promote efficient decisions by users. DNOs would be required to publish this and consult on any changes, with Ofgem potentially having veto and/or determination rights on any changes;

- there should be transitional arrangements for existing distributed generators; and

- a steering group (the 'implementation steering group'- ISG) should be established and chaired by Ofgem to implement the changes.

3.4. The proposals were scheduled to be introduced from April 2005. The ISG met for the first time on 25 September 2003.

Responses

3.5. Ofgem received 28 responses to the document from a wide range of interested parties including DNOs, suppliers, generators and large users. A more detailed summary of responses can be found in appendix 2, and all non-confidential responses are available in full on the Ofgem website at the following link: http://www.ofgem.gov.uk/ofgem/work/index.jsp?section=/areasofwork/distributioncharges&levelids=,1_3713#top3713

3.6. A large majority of respondents supported a move away from a deep connection boundary for distributed generation, and the alignment of charging arrangements for generation with demand. Although there was little support for the introduction of a shallow connection boundary at all voltage levels, there was some support for a shallow boundary for EHV connections.

3.7. A common message from respondents was that the June document had not covered in detail the issues involved in implementing and setting generator use of system charges. On the issue of possible use of system charging models post April 2005, there was a general support for the introduction of a simple charging

model, particularly for HV and LV connections. Many respondents commented that a simple model and a move to a shallowish connection boundary at these voltage levels would be easier to implement than a more complex, locationally varying model.

3.8. A common message in responses from prospective distributed generators was that of the need to retain a degree of predictability and certainty in the future regime. There was a concern that volatile and unpredictable tariffs would present a risk to new projects that would raise financing costs.

3.9. There was general support for the development of transparent methodologies. Some respondents also felt that there should be a degree of consistency of methodologies across DNOs. There was also a range of views on the issue of whether DNOs should be required to consult with users, and Ofgem in particular, before making any changes to methodologies.

3.10. A number of respondents, both existing distributed generators and other industry participants, expressed concern about the treatment of existing generators. A range of possible solutions were suggested.

3.11. There was support for the creation of the ISG to inform Ofgem in implementing the proposals, and there was a general recognition that the composition of the ISG should include representatives of all industry sectors. Several respondents also welcomed Ofgem's intention to open up for debate the issue of longer term changes to electricity distribution connection and use of system governance arrangements.

3.12. One of the key messages from responses was that the proposals to implement changes to the existing regime on 1 April 2005 were extremely challenging. Respondents felt that the proposals were timely in view of the Government's targets for renewable generation, but queried whether April 2005 was a realistic target. There was, however, a recognition of the benefits of introducing changes at the start of a new price control period.

3.13. There were a range of comments on the other proposals set out in the document. A majority of respondents supported the development of a reinforcement contribution rule based on the proportion of the additional capacity used by the connectee, and, in addition, most respondents were in favour of the

development of a fault level contribution rule. There were mixed views on the proposals to remove from connection charges both tariff support allowance (TSA) and capitalised operation and maintenance (O&M) charges.

Ofgem's initial decision

3.14. Following consideration of the comments received in responses, and also having taken into account the views expressed at the July industry workshops and issues raised in bilateral meetings, this document sets out Ofgem's initial decisions. It is Ofgem's intention that the decisions and implementation strategy outlined in this document will facilitate the implementation stage of the structure of charges project.

3.15. The main decisions, which are discussed in more detail in chapters 4 and 5, are as follows:

- consistent with the requirements of EC Directive 2003/54/EC, DNOs will face an obligation to obtain approval for their charging methodology for connection to and use of distribution networks. Ofgem intends to bring forward proposed licence modifications to achieve this;

- from 1 April 2005, distributed generators entering into a connection agreement will no longer face deep connection charges. There will instead be shallower arrangements that are similar to the existing demand connection boundary;

- from 1 April 2005, the connection charge will include the 'shallow' element of connection costs and a contribution to reinforcement costs based on a reinforcement contribution rule. For EHV customers, the reinforcement contribution may be annualised. The rule will be developed based upon the proportion of increased capacity required by the connectee. Further consideration is required as to the detailed definition, including for the fault level contribution rule. This policy will apply to both demand and generation connections;

- from 1 April 2005, network reinforcement costs resulting from distributed generation connections and not captured by the shallowish connection charges will be recovered through a simple use of system capacity-based

charge. The framework for setting charges will take account of the desire for predictability for new projects;

- in the longer term, the demand and generation regimes will be fully aligned. Use of system charges will be established via charging models based on forward-looking long run incremental costs (LRIC). These models will be developed by DNOs in 2005, with consultation and the resolution of any outstanding issues in 2006. It is envisaged that tariffs based on these models will be introduced, at the latest, by 1 April 2010;

- from 1 April 2005, TSA and capitalised O&M charges will be removed from connection charges. Allowances for network adoption would need to be considered in the context of competition in connections; and

- pre-existing generators (including those distributed generators that enter into connection agreements before 1 April 2005) will not be liable for generator use of system charges prior to 1 April 2010, unless they opt-in to the new regime. A review and decision on arrangements to apply thereafter will be taken by Ofgem in 2006.

3.16. In making these decisions, Ofgem has recognised the comments of interested parties that any attempt to introduce all new arrangements in time for 1 April 2005 is extremely challenging, especially in light of the current resource requirements of the distribution price control review. The rationale for the decision to implement new arrangements via the phased approach outlined above is explained in detail in chapters 4 and 5 and in the draft Regulatory Impact Assessment in appendix 1.

3.17. In addition to reaching the conclusion that a phased approach to implementation is appropriate, in forming a view on the longer term connection boundary to apply, and bearing in mind the importance attached by prospective generators to predictability, it is Ofgem's view that it is not possible or appropriate to specify the most suitable longer term methodology at this stage. Work on developing use of system models towards the objectives set out above needs to be progressed to a stage where indicative charges can be set out prior to moving to a shallow connection boundary (or reaching a firm conclusion about the appropriate connection boundary).

3.18. Chapters 4 and 5 of this document discuss the decisions outlined above in more detail.

4. Longer term framework

Introduction

4.1. Distribution networks have developed as largely passive networks designed to facilitate the transfer of electricity from the transmission system to customers' premises. The connection of distributed generation displaces energy flows from the transmission systems and will require changes to the traditional mode of operation for local distribution systems. Mismatches between distributed generation exports and local demand may create trade-offs between network reinforcement and managing local, transient constraints. In light of this, DNOs may be required to adjust the configuration of some or all of their networks to manage network conditions more actively.

4.2. The structure of electricity distribution charges provides signals to users and third parties (eg developers). Well-designed charges would encourage the efficient use of network infrastructure and would support the efficient and economical development of local distribution systems. This requires charging structures to allocate costs and risks across network users in an economically efficient manner and to reward those that provide benefits to the system.

4.3. Although distribution is not a competitive activity, the structure of distribution charges can also make a significant contribution to promoting competition in related markets. For example, subsidising generators connecting to one network rather than another would distort competition in generation. The way in which connection charges are calculated and applied could have a significant impact on competition in connections.

4.4. Two key objectives of this project are to develop a structure of charges that reflect costs and benefits, as far as is practicable, and to facilitate competition. It is also important that charging structures are responsive to the needs of network users. This requires that the charging structures can evolve over time.

4.5. As explained in the June paper, these objectives are consistent with charges that provide a reasonable balance between the principles of:

- cost reflectivity;

- simplicity (at the point of use);
- ease of implementation;
- transparency; and
- predictability.

Connection boundary

4.6. Ofgem considers that, in principle, the charging framework should treat demand and generation users on a consistent and cost-reflective basis. In light of this, Ofgem proposes that DNOs should adopt a common connection charging policy for new demand and generation connections.

4.7. The decision on the boundary between connection charges and use of system charges needs to take account of the desirability of:

- reflecting costs to users on a forward-looking long run incremental cost (LRIC) basis rather than solely in relation to costs incurred. This should minimise the problems of free-rider and first-comer/second-comer;
- providing cost-reflective locational signals;
- avoiding unduly volatile or unpredictable charges; and
- avoiding undue or unmanageable complexity in use of system charges.

4.8. One of the key questions is the extent to which manageable models can be developed that reflect forward-looking economic costs and benefits in use of system charges. Discussions with the DNOs suggest that some are taking steps to develop such models, but they do not yet exist in any useable form. It is therefore impossible to judge whether they will be able to meet the criteria set out above. However, the case for shallow connection charges would be strengthened by progress towards use of system charges that are cost-reflective, predictable and not unduly complex.

4.9. Until or unless these use of system charging models provide appropriate cost reflective signals, Ofgem considers that it remains appropriate to retain some form of locational signal within connection charges. Such signals might be in

the form of a contribution to the cost of local system reinforcement necessary in providing a connection.

4.10. In Ofgem's view, particularly given the importance attached by prospective generators to predictability, it is not appropriate to pre-judge the issue of the most suitable use of system methodology. Work on developing use of system models towards the objectives set out above needs to be progressed to a stage where indicative charges can be set out prior to moving to a shallow connection boundary (or reaching a firm conclusion about the appropriate connection boundary). It is Ofgem's intention that, with cooperation from DNOs and other interested parties, this work can be taken forward in 2004 and 2005 and a decision taken no later than 2006.

Potential use of system models

4.11. The design of methodologies and models to determine use of system charges will require numerous detailed assumptions. Such models generally cover two main tasks:

- assessment of marginal costs by user or type of user; and
- adjustments to ensure that charges in aggregate recover allowed revenues (ie recover the residual fixed costs not covered by marginal costs).

4.12. If charges are to provide signals to network users to encourage them to take efficient decisions, it is important that the assessment of marginal costs is based on a forward-looking assessment of long run marginal costs, rather than, for example, an allocation of historic costs. It is also important that the recovery of residual fixed costs does not distort these signals.

4.13. These considerations generally imply that a forward–looking LRIC model is required. The LRIC can be defined as the additional costs that would be imposed if a particular customer or group of customers decided to use the system or decided to flow a specified increment of electricity through the system

over a sustained period of time[10]. This is not limited to costs incurred at the same time as the connection is required, but also covers the expected value of costs delayed or brought forward in other time periods.

4.14. Most of the models under development focus heavily on thermal capacity as a cost driver. In parts of the network where demand exceeds generation, this is likely to result in costs that are relatively low for distributed generators. While this may well be appropriate, it is also important to ensure that other cost drivers are encapsulated within either connection or use of system charges. These cost drivers include costs associated with fault level, voltage limits, system stability and active management.

Options for the forward looking LRIC charging model

4.15. Ofgem considers that it is important for the DNOs to develop their own forward looking LRIC charging model(s) within a framework of defined objectives. However in developing such models there are a number of options which can potentially be used. These models are broadly set out below.

4.16. It will be important that arbitrary differences in methodology between different DNOs do not distort locational signals. However, it is also important to reflect differences in costs and cost drivers. The balance between these considerations and the appropriate degree of commonality will require further consideration as the models are developed.

Option 1: An entry–exit charging model

4.17. In this model, charges are levied on energy both entering and exiting the system. Exit charges apply to demand customers (and potentially to exit to a transmission network if the distribution network is exporting power). Entry charges would apply to distributed generators and to electricity flows onto distribution networks. It is envisaged that all entry and exit charges would be paid by suppliers based on their contracted generation for consistency between entry at a Grid Supply Point (GSP)[11] (not attributable to any particular generator) and at

[10] This definition is consistent with that used in for Transco in the Review of Transco's LDZ charging Methodology published by Ofgem in March 2000.
[11] The boundary between the distribution network and the transmission network

other entry points. However, this option refers to a model in which entry charges (for example) are determined by the physical characteristics of the entry conditions, independently of the subsequent deemed exit point of the electricity (see option 3 below for further explanation).

4.18. Charges would be determined by aggregating the cost per unit of the assets deemed to be used. For example, if distributed generation displaces electricity supplied from the transmission network, a benefit would be accrued from reduced usage of part of the DNO's network. Consequently, charges in respect of thermal capacity may be lower for entry from the distributed generator than for entry at the GSP. Conversely if a distributed generator was producing where local generation exceeded local demand, it would potentially give rise to higher charges as more assets would be used in exporting the electricity from the area.

4.19. An entry–exit model could produce localised charges. This consequently could lead to volatility in prices as there could be a relatively small number of customers in an area to absorb any changes in costs. However volatility can be stabilised by aggregation either geographically or over time (eg less frequent re-estimation of the model).

4.20. This type of model could support the efficient development of networks. Developers will have incentives to locate generation close to demand and away from areas where it is likely that generation will exceed demand. However, a potential disadvantage of charging suppliers rather than generators directly could be to reduce the visibility of these signals.

4.21. Consideration would be needed as to how to allocate residual revenue requirements not covered by marginal costs. In principle, it would be possible to adopt a fixed proportion sharing rule (as applies currently for transmission charging). However, further consideration is required to assess whether this is appropriate for distribution charges.

Option 2: Generator and demand use of system charges

4.22. A variation of the entry-exit model, this model could involve charges for flows at the GSP being set to zero. This would imply that charges would only relate to demand and generation connected to distribution networks. It would therefore

be possible to charge either these parties or, more practically, the MPAN[12] registrants directly, rather than necessarily charging suppliers.

4.23. This type of model could appear very similar to the entry-exit model described above. It would be more difficult in this model to include a fixed proportional allocation of revenue requirements as the volume of generation connected to distribution networks relative to demand is expected to change over time. In contrast, the balance of exit and entry volumes will remain more stable (notwithstanding changes in losses). However, it is not clear that this is a particular disadvantage.

4.24. Provided that use of system charges in this model can be negative, it seems likely that it would be possible to retain the same relativities in this model as in an entry-exit model.

Option 3: A contract path model

4.25. One interpretation of an entry-exit model could involve establishment of a matrix of charges where the charge faced by a particular supplier will depend on whether it contracts with both demand and generation in a particular part of the network.

4.26. For example, suppose there are two suppliers and two distribution networks, each with one customer and one generator of equal size and constant demand/output (abstracting from issues of back up capacity). If one of the suppliers contracted with the customer and generator on the same distribution network, there would be no need to use the upstream network linking the two distributors, so the supplier would avoid charges reflecting the associated costs. However, if the supplier contracted with the customer on one network and the generator on the other, the "contract path" would cross between the two networks and so the supplier would bear the costs of the upstream assets.

4.27. It is clear from this example that the alternative contract paths bear no relation to actual power flows through the network – in either case demand and generation

[12] Meter Point Administration Number

are unaffected by whether the supplier of a customer contracts with a local or distant generator.

4.28. Since actual power flows are not reflected, charges do not accurately reflect the additional cost imposed upon the network by the user. This distorts economic signals. Consequently this model is not consistent with the long run marginal cost principles described earlier. Therefore this model is not considered by Ofgem to be suitable for implementation.

Option 4: Splitting the Regulatory Asset Base between generation and demand customers

4.29. Another option that has been suggested by some respondents would involve dividing the Regulatory Asset Base (RAB) between generation and demand customers such that a dedicated amount of allowed revenue would be collected from both groups.

4.30. The split between generation and demand would presumably be determined by allocation of capital expenditure over time to one or other group, for example based on whether the expenditure was triggered by connection of a generator or demand customer.

4.31. This type of approach would appear to be based substantially on allocation of charges from either high-level forecasts or, in time, historic costs. This would not reflect the forward-looking incremental cost approach set out above and so does not appear to be an appropriate foundation for future charging methodologies.

Development over time

4.32. It is envisaged that DNOs will be required to develop charging methodologies that are consistent with the objectives of reasonable cost-reflectivity and facilitating competition. As explained above, Ofgem's current view is that this process is likely to require some form of entry-exit or generator-demand use of system methodology that is based on forward-looking long run incremental costs. The methodology should take account of both demand and generation and both costs and benefits.

4.33. Decisions as to the specification of the methodology should not be taken either by the DNOs or by Ofgem in isolation. The structure of charges is one of the key linkages between distribution companies and distribution network users. Consequently it is important that users, potential users and other stakeholders have the opportunity to comment on and influence how charges are determined. The design of new longer term methodologies provides a clear opportunity for such input. Ofgem's view is that it will then be appropriate for users and other interested parties to be consulted on any further changes to the methodology over time.

4.34. It is expected that over the next few years, sections of some distribution networks will evolve from passive into more actively managed networks. It is anticipated that in the long-term this trend will continue, with DNOs becoming increasingly more involved in active network management. This may involve the possible use of ancillary services from distributed generators in areas such as managing voltage control, fault levels and power flows. The development of charging structures will need to take account of and facilitate such developments.

4.35. In the longer term, there could be advantages in introducing clear access rights for connectees as Ofgem has proposed in transmission. Given the greater complexity and detail in distribution networks, there is merit in learning from developments in transmission before introducing such arrangements in distribution.

Way forward

4.36. As indicated above, and as commented by several respondents to the June 2003 document, significant further work is required before a firm conclusion can be drawn on the best approach to adopt for the structure of electricity distribution charges in the longer term.

4.37. However, some aspects of the model are already clear. These include:

- moving away from deep connection charges for generation;
- moving to a common connection boundary for demand and generation;

- reducing the extent to which first-comers face more onerous charges than second-comers;
- introducing use of system charges which are payable by or on behalf of distributed generators; and
- providing a clearer regulatory framework for the establishment and approval of charges.

4.38. It therefore seems sensible to adopt a phased approach which addresses these aspects first, for implementation from April 2005. In parallel, a more complete longer term solution will continue to be developed. Early progress will allow an assessment of the extent to which approaches adopted across different DNOs could or should be similar or consistent. Early progress will also provide time to address the issue of potential volatility in charges.

4.39. Ofgem therefore intends to progress discussions on the longer term approach to charging during 2004 in parallel with development of the interim charging approach. Ofgem will consult on the subject of use of system models in mid 2005, with DNOs tasked to develop models and set out indicative charges during 2005. This would be followed by general consultation on the proposed approaches and the resolution of any outstanding issues in 2006.

4.40. It is recognised that the development of LRIC charging models and the associated changes to industry systems represents a challenging task for the industry. In addition, there are advantages in implementing any major changes to the structure of charges at the same time as a price control review. For example, it facilitates consistency in the basis on which net capital expenditure projections are made. However, it is conceivable that changes could be made at other times.

4.41. Ofgem considers that the implementation date for the full LRIC arrangements should not be later than 1 April 2010, to coincide with the next price control period. Ofgem is keen for the industry to realise the benefits that the new arrangements will bring as soon as reasonably practicable, and therefore recommends that DNOs and other parties work towards an implementation target date sooner than this timescale.

4.42. In the light of this phased approach, Ofgem proposes that generators already connected or with a firm connection quotation at 31 March 2005 are not liable for use of system charges prior to April 2010. The treatment of these generators thereafter will be decided in 2006 when the longer term arrangements become clearer.

4.43. The proposed interim arrangements are discussed in detail in the next chapter. Chapter 6 then sets out the process and timetable for implementation of both the interim arrangements and progress towards a longer term model.

5. Interim arrangements

Introduction

5.1. As described in chapters 3 and 4, not all of the desirable changes to the structure of electricity distribution charges can be achieved for 1 April 2005. However, a number of changes can be made that will address some of the flaws in current arrangements. In particular, these changes will be consistent with arrangements being developed in the price control review to incentivise DNOs to connect distributed generation.

5.2. Ofgem considers that two key changes set out below can be introduced with effect from 1 April 2005, with indicative charges to be published by 1 November 2004:

- changes to the connection boundary; and
- application of use of system charges for generation.

The rest of this chapter discusses these issues in more detail. In addition, as described elsewhere in this paper, licence modifications are envisaged to provide that DNOs' charging methodologies will be subject to Ofgem approval.

5.3. In addition, Ofgem considers that it continues to be appropriate to progress more incremental developments by April 2005. These include:

- the development of greater clarity of connection charges, particularly in respect of the split of charges between contestable and non-contestable works, and the removal of capitalised O&M charges and TSA;
- the evolution of demand use of system charges to better reflect costs, including in relation to power factor correction. However, substantial changes to the structure of use of system charges for demand customers are not envisaged.

Connection boundary

5.4. As previously described, there are advantages in adopting a shallow connection boundary, but only in conjunction with provision of locational signals through use of system charges. For the interim period, while use of system models are being developed, it is appropriate to retain a stronger locational signal through connection charges by not moving all the way to a shallow (or "sole-use") boundary.

5.5. The current connection charge for demand customers includes the cost of all reinforcement works triggered by the connection up to one voltage level above the point of connection, provided that the new connectee requires more than 25 per cent of effective capacity ('the 25 per cent rule'). Due to the lumpy nature of investment in networks, this can still result in new connectees paying for reinforcement greatly in excess of their own requirements. As with any threshold for charging, the 25 per cent rule can create distortions close to the boundary.

5.6. As discussed in the June initial conclusions paper, a more cost-reflective and equitable solution would be to charge for reinforcement in relation to the proportion of increased capacity required by the connectee. This option set out in the June paper was supported by most respondents. This removes the need for a 25 per cent de minimis rule, although it will be open to DNOs to propose a de minimis threshold if they consider that this is appropriate.

5.7. Under the connection charges regulations at present, if a new connectee (the "second-comer") uses assets that have already been paid for by a previous connectee ("first-comer") then, with certain restrictions, DNOs are required to charge the second-comer a proportion of the costs and pay these to the first-comer. Under the interim arrangements as proposed here, the first-comer would also only have paid a proportionate share of reinforcement costs so would not have 'over-paid' and would not need or merit subsequent repayment. Charges to the second-comer would remain broadly as at present.

5.8. A number of DNOs have commented that, at present, the refund feature of the connection charges regulations is unworkable. It may be appropriate to review the practical applicability of the regulations, and Ofgem will consider positively

supporting any changes which better facilitate application of the interim arrangements as specified in this document.

5.9. The detail of the proportionate charging rules remains to be developed. These will be discussed in the Implementation Steering Group (see chapter 6) and detailed proposals set out in the April 2004 update document.

5.10. In principle, there would appear to be a case for charging reinforcement costs owing to fault level on the basis of contribution to fault level, for both demand and generation. Reinforcement requirements for fault level reasons in relation to demand connections are less common.

5.11. The structure of connection charges for both demand and generation customers will therefore include the following, where applicable:

- contestable connection charges. These will be payable either to the DNO or to a competing connections provider for the entire cost of new assets within the scope of competition in connections;
- fees for transactional services provided on a non-contestable basis by the DNO in support of connection works (such as inspection);
- non-contestable charges for non-contestable work on the network. These charges would reflect the costs of reinforcement of shared assets triggered by the connection no more than one voltage level above the point of connection, charged on a proportionate basis in accordance with reinforcement contribution rules currently being developed;
- non-contestable charges as a second (or subsequent) comer contribution. These would be levied on the same basis as the above for assets provided within the past five years. This is the time period defined in the connection charges regulations; and
- no charges for any work more than one voltage level above the point of connection.

5.12. For customers connected at EHV, more flexible payment arrangements may be appropriate. It is envisaged that unless the connecting party requests to pay

upfront, DNOs would charge for the reinforcement element of any EHV connection costs as an ongoing charge payable over time

Generator use of system charges

5.13. Most, but not all, respondents to the June initial conclusions paper acknowledged that a move away from deep connection charges to shallower charges should involve the introduction of generator use of system charges. Ofgem regards this as necessary to avoid cross-subsidy.

5.14. The main concern of those respondents representing prospective generators was that uncertainty over the level of charges will be particularly disadvantageous to generators in raising finance.

5.15. At present, most generators connecting to distribution networks do not trigger reinforcement and therefore face the same costs regardless of the connection boundary (within the range of options under consideration). However, as more generation is connected, several DNOs have suggested that reinforcement costs will become more common. For the interim arrangements, the connection charging policy proposed will mean that those generators that would pay "deep" charges will generally face lower charges than they would under current rules. This may be either because of the reinforcement contribution rule or the one voltage level rule described above.

5.16. The distribution price control review has proposed to incentivise DNOs to connect and utilise distributed generation. The proposed incentive will operate through a mechanism that is likely to involve partial pass-through and one or more fixed £/kW-type incentive rates. This is intended to provide DNOs with an incentive to adopt proactive and innovative solutions to connecting generation where it is economic to do so. However, for any particular level of costs, to the extent that this incentive provides a premium return, there will be an increase in the revenue requirement of the DNO. Ofgem's view is that this revenue requirement should be recoverable from those for whose benefit the incentive is designed, ie generators.

5.17. The aggregate effect of these changes will depend on detailed decisions on reinforcement contribution rules and on the specifics of generator connections.

However, as an example, if the proportion of pass-through under the price control incentive is similar to the aggregate proportionate contribution under the reinforcement rule, then it would be expected that the average use of system charge will be similar to the £/kW incentive rate. These rates have not yet been established but Ofgem will publish initial proposals in the price control consultation paper due to be published in December 2003 and confirm specific figures in March 2004. This will allow the implications for distribution use of system charges to generators to be set out in the April 2004 update to this project.

5.18. As an indication of possible orders of magnitude, the October 2003 price control paper set out DNOs' own estimates of direct costs for shared assets and strategic costs within the range of £400-600 million for approximately 10 GW of distributed generation. This is equivalent to £40-60 per kW (excluding approximately £50/kW of sole use asset costs). The equivalent annual charge will depend on depreciation policy and the rate of return assumed, but for illustrative purposes, an amount of the order of £6 per kW per year might be indicative. Part, possibly most, of these costs will be covered by connection charges under the proportionate contribution rules (or the equivalent for EHV customers). This would leave generator use of system charges averaging less than £6 per kW per year.

5.19. It will be for DNOs to propose their approach to setting tariffs for generators. This may include variations depending on location (possibly just for EHV connected generators). For example if one part of a DNO's service area is running at capacity and would require substantial upstream reinforcement that would not be required elsewhere or covered by connection charges, then the DNO may propose a higher tariff in that area and a lower (or even zero or negative) charge elsewhere. DNOs may also consider that charges on a kVA basis would be more appropriate than per kW. In line with the arrangements for approving tariff methodologies explained previously, Ofgem will expect DNOs to demonstrate that their proposals are cost reflective.

5.20. To ensure that prospective generators do not face undue uncertainty over this period, Ofgem's view is that it may be appropriate either to set a cap on charges applying in the period to 2010 or to limit the flexibility to change tariffs for any given generator over this period. The level of any cap will partly be influenced

by the cost and incentive rate considerations set out above. Early consideration (i.e. in 2005 and 2006) of the long term arrangements will help to mitigate longer term uncertainty.

5.21. The June initial conclusions paper and Ofgem's consultation papers on the distribution price control review have also referred to compensation of generators for network unavailability at a fixed £/kW per hour rate, as a part of the package of incentive arrangements on DNOs in respect of distributed generation. As explained in the October 2003 price control update paper, this would form part of standard terms available to new generators, but would be capable of being waived by the generator if they chose a less secure connection to reduce connection charges.

Existing generators

5.22. Existing generators have already paid connection charges, either under the current 'deep' connection policy, or under alternative arrangements prevailing at the time of connection. Depending on the individual circumstances of each connection, this may have included substantial network reinforcement costs. In any event, these generators have secured rights to a connection without obligation to pay use of system charges.

5.23. In general, it is desirable that all generators face cost reflective charges, both to provide the correct signals with respect to, for example, retirement decisions, and for administrative simplicity.

5.24. One way to reconcile these conflicting positions would be to provide compensation to existing generators through some form of rebate. Changes to the connection boundary currently under consideration in relation to transmission charges may be handled in this way. However, given the particular context of distribution charges, including the review of arrangements appropriate for the longer term in 2005/06, there are practical difficulties in defining the relevant amounts.

5.25. As a practical matter, it is therefore proposed that existing generators receive a full rebate against any use of system charges they would otherwise face in the period to 2010, unless they choose to opt-in. The position that will apply after

2010 will be considered as part of the review in 2005/06. No decisions have yet been taken which pre-judge the outcome of that review.

Existing demand customers

5.26. Where existing demand customers are on fixed charging arrangements, it may also be necessary or appropriate to consider transitional arrangements for charges over the period to 2010. It is not Ofgem's expectation that the changes to charges envisaged in this paper would necessarily have a substantial effect on charges for most existing demand customers over this period.

Abnormal or unusual connections

5.27. It is intended that these interim arrangements would apply for the great majority of connections. However, there may be cases where the connection has very unusual requirements or has an impact on the network which is an order of magnitude greater than that envisaged here. In these cases, it may be necessary either to charge the incremental costs of changes to normal practice to the connectee, or to apply a more bespoke solution considering the case on its merits.

6. Implementation

Introduction

6.1. This document has outlined Ofgem's initial decision on many of the important issues relating to the structure of electricity distribution charges. This section sets out the implementation process and timetable.

Progress to date

6.2. In the June 2003 initial conclusions document, Ofgem briefly explained the proposed approach for the implementation of changes to the regime, and commented upon the important links with the 2005 – 2010 distribution price control review. The document stated Ofgem's intention to form an 'Implementation Steering Group' (ISG) consisting of representatives of all affected industry sectors to advise on implementation issues. This group has now been formed, and has met twice to date, on 25 September and 21 October. The progress made by the group is discussed later in this chapter.

6.3. A number of respondents to the June 2003 document expressed views on the implementation process for the structure of charges proposals.

6.4. The majority of respondents commented that the proposal to implement the new regime on 1 April 2005 was challenging, although there was a general recognition that it would be advantageous to attempt to implement changes to coincide with the start of a new price control period. There was confusion over the proposals for implementation in some responses to the document and also via views expressed at industry workshops.

6.5. There was overall support for the creation of the ISG from respondents. There was also support for the formation of expert sub groups to take forward discrete pieces of work relating to implementation to support the work of the ISG.

Implementation Steering Group

6.6. The formation of the ISG has created a dedicated vehicle to provide advice to Ofgem in implementing the interim regime on 1 April 2005 and the long term framework.

6.7. The ISG was established in August of this year. Group members were invited following expressions of interest in joining the group in responses to the June 2003 document. The group is comprised of representative of the eight DNO company groups, two generator representatives, two supplier representatives and two customer representatives.

6.8. At the first meeting of the ISG held on 25 September 2003, the group's terms of reference were agreed. The purpose of the group was agreed as:

'to facilitate further discussion about the commercial, regulatory and technical aspects of Ofgem's proposals for changes to the electricity distribution charges regime, and to assist Ofgem in ensuring that the changes are implemented in a robust, efficient and, where appropriate, consistent manner across all DNOs'.

6.9. It is important to note that, whilst the group provides an expert forum for the discussion of implementation issues, it does not have any formal decision making powers. The existence of the group does not preclude a full consultation on the issues where appropriate. The terms of reference can be found on the Ofgem website at http://www.ofgem.gov.uk/temp/ofgem/cache/cmsattach/4764_Implementation_SteeringGroup_TermsReference_Oct03.pdf

6.10. Ofgem is committed to ensuring that the ISG's work is as open and transparent as possible. Therefore, a section of the Ofgem website has been established to allow for the publication of documents and papers produced by the ISG. This section also lists ISG members. The website pages can be found via the following link http://www.ofgem.gov.uk/ofgem/work/index.jsp?section=/areasofwork/distributioncharges

6.11. For further information about the ISG, please contact James Richardson at james.richardson@ofgem.gov.uk

Proposed approach to implementation

6.12. Having taken into account industry views and responses to the June 2003 document, Ofgem's view is that it is more important to begin a process that moves towards the desired long term outcome taking account of customers' interests and the views of existing and prospective network users than to change the entire charging arrangements on 1 April 2005.

6.13. Therefore, and as discussed in detail earlier in this document, Ofgem proposes to move towards the long term arrangements via a process that first sees interim arrangements introduced from 1 April 2005.

6.14. Ofgem believes that it is advantageous for as many stakeholders as possible to contribute to the development of the new charging framework, and that the industry should be the main driver of the changes necessary to implement the interim and long term arrangements. Nevertheless, there will be the need for changes to the regulatory framework. As discussed earlier in this document, both EU Directive 2003/54/EC and other decisions taken by Ofgem relating to the structure of charges may lead to the requirement for changes to the standard licence conditions of DNOs. These standard licence condition changes are discussed later in this chapter.

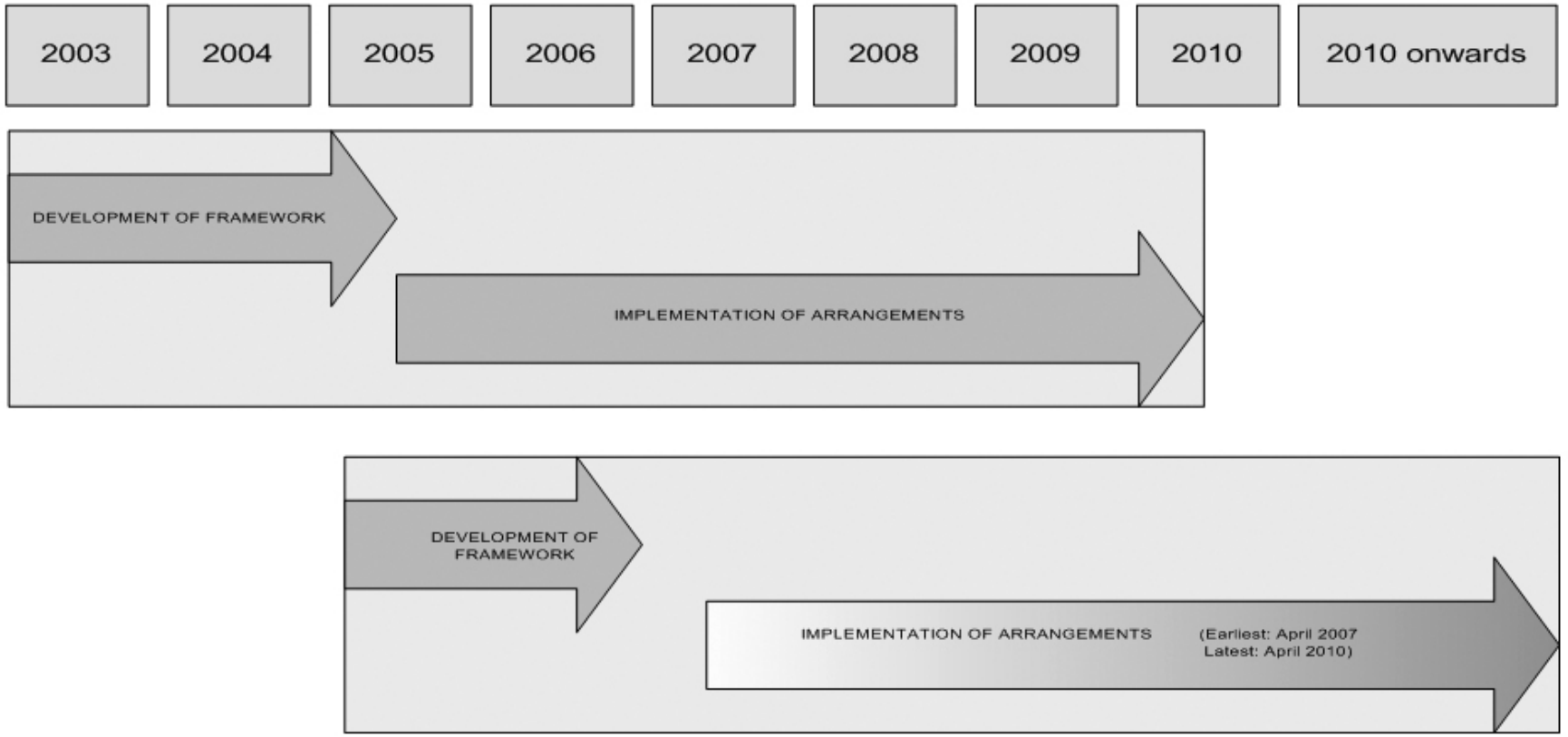
Implementation timetable

6.15. This document has outlined Ofgem's initial decisions on changes to the structure of electricity distribution charges regime.

6.16. The timetable overleaf sets out Ofgem's process for the implementation of the interim and long term regime, and was designed following detailed discussions at the first and second meetings of the ISG.

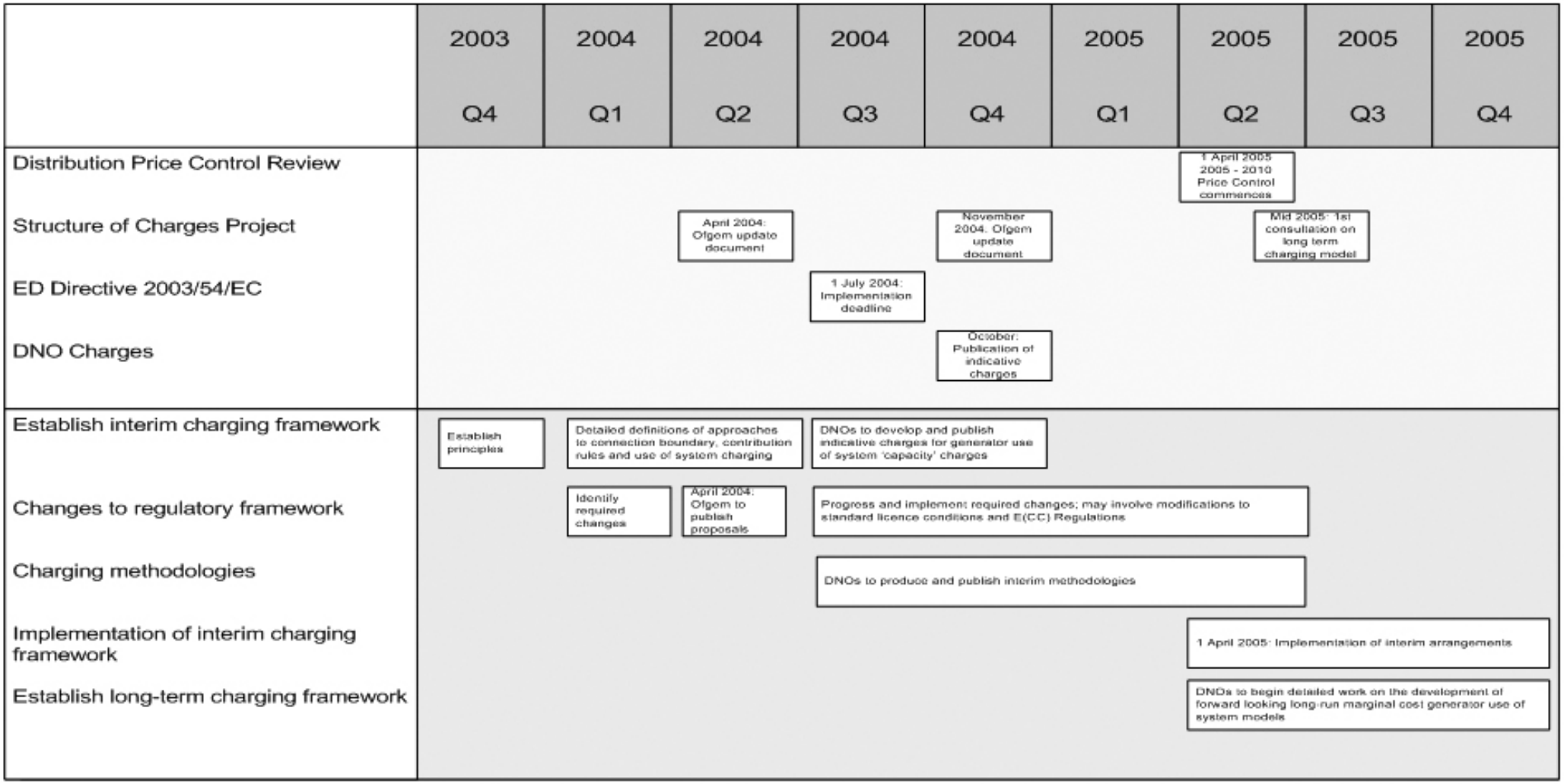
IMPLEMENTATION TIMETABLE: HIGH-LEVEL OVERVIEW

The overall programme is split into two discrete phases - each of which is split between design and implementation



IMPLEMENTATION TIMETABLE: DETAILED TIMETABLE

To ensure delivery of the interim period deliverables rapid progress must be made on establishing and agreeing the desired framework



Standard licence condition modifications

6.17. As discussed throughout this document and earlier in this chapter, whilst Ofgem envisages the implementation process to be largely driven by the industry, it will be necessary to combine this with modifications to the standard licence conditions of DNOs.

6.18. The areas where licence conditions may need to be modified are outlined in more detail in chapter 4 and 5 of this document. To summarise, the main areas that may require modification include:

- the development of charging methodologies to be approved by Ofgem; and
- the description of the connection charging boundary contained in paragraph 5 of SLC 4B.

6.19. Proposals for these licence modifications, including draft versions, will be set out in the April 2004 update paper.

Commercial forum

6.20. The June document raised the issue of Ofgem's intention to consult upon the creation of an industry commercial forum to discuss common commercial, administrative and regulatory issues and for the development of model contract terms to govern connection to and use of distribution networks.

6.21. Those who commented on this issue said that there was merit in such a forum being established with the long term objective of laying the groundwork for a distribution connection and use of system code (DCUSC). This would form a set of common governance arrangements. A number of respondents recognised that there could be useful links between the proposed commercial forum and the work on the structure of charges.

6.22. Ofgem understands that a number of industry participants from all sectors of the electricity industry have already discussed both the possibility of creating a commercial forum and also the benefits of common-code style governance arrangements.

6.23. Given the range of industry parties with an interest in the issue of the commercial, administrative and regulatory aspects of distribution connection and use of system, Ofgem is hosting a half-day workshop on Friday 28 November. The workshop will be chaired by Ofgem and will take the form of an open debate on the merits and practicalities of creating a forum and of the wider issue of governance. A formal invitation setting out the format and purpose of the workshop in more detail was published on 31 October. Further information about the workshop and a copy of the invitation can be obtained by emailing James Richardson at james.richardson@ofgem.gov.uk

Appendix 1 Draft Regulatory Impact Assessment

Introduction

1.1 This appendix is Ofgem's draft Regulatory Impact Assessment (RIA) for its initial decision on the structure of electricity distribution charges project. It builds on the draft RIA published as an appendix to the June 2003 initial conclusions document. The outcome of this assessment informs the decisions outlined in the main paper. In developing its decision, Ofgem has taken into account respondents' views on the initial proposals given in the June document, and also views expressed at industry fora and in bilateral meetings.

1.2 In taking forward the implementation of the interim and longer-term changes to the existing regime, Ofgem will take into account responses to the issues outlined in this document and discussions with interested parties.

1.3 Ofgem is also keen to receive comments on this draft RIA. In the draft RIA published in June 2003, Ofgem estimated the costs, benefits and risks associated with the options in the document. It requested views from interested parties on these estimates. Whilst Ofgem received detailed responses to many of the issues in the document, there were few substantial comments in respect of the RIA. A number of parties said that until arrangements for the changes to the existing regime are finalised, it would be difficult to estimate the costs or benefits. This RIA is therefore based upon the estimates given in the June 2003 draft RIA.

1.4 Ofgem welcomes comments on this updated draft RIA, and is particularly keen to receive views on the estimates of the costs, benefits and risks in light of the initial decisions given in this document. In order to support Ofgem's commitment to developing the usefulness of RIAs in future documents, Ofgem would also welcome comments on the form and structure of this assessment. Ofgem expects to further build on this RIA in future documents on the structure of electricity distribution charges.

Objectives

1.5 As explained in detail in the December 2000, October 2002 and June 2003 documents, the structure of electricity distribution charges[13] is based upon principles established by the Electricity Council in the early 1980s. Since that time the electricity industry has undergone profound changes. Further change is anticipated as a result of Government support for renewable generation and combined heat and power (CHP) plant, much of which may connect to the distribution networks.

1.6 Ofgem embarked on the review of the structure of electricity distribution charges to ensure that the regime is based upon principles that are appropriate in light of the present structure of the industry and expected future developments. The project seeks to develop robust long-term charging structures for connection to and use of local distribution systems. The main document sets out Ofgem's initial decision on a number of key issues, and paves the way for the implementation stage of the project to begin. In particular, the main document proposes that:

- consistent with the requirements of EC Directive 2003/54/EC, DNOs will face an obligation to obtain approval for their charging methodology for connection to and use of distribution networks. Ofgem intends to bring forward proposed licence modifications to achieve this;
- from 1 April 2005, distributed generators entering into a connection agreement will no longer face deep connection charges. There will instead be shallower arrangements that are similar to the existing demand connection boundary;
- from 1 April 2005, the connection charge will include the 'shallow' element of connection costs and a contribution to reinforcement costs based on a reinforcement contribution rule. For EHV customers, the reinforcement contribution may be annualised. The rule will be developed based upon the proportion of increased capacity required by the connectee. Further

[13] The structure of charges provides the framework for the calculation of charges for connection to and use of the distribution networks.

consideration is required as to the detailed definition, including for the fault level contribution rule. This policy will apply to both demand and generation connections;

- from 1 April 2005, network reinforcement costs resulting from distributed generation connections and not captured by the shallowish connection charges will be recovered through a simple use of system capacity-based charge. The framework for setting charges will take account of the desire for predictability for new projects;

- in the longer term, the demand and generation regimes will be fully aligned. Use of system charges will be established via charging models based on forward-looking long run incremental costs (LRIC). These models will be developed by DNOs in 2005, with consultation and the resolution of any outstanding issues in 2006. It is envisaged that tariffs based on these models will be introduced, at the latest, by 1 April 2010;

- from 1 April 2005, TSA and capitalised O&M charges will be removed from connection charges. Allowances for network adoption would need to be considered in the context of competition in connections; and

- pre-existing generators (including those distributed generators that enter into connection agreements before 1 April 2005) will not be liable for generator use of system charges prior to 1 April 2010, unless they opt-in to the new regime. A review and decision on arrangements to apply thereafter will be taken by Ofgem in 2006.

Overview of key issues

1.7 The cost of distributing electricity is about £3 billion annually, and distribution charges make up around 25 – 30 per cent of a typical domestic bill, or a somewhat larger proportion for a non-domestic customer. Approximately 410,000 new electricity demand connections were made in 2001, for which customers paid around £580 million[14]. The rate and total annual cost of new

[14] as discussed later in the document, the price paid by demand customers for a connection may be different from the cost of providing that connection

generation connections is currently much lower, averaging less than £20 million per year over the past three years. This is expected to increase significantly in the future as a result of policies designed to meet the government target of 10 per cent of generation from renewable sources by 2010.

1.8 The structure of electricity distribution charges influences the behaviour of customers of the network. For example, a high charge for connection to areas of the network where there is little spare capacity would encourage customers to connect to a less congested part of the network. Similarly, a use of system charge that reflected the cost of providing network capacity at times of peak demand would provide customers with an incentive to reduce demand at peak. A reduction in peak demand would possibly mitigate the need for costly network reinforcement. These are likely to be more efficient outcomes.

1.9 Users, in particular generators, may also bring benefits to the distribution networks. Benefits may include delaying or avoiding reinforcement, reducing distribution losses and providing ancillary services. It is therefore important that electricity distribution charges are structured so as to provide appropriate incentives, including locational signals, in order to promote overall efficiency of the industry and to protect the interests of electricity consumers.

1.10 However, fully cost-reflective charging could be complicated and costly to implement. Nevertheless, given the potential for significant levels of future investment, both in generators connected to the distribution networks, and in the networks themselves, it is important that the structure of charges provides appropriate signals to guide this investment.

Policy and legislative background

1.11 Previous Ofgem documents on this project have set out the government's targets for carbon emissions and renewable generation. They have also explained Ofgem's statutory duty to have regard to both the environmental impacts of the electricity system and to guidance from the Secretary of State for Trade and Industry on environmental issues. The targets, objectives and ambitions described are an important factor for Ofgem to consider in its work on the structure of electricity distribution charges.

1.12 Ofgem's statutory principal objective is to protect the interests of consumers, wherever appropriate by promoting effective competition. Distribution network operators have a statutory duty to facilitate competition in the supply and generation of electricity.

Options

1.13 This RIA considers three options:

- the 'do nothing' approach;
- full implementation in April 2005; and
- phased approach.

1.14 The comparison of the costs and benefits of the first two options is covered in detail in previous documents. Therefore, this RIA concentrates on the comparison of the costs and benefits associated with the full implementation in 2005 option and the phased approach option.

Risks and unintended consequences

1.15 Several respondents to the June 2003 document stated that it would be very difficult to achieve all of the changes proposed by April 2005. A failure to meet the deadline of April 2005 would create uncertainty for all parties, particularly distributed generators. In addition, proposals that are introduced to meet a very challenging deadline may not provide an enduring framework for the structure of charges. This could lead to further expense and uncertainty caused by a need for a further review.

1.16 However, a delay in the implementation of a move towards a shallower connection boundary for distributed generation would fail to reduce barriers to entry for generators. It would also perpetuate the difference in arrangements between transmission and distribution networks.

1.17 There is a risk that implementing the interim and long term regimes could be more expensive for the industry and for Ofgem than forecast. This risk may be greater during a phased implementation period.

1.18 The magnitude of the benefits associated with more efficient connection and use of the system will depend on the quantity of new connections. There is considerable uncertainty over the amount of new distributed generation likely to connect to the system. This is partly owing to the uncertainty in the quantity of new renewable and CHP capacity likely to be installed, but also owing to uncertainty over what proportion is likely to be connected to distribution networks rather than the transmission system.

1.19 This may lead to benefits being lower than anticipated. However, there are expected to be some efficiency benefits from the revised charging arrangements, regardless of the level of connection of distributed generation.

Competition

1.20 Ofgem's principal statutory objective is to protect the interests of consumers, wherever appropriate by promoting effective competition. The DNOs have a statutory duty to facilitate competition in the supply and generation of electricity. Ofgem considers that the structure of electricity distribution charges is an important mechanism for facilitating competition and protecting the interests of consumers.

1.21 In particular, the proposals are designed to facilitate competition between distributed generators in connection to and use of the distribution network, and to facilitate competition between distributed and transmission-connected generators.

1.22 Ofgem considers that adjusting the boundary between connection and use of system charging could be beneficial for competition in the provision of connections.

1.23 Ofgem considers that its proposals are unlikely to have a significant impact on competition more generally. Ofgem would not expect implementation costs to constitute a significant barrier to entry in the supply market, and, in particular, the proposals are not likely to impose significant new costs on developers of distributed generation.

Costs and benefits

1.24 The outcome of the project could affect the following groups:

- distribution network operators (DNOs), who will have to implement changes to the existing regime, for example the development of forward-looking long-run incremental cost charging models and any subsequent changes to billing systems;
- customers and suppliers. Impacts on customers may vary by region and by type. As some of the decisions on detailed charging issues[15] will affect demand users, there will be different impacts on new as opposed to existing customers;
- distributed generators – both existing and future; and
- transmission-connected generators.

1.25 Since this project is only concerned with the structure of charges, and not the overall level of charges, there is by definition no immediate net aggregate financial impact beyond implementation costs on network operators or their customers. However, to the extent that adjusting the structure of charges results in different incentives for customers of the network, total future network costs may be different than they would otherwise have been.

1.26 The costs and benefits of this project may also include impacts on the environment and on security of supply.

Costs

1.27 The costs associated with this project include:

- the direct costs to Ofgem and the industry of developing the interim and long term regime, including carrying out the necessary research and industry consultation; and

[15] for example, the adoption of a proportionate reinforcement contribution rule for demand and generation connections

- the costs to Ofgem and the industry associated with implementing adjustments to the existing regime as a result of the decisions in this document and future decisions as the project progresses.

Project costs

1.28 Ofgem's budget for this project is £350,000, including both direct costs and a consultancy budget. Ofgem estimates that the costs to the industry of participating in this project up to the point where detailed modelling and IT implementation would begin might be of the order of one person-year. This is somewhat below Ofgem's direct costs. These costs are now sunk.

Implementation costs

1.29 Implementation costs will, in the first instance, fall upon DNOs and suppliers. Ofgem would expect that consumers would, eventually, pay a significant proportion of these costs via use of system charges.

1.30 For the longer term regime, industry estimates suggest that relatively modest changes to existing IT systems, sufficient to implement adjustments to charging methodologies for all customers, including a simple generator use of system charge, might cost £0.5–1 million per DNO. More complex system development, such as would be required to implement a more complex generator use of system charge might cost £3–4 million per DNO - for example to support a shallow connection charging regime with locational signals retained in ongoing use of system charges if there are requirements for new data flow and billing arrangements.

1.31 Implementation costs are expected to be significantly lower for the interim regime because a simple capacity based charge will be developed.

1.32 Some of these costs may be shared where DNOs choose to develop a common approach. Ofgem considers that, based on the industry estimates above, the total DNO costs of the two approaches might be around £5–10 million for shallowish connection charging and £25–30 million for shallow connection, allowing for some common development costs (reflecting, for example, the common ownership of some DNOs).

1.33 There will also be implementation costs for those paying generator use of system charges and managing exposure to them. These costs will be incurred in the first instance either by new distributed generators (i.e. those who enter into connection agreements after 1 April 2005) or by suppliers. Ofgem considers that an assumption that these costs may be broadly equal to the costs incurred by DNOs is unlikely to be significantly in error. While implementation from the customer side will not require system modelling, there are many generators, and data collection/management may be more costly.

1.34 The total costs of the two approaches are therefore estimated at £10–20 million for shallowish connection charging and £50–60 million for shallow connection charging. These are one-off costs**.**

1.35 The chief costs associated with the option of retaining the current arrangements is that the present boundary between up-front connection costs and ongoing use of system costs may not promote the overall efficiency of the industry because:

- there may be barriers to entry for generation at the distribution level arising from the current arrangements, in particular resulting from the policy of charging full reinforcement costs to the generator that triggers reinforcement. This charging policy exposes that generator to a disproportionate share of the costs and encourages each individual generator to delay connection in the hope that another connectee will trigger expansion, on which subsequent connections can then free ride; and

- there may be perverse incentives arising from the inconsistent arrangements between transmission and distribution.

Ongoing costs

1.36 In the first instance, total network costs will not be affected by this project because this project addresses only the structure of charges, not the overall level. However, to the extent that the outcome of this project alters incentives to connect to or use the network, over time the total amount of investment in the network, and hence the total cost to the network's customers, could change.

1.37 Provided that the new framework for the structure of charges is in line with the principles described above – particularly cost reflective charges and the avoidance of perverse incentives - any increased cost associated with greater investment in distribution networks and distributed generation should be offset by at least an equivalent amount of avoided investment at higher voltage. Any ongoing costs are therefore expected to be more than offset by cost reductions.

Summary

1.38 Total costs of this project are estimated to be of the order of £10–60 million, a small fraction of the cost of the Government's renewables targets over the next 10 years, which is likely to be at least of the order of £5 billion.[16] The costs will be slightly lower for shallowish charging than for shallow charging.

Benefits

1.39 The main benefits of redefining the connection boundary will come from assisting in meeting Government environmental targets at least cost to consumers. The benefits will be achieved by improving the efficiency of connection to and use of the distribution networks.

1.40 Connection efficiency results from customers (either demand or generators) paying connection charges relating to the long term availability of network capacity, and hence the costs imposed by the new customers on the network. For example, it is likely to be more efficient for a demand customer to connect to a part of the network where there are no existing capacity constraints or where the long term incremental cost of new capacity is low. This outcome is also likely to be beneficial for security of supply. Given the extent of change that is expected to the network to handle distributed generation it is important that the incentives reflect the long run costs, and not simply the short run costs as at present.

1.41 Efficient use of the system results from customers paying use of system charges that reflect the costs they impose on the system, and hence being able to adjust their behaviour accordingly. For example, demand customers might be able to

[16] this figure is obtained by multiplying the total Renewables Obligation targets for the period 2003–2012 by £30/MWh and discounting at 6%.

benefit from reducing their consumption at times of peak demand and thereby allow network reinforcement to be avoided. There may be further benefits arising from competition in the extent that moving the boundary of connection closer to the boundary between contestable and non-contestable connection work will facilitate competition in connections.

1.42 Ofgem considers that it is difficult to quantify the benefits of improving the structure of electricity distribution charges. This is partly because much of the benefit accrues from facilitating the achievement of Government environmental objectives, which are subject to many additional factors of greater significance than the structure of electricity distribution charges. There would, nevertheless, be an additional benefit associated with removing barriers to connection of non-renewable generation. In the context of current policy, including the existing and draft revised Social and Environmental Guidance to Ofgem[17], it would at present seem premature for Ofgem to take responsibility for considering in the RIAs the benefits of reducing environmental externalities to a greater extent than would be involved by the expected price effects of emission trading schemes and other specific schemes with environmental objectives.

1.43 Ofgem notes that many commentators have identified the issues being addressed in this project as significant if the Government targets are to be met. It is therefore suggested that it is relevant to consider whether the increase in the total resource devoted to achieving the Government's renewables targets as a result of this project is likely to be justified by the associated benefits.

1.44 Alternatively, an illustration of the possible benefits of this project could be derived by assuming that adjustments to the structure of charges may both facilitate earlier connection of some renewable generation which would otherwise have connected later (by removing, or substantially reducing, the free rider problem referred to above), and connection of some renewable capacity that would not otherwise have connected (by removing, or reducing the barrier to entry arising from some connection charges exceeding the level required to reflect costs attributable to – rather than just triggered by – generation

[17] The existing and draft revised Social and Environmental Guidance can be found on DTI's website at http://www.dti.gov.uk/energy/leg_and_reg/acts/soc_env_guid.pdf (existing) and http://www.dti.gov.uk/energy/consultations/seg.pdf (draft revised).

connections). This illustration is not intended to be a forecast of the likely magnitude of the impacts of this policy proposal; it is presented to quantify the relationship between possible outcomes and possible benefits

1.45 It is possible that more than 10GW of new distributed generation may be connected over the next 10 years. If 500 MW (i.e., 5 per cent) of capacity were to be connected sooner than it would otherwise have been, net benefits might be of the order of £7.5 million.[18] Were an additional 500 MW of capacity to be connected, benefits might be of the order of £30 million.[19] The method of calculating these figures is set out in the June document.

1.46 In addition to these illustrative quantified benefits, Ofgem considers there to be wider benefits resulting from more efficient connection to and utilisation of the network. Clearly in seeking to achieve these benefits it is important that the most cost-effective option is pursued. Ofgem's view is that most of the benefits to consumers would be realised with either shallowish or shallow connection charges.

Other environmental impacts

1.47 The operation of electricity distribution networks results in a number of indirect and direct impacts. The most significant effects are likely to be the emissions related to losses from distribution networks and the impact on emissions from facilitating connection and utilisation of distribution-connected renewable generation and CHP plants. Other direct impacts include:

- emissions of sulphur hexafluoride, a potent greenhouse gas;
- visual and other amenity issues. Overhead wires are considered unsightly and the siting of wires and other installations can have effects on habitats, archaeology and other items of natural or cultural importance;
- replacement and refurbishment of the network may be associated with roadworks that cause inconvenience and disruption to travel;

[18] assuming capacity brought forward 5 years, benefit valued as value of ROCs from wind farm at 30% load factor, £30/MWh, discounted at 6%;
[19] assuming 50MW per year over 10 years

- oil leakage from cables can pollute surface and/or groundwaters; and
- solid waste from works which may need disposal or management.

1.48 Changes to the structure of charges are not likely to have a significant effect on the size and operation of distribution networks. They are therefore unlikely to affect the above environmental impacts.

Security of supply

1.49 Ofgem does not expect this project to alter the standards and incentives faced by the industry in relation to security of supply, and does not, therefore, consider that this project is likely to have any significant impacts on security of supply.

Summary of costs and benefits

1.50 As explained in chapters 4 and 5, a move towards a shallower connection boundary necessitates a more sophisticated set of use of system charges to preserve cost reflectivity. Developing and implementing these could be complicated and costly. There is therefore a trade-off between the desirable move towards a shallower connection boundary and the associated implementation costs and other impacts of increasingly complex use of system charges.

1.51 Ofgem believes that a phased approach will enable many of the benefits from moving to a shallower connection boundary to be realised. This will avoid many of the costs and risks identified earlier in attempting to develop detailed methodologies for generator use of system charges by April 2005.

Distributional effects

1.52 Ofgem has considered the possibility that adjustments to the structure of electricity distribution charges might result in net transfers between the following groups:

- ♦ existing customers and new ones;
- ♦ distributed and transmission-connected generators;

- different demand customer types (eg by location or size); and
- different distributed generator types (eg by technology, location, or size).

1.53 Ofgem has also considered whether the measures could have a differential impact on priority customer groups.

1.54 Proposals for change would only apply to generators who have already paid full deep connection costs after a considerable transition period, and hence would be unlikely to unduly disadvantage existing generators. By addressing the first-comer–second-comer issue the proposals would help resolve an existing distributional problem. The treatment of existing generators after April 2010 will be reviewed in 2006.

1.55 The structure of charges also raises issues of equity and fairness, and issues relating to the protection of priority customer groups.[20] For example, a fully cost-reflective structure of charges might result in rural customers paying considerably more for connection to and use of the distribution network than an equivalent customer in an area of higher population density. This will be affected by the extent to which suppliers pass on distribution charges to their customers.

1.56 However, Ofgem does not consider that this project is likely to result in significant distributional issues. In particular, Ofgem considers it to be important that strong locational signals for connecting to the distribution network are retained, as long as these reflect the long term costs, in order to ensure efficient levels of overall investment in distributed generation. This also has the effect of minimising cross subsidies between demand customers in regions of high and low renewable resources.

Review and compliance

1.57 Ofgem's intention is to ensure that the outcome of this project results in charging principles which are applied consistently across the industry. If necessary, Ofgem will seek to modify the relevant conditions of DNO licences accordingly.

[20] Ofgem has a statutory duty to have regard to the interests of individuals who are disabled or chronically sick, are of pensionable age, have low incomes, or who reside in rural areas.

Chapters 4-6 refer to necessary changes to the regulatory regime in order to facilitate the new interim and longer term regimes. These issues will be discussed in detail in the April 2004 update document.

1.58 As discussed above, the rate at which the installed capacity of distributed generation increases is subject to many influences, with the structure of electricity distribution charges having only a small impact in most cases. It would not therefore be appropriate to measure the success of this project in relation to the amount of distributed generation that is connected. However, Ofgem is likely to collect this information anyway for other purposes.

1.59 Ofgem therefore intends to monitor closely the views of interested parties on the success or otherwise of this project.

Conclusion

1.60 These conclusions should be read in conjunction with the main document.

1.61 It is not possible to conclude with certainty that the magnitude of the benefits will exceed the costs of this project, because the benefits are uncertain and are subject to many external influences. Ofgem consulted on an initial RIA and received only limited comments on our analysis. Therefore Ofgem considers that, although the associated benefits are difficult to quantify, it is reasonable to continue to consider that moving away from a deep connection regime for generation and aligning generation and demand will result in net benefits to consumers. Ofgem believes that the judgement on relative magnitude of costs and benefits has not been countered by general consultation responses.

1.62 Ofgem's view is that most of the benefits to consumers would be realised under either a shallow or shallowish system. Furthermore, moving to a shallowish system connection charge, with a relatively simple generator use of system charging methodology would not preclude moving to a more complex shallow connection charging system in the future, and some of the implementation costs would be common. In addition, moving to a shallowish system could be a precautionary, incremental approach, which would allow time for the development of a more complex use of system methodology in light of experience.

Appendix 2 Summary of responses to June 2003 initial conclusions document

Introduction

2.1 Ofgem received 28 responses to the June 2003 'Structure of Electricity Distribution Charges. Update document' from a range of interested parties, including distribution businesses (DNOs), electricity generators, electricity suppliers and demand customers.

Timetable

2.2 The June document invited views on whether the proposed timescales were appropriate. Respondents expressed the opinion that the proposed timetable of introducing the new regime on 1 April 2005 was extremely challenging. Respondents did, however, recognise the benefits of timing changes to coincide with the start of a new price control period.

2.3 One DNO respondent noted that the increasing work load for DNOs on various issues meant that it would be very difficult to implement the proposed changes in the timescales suggested. The issues highlighted included the structure of charges proposals, the price control review, the review of losses and developments in metering.

2.4 Other respondents felt that the proposals were timely given the Government's renewable energy generation targets.

Charging principles

2.5 There was general support for the charging principles set out in the document. Responses included the opinion that common charging principles would help to facilitate competition, transparency and consistency in electricity distribution charges. Some respondents, however, felt that the common charging principles amongst DNOs may not be suitable for Scotland. Some respondents that supported the introduction of common charging principles commented that care should be taken to avoid unnecessary administration.

2.6 One DNO expressed concern over the principles of cost-reflectivity and the capability of charges to evolve over time. The respondent felt that these charging principles may impose a risk of greater uncertainty for generators and that DNOs should develop transparency without licence obligations. One respondent disagreed with the principle of simplicity because it may result in distorted and inefficient charges.

Charging methodologies

2.7 The document also requested views on whether the requirement for transparent charging methodologies should be introduced for DNOs via licence obligations based on the transmission model.

2.8 There was general support for developing transparent charging methodologies. Some DNOs, however, were not convinced that these would be appropriate or efficient, and one queried whether it would be in the interest of the consumers.

2.9 The issue of consistency of methodologies across DNOs received a varied response. Some parties felt that consistency across DNOs was important in order to facilitate predictability. Some respondents felt that the requirement to publish a methodology should be supported by a requirement on DNOs to consult with users before making changes. Other respondents expressed concern at a role for Ofgem in approving the form of the statements.

2.10 The document asked for views on whether the requirement to introduce methodologies should be based upon the existing transmission methodology licence obligation. DNOs were generally not in favour of this proposal as they felt it would not be beneficial to the industry, would restrict commercial freedom and would also reduce certainty and transparency.

Connection boundary

2.11 The June document sought views on the potential options for changes to the current connection charging arrangements. In particular, respondents were asked to give their opinions on whether it is appropriate to adopt a shallow or shallowish connection policy for distributed generation from April 2005.

2.12 There was general and widespread support for a move away from a deep connection charge policy for distributed generation and the alignment of generation and demand policies. However, one of the key messages from responses was the desire for predictable charges, and there were some concerns that a shallow or shallowish regime and the introduction of use of system charges for generation or entry would severely reduce the predictability of charging.

2.13 Many respondents were in full support of a shallowish connection boundary for voltages below the EHV level, commenting that they would like to see a simplified boundary proposal.

2.14 There were mixed views on whether it would be appropriate to establish a shallow connection boundary at the EHV level. Concerns about this proposal originated in the main from a number of DNOs that felt that this would reduce flexibility and would only be suitable for new connectees.

2.15 Many respondents supported a shallowish connection boundary at all voltage levels with some contribution to local reinforcement by connectees as it would have the benefits of simplicity and consistency and allow for the retention of locational signals in the connection charge.

2.16 There was little support for the introduction of a shallow boundary for connectees at all levels. Some DNOs commented that this would increase the exposure to risk of DNOs and increase DNO capital requirement.

2.17 A common message from respondents was that it is now timely to provide a robust definition of the boundary and the various components of connection charges. One DNO suggested that it would be helpful to produce worked examples so as to make clear what is meant by each of the boundary options.

2.18 Some respondents stated the view that further consideration should be given to the impact of changes to the regime on demand customers.

2.19 Another issue that was raised in many responses was that of the most appropriate reinforcement contribution rule. Whilst some respondents felt that the existing 25 per cent demand rule should be applied to generation, the majority of the respondents supported the connectee being charged for the

proportion it uses of the additional or marginal increase in capacity. One respondent commented that this option would provide DNOs with the incentive to install more efficient capacity at this level. This respondent also felt that this would ensure that connectees are paying charges which reflect the costs of the increasing capacity needed on the network.

2.20 Some respondents were supportive of connectees being charged for the proportion they use of the total capacity. One respondent said that connectees should not have to pay disproportionately for the reinforcement that they do not benefit from.

2.21 Views were requested on how effective capacity might be defined with regards to fault level. Most views on this matter were positive and the respondents supported the development of a fault level contribution rule in line with the 25 per cent rule. Two DNOs commented that cost-reflectivity would lead to generators picking up the costs of fault level associated reinforcement.

2.22 Two respondents opposed a fault level contribution rule because they thought it was unfair for anybody other than the generator to face such costs. One of these respondents was also concerned about the fact that such a rule would not be beneficial for customers. They felt that it was unfair for customers to bear a share of costs imposed by a small minority.

Generator entry/exit use of system tariff

2.23 A number of respondents remarked that the document had not covered the issue of generator and/or entry/exit use of system tariffs in detail.

2.24 There was general recognition that the introduction of a shallower connection policy for distributed generators would require the introduction of some form of use of system tariffs for generators. Some generators said that these tariffs should be levied on all electricity entering distribution networks so as not to discriminate against distributed generators.

2.25 A number of respondents said that it would not be possible to introduce locationally varying use of system tariffs for HV and LV connections, and that a simple charging model should be introduced as part of a shallowish regime, allowing locational signals to be retained in the connection charge.

Detailed charging issues

2.26 Views were invited on a number of detailed charging issues highlighted in the June document. These included power factor charges, the proposed removal of capitalised O&M and TSA, EHV connections and the treatment of existing generators.

2.27 On the subject of power factor charges, all responses that mentioned this issue were supportive of the charges, stating the view that this will encourage individuals to purchase power factor correcting equipment if it is efficient for them to do so. Respondents did, however, comment that this only applies to the Half Hourly market. One DNO expressed its concern about whether or not suppliers would pass on these charges to customers. The DNO was, however, in favour of income from power factor charges being treated as excluded service revenue.

2.28 Many respondents stated that they would not support bringing EHV charges into the price control. The reasons given included volatility, cost disturbance implications for customers and uncertainty as to whether users will benefit from such a change.

2.29 Two respondents were in favour of including EHV charges in the price control. One DNO stated that this would allow EHV charges to be set on a consistent basis with other charges and would not create unnecessary risk to distributors' incomes.

2.30 On the issue of capitalised O&M and TSA in the determination of connection charges, several respondents were in support of the removal of TSA and O&M as they felt they caused unpredictability. One respondent was sympathetic to the proposal to remove TSA as long as this issue is dealt with through the price control review.

2.31 A number of respondents favoured keeping TSA charges. One reason given was that it would keep connection charges, and therefore costs, down. In addition, respondents stated that removing such charges would weaken locational signals, distort the balance of charges and be detrimental to competition.

2.32 Comments were invited on arrangements for those generators already connected. In general, there was concern over the treatment of existing generators because respondents felt that it was unfair that existing generators should have to pay twice for their connection.

2.33 Some respondents highlighted the fact that existing generators have connected under a deep regime, and therefore should be given a period of relief or a rebate. Many DNO respondents suggested solutions to this proposal. These included suspending use of system charges for existing generators up to the year 2010 or for a minimum of 15 years after connection or until a material change in the connection capability is requested.

Implementation

2.34 Respondents expressed concern over the timescale for the project and felt that meeting the target of April 2005 would be a challenge.

2.35 There was overall support for the creation of the Implementation Steering Group (ISG). Many respondents suggested forming sub-groups to enable detailed discussion of the many issues. There was support for the publication of meeting notes on the Ofgem website.

2.36 A number of respondents welcomed Ofgem's comments that it intended to consult on the issue of distribution governance and on the possible formation of a distribution users commercial forum.

Draft regulatory impact assessment

2.37 Respondents welcomed the RIA. Although there were no major negative views towards the RIA, some respondents were concerned that greater work and clarity on the proposals was needed before they could fully support it. Some respondents expressed the view that until arrangements were finalised, it would be difficult to estimate the costs. One respondent said that more costing information is required if informed decisions are to be made on the issues set out in the document.

2.38 One DNO was keen for there to be greater transparency in the calculations, as this would be a benefit in the RIA. Another DNO highlighted the fact that there

was no attempt by Ofgem to quantify the level of charges and that all generators would face use of system charges which were additional and unforeseen costs.

2.39 The views on environmental issues were in support of the aims to reduce damaging emissions and to improve energy efficiency. The respondents recognised Ofgem's commitment to achieving a low carbon economy at the lowest possible cost to consumers.