

**Electricity distribution price control review  
– metering issues**

**Initial consultation**

**July 2003**

## Summary

This document discusses the options for the price control treatment of the metering activities of the electricity distribution network operators (DNO) as part of the implementation of a new distribution price control with effect from 1 April 2005.

The document explains that Ofgem has a principal objective to protect the interests of electricity consumers, wherever appropriate by promoting effective competition. Consequently, Ofgem considers that the future price regulation of metering needs to facilitate the development of competition while providing protection to consumers until competition is sufficiently developed. Ofgem must also have regard to its social and environmental duties and to the duty to secure that efficient licensed companies are able to finance their activities. Ofgem will also seek to ensure that the price controls do not impose undue barriers to technological innovation in metering.

Currently metering is covered as part of an overall revenue control covering services provided by the distribution businesses. The first question to be addressed is whether metering should be covered by a separate price control or be included as part of the main distribution price control. Ofgem has stated previously that it expected to introduce a separate metering control as part of this distribution price control review. This should prevent companies from cross-subsidising their metering activities from their monopoly distribution businesses. If such cross-subsidy took place it could restrict or distort competition in metering. Having a separate control also facilitates the divestment by DNOs of their metering businesses should they wish to do so.

In order to introduce a completely separate metering price control, it would be necessary to split the regulatory asset value between metering assets and other distribution assets. There are several methods for calculating the respective values of these two components. Overall Ofgem's preferred approach is to value the metering assets on a depreciated replacement cost basis for the purpose of splitting them out of the distribution control. This would ensure that the regulated prices were, at least initially, close to market rates and minimise any incentive for premature replacement of assets while allowing the DNOs to recover their original investment in the assets.

The document then discusses the options for the structure of metering price controls addressing the questions of scope, form and duration of possible controls. These options need to be considered in the light of Ofgem's statutory duties.

In relation to scope, Ofgem is considering a range of options ranging from price controlling all non-half hourly meters to price controlling only a subset of these meters (perhaps for instance only domestic metering).

In relation to form, Ofgem is considering revenue caps or price caps. The decision on whether to use *ex-post* regulation, as an alternative to price controls, will critically depend on the level and efficacy of competition in the market for metering services. Ofgem may consider different forms of control for different metering activities if the development of competition in these areas differs. For instance Ofgem may wish to impose price regulation only on the provision of “old” metering technologies and allow companies to offer metering innovations on a commercial basis.

In relation to duration, Ofgem is minded to set a control that would run for up to five years in tandem with the distribution price control but would be disappplied, perhaps progressively, when competition in metering markets is developed to the extent that it is effective in meeting Ofgem’s objectives. Ofgem proposes to achieve this by launching a review of competition in metering when certain key indicators are met.

Ofgem welcomes views on the issues raised in this document. Responses are requested by 22 August.

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# 1. Introduction and summary

- 1.1. The next electricity distribution price control will commence on 1 April 2005. Work has begun on reviewing the existing price controls with the publication of an initial consultation document (“the July distribution price control document”)<sup>1</sup>.
- 1.2. This document is the initial consultation document on a separate electricity metering price control. The overall purpose of this document is to consult on the best approach to regulating the prices charged for electricity metering. It should be read together with Ofgem’s July distribution price control document.

## ***Summary impact assessment***

- 1.3. Price controls for metering will be covered by the overall Regulatory Impact Assessment (RIA) for the distribution price control review project. The present version of this RIA can be found in Appendix 1 of the July distribution price control document. Ofgem does not consider it necessary to carry out a separate RIA for the metering aspects of the price control.
- 1.4. As explained later in this document, Ofgem’s view is that a separate price control for metering is appropriate going forward. The alternative would be retaining metering within the distribution price control. A separate control would provide benefits in terms of facilitating competition in metering by preventing cross-subsidy and making it easier for companies wishing to divest their metering business. The only significant costs associated with this approach would be if it were to lead to premature replacement of viable metering assets. However, Ofgem’s view is that the proposed approach to the valuation of the assets and the balance between meter provision and meter installation costs will make this unlikely.
- 1.5. The document also sets out options for the form and scope of the control, including the question of whether there are parts of the metering market where competition is sufficiently effective that price controls would no longer be

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<sup>1</sup> “Electricity Distribution Price Control Review - Initial consultation”, Ofgem, July 2003

appropriate. In making its decision on these issues Ofgem will consider the benefits and costs of the different options, and decide on the basis of its statutory duty which is the preferred approach.

## ***Structure of the document***

- 1.6. Chapter 2 provides the background to the project to produce a metering price control. It provides an update on the latest developments in the electricity metering market.
- 1.7. Chapter 3 seeks to establish criteria against which to assess the different options for the electricity metering price control. Ofgem is seeking views on the relative importance of these criteria in setting metering price controls.
- 1.8. Chapter 4 outlines the reasons why Ofgem intends to introduce a separate price control for metering.
- 1.9. Chapter 5 provides a discussion of the major proposals under consideration with regard to the valuation of metering assets for the purposes of creating a separate price control.
- 1.10. Chapter 6 describes different aspects of price controls. We are seeking industry feedback on the scope, form and duration of a price control.
- 1.11. Chapter 7 sets out the next steps that will be taken in this process.

## ***Views welcome***

- 1.12. Ofgem would welcome views on the issues raised in this document. If you wish to comment in writing on any of the issues raised then please write to:

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- 1.13. Responses should be submitted to Ofgem by 22 August. Responses will normally be published on the Ofgem website and held electronically in the

Research and Information Centre unless there are good reasons why they must remain confidential. It would be helpful if consultees could consign any confidential material in appendices to their responses.

## ***Contacts***

- 1.14. If you have any questions about the issues raised in the document, then please contact David Howdon (020 7901 7420, [david.howdon@ofgem.gov.uk](mailto:david.howdon@ofgem.gov.uk)) or Mark Allen (020 7901 7005, [mark.allen@ofgem.gov.uk](mailto:mark.allen@ofgem.gov.uk)).



## 2. Background

- 2.1. This chapter sets out the legal and commercial environment in metering that provides the context for Ofgem's view that having a separate metering price control is justified going forward.
- 2.2. For the purposes of this document the term "metering" or "metering services" refers to those activities which are covered by Standard Licence Condition 36B(1)(a)-(b) of the Electricity Distribution Licence. These services are
- "the provision ..., installation, commissioning, testing, repair, maintenance, removal and replacement of metering equipment".
- Meter reading obligations sit with the suppliers and are not subject to price control.

### ***Ofgem's statutory objective***

- 2.3. Ofgem has a principal statutory objective to protect the interests of consumers (present and future), wherever appropriate by promoting effective competition. Ofgem has judged that metering services are activities where consumers' interests can best be protected through the promotion of effective competition. Therefore, over several years, Ofgem has sought to facilitate competition in electricity metering services.

### ***Ofgem's Metering Strategy***

- 2.4. Ofgem's metering strategy<sup>2</sup> sets out the steps Ofgem is taking to facilitate the development of effective competition in metering services. The electricity industry has recently been engaged in the Review of Electricity Metering Arrangements<sup>3</sup> (REMA) process which is designed to ensure that industry processes are sufficiently robust to support suppliers taking advantage of their rights to make metering arrangements with companies other than the host DNO. The REMA processes went live on 29 May 2003.

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<sup>2</sup> "Ofgem's strategy for metering - Report on progress and next steps", Ofgem, May 2002

<sup>3</sup> Further information on REMA can be found on Ofgem's website.

- 2.5. In October 2000 Ofgem published its conclusions<sup>4</sup> in relation to proposals by two of the then Public Electricity Suppliers (PESs)<sup>5</sup> who were considering selling their metering businesses. In its decision document Ofgem stated that in order for such divestment to take place the metering business would have to be separated from the main price control. Ofgem therefore concluded that a separate metering price control would be warranted for all companies in order to facilitate future divestments and said that this would be put in place as part of the 2005 price control review.
- 2.6. DNOs are required, by licence, to separate charges for the provision of meter assets (MAP) and the maintenance of meters (MOp<sup>6</sup>). This is reflected in the separate charges outlined in their charging statements commencing 1 April 2003.

### ***Gas metering price control arrangements***

- 2.7. Gas metering provided by Transco (the former monopoly provider of gas metering services) is covered by a separate price control from gas transportation. A separate revenue cap for gas metering was introduced with effect from 26 January 2001.
- 2.8. A new metering price control regime for gas metering, replacing the revenue caps, was introduced with effect from 1 April 2002 based on price caps for certain metering services and an associated non-discrimination obligation in relation to the provision of gas metering services.

### ***Present treatment of electricity metering in distribution price controls***

- 2.9. Presently there is no separate metering price control in electricity. The provision, installation and maintenance of non half hourly meters are covered,

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<sup>4</sup> "Sales of Metering Businesses of Public Electricity Suppliers: Decision Document", Ofgem, October 2000

<sup>5</sup> The two companies were TXU Europe (the PES in the Eastern region) and Powergen Energy (the PES in the East Midlands region).

<sup>6</sup> The term MOp is used for consistency with the use of that term in the Master Registration Agreement to cover meter maintenance activities. Previously the term MAM was used for meter maintenance.

along with the rest of the regulated distribution business, in the distribution price control.

- 2.10. In order to protect the interests of customers, the regulatory framework for the distribution of electricity has been designed to provide incentives on distribution businesses to increase efficiency and to deliver an appropriate quality of service and the other requirements that are placed on DNOs. Many of the services provided by a distribution business inherently cannot be made subject to competition; hence Ofgem has put in place price controls to constrain the overall level of distribution charges. These arrangements provide incentives for each distribution business to improve efficiency in the operating, capital and financing costs of its activities. Ofgem has also set incentives on quality of supply and losses.
- 2.11. The price controls are based on a revenue cap and were set to run for five years from 1 April 2000 to 31 March 2005. Paragraphs 2.16 - 2.19 of the July distribution price control document sets out how current distribution price controls are set.
- 2.12. In addition, domestic prepayment meters are presently subject to a relative price cap limiting the extra charges for prepayment meters that can be made by DNOs to suppliers over and above the charges that are made for an equivalent domestic credit meter.

## 3. Policy considerations for evaluating metering price controls

- 3.1. As noted above, Ofgem's principal statutory objective is to protect the interests of consumers, wherever appropriate by promoting effective competition. This chapter considers the specific issues that the design of any metering price control would need to address in line with Ofgem's statutory duties. Ofgem also welcomes views on whether there are other issues to which it should have regard in designing metering price controls.

### ***Promote competition in the provision of metering services***

- 3.2. As discussed above, Ofgem considers that effective competition in the provision of electricity metering services will benefit consumers. It is therefore important to consider the effects of any metering price control on the development of competition in the provision of metering services.
- 3.3. Competition between providers of metering services can be expected to deliver increased value for money, improved standards of service, and greater choice. Competition in metering should enable electricity suppliers to offer differentiated services and supply contracts to customers. Effective competition will also protect against potential abuse of market power by providers of metering services.

### ***Allow licence holders to finance their activities***

- 3.4. Section 3A(2) of the Electricity Act 1989 requires the Authority, in carrying out its functions, to have regard to the ability of licence holders to finance their licensed activities.
- 3.5. Ensuring that efficient licence holders are able to finance their activities is perhaps more important when it comes to determining the level of any price control than when considering its structure. However it is relevant when considering the issues relating to asset valuation that are discussed in Chapter 5.

## ***Consideration of the interests of specified customer groups***

- 3.6. Section 3A(3) of the Electricity Act requires that the Authority have regard to the interests of a range of specified categories of individuals. They are as follows:
- ◆ individuals who are disabled or chronically sick;
  - ◆ individuals of pensionable age;
  - ◆ individuals with low incomes; and
  - ◆ individuals residing in rural areas.
- 3.7. For instance in considering the cost of metering Ofgem will look explicitly at the costs of prepayment metering which is often used by suppliers to recover debt from end customers.

## ***Promote efficiency and economy***

- 3.8. Ofgem has a further statutory duty to promote efficiency and economy on the part of DNOs<sup>7</sup>. In the absence of effective competition, price controls should therefore be designed to create incentives for increased efficiency.

## ***Reduce the cost of metering to consumers***

- 3.9. In Ofgem's view an important part of protecting the interests of consumers is reducing the cost of metering that they must pay for a given type of meter and standard of service. It is important to make the distinction between the actual cost of metering and the metering charges currently levied by the DNOs (see Table 1 in Chapter 4 below). In so far as the current charges are not cost reflective they could increase as a result of the separation of the controls, although the total charges for distribution and metering should remain unchanged for the average customer. This could also lead to some limited redistributive effects for example between customers with multiple meters and others.

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<sup>7</sup> Electricity Act 1989 s3A(5)(a)

- 3.10. As discussed in Chapter 4 a separate metering price control would help ensure that, in the long term, metering costs are recovered through metering charges. DNOs' metering charges are paid by electricity suppliers, and suppliers in turn set their prices to customers. In a competitive supply market<sup>8</sup> reductions in the cost of metering to suppliers provide more opportunities for suppliers to offer lower prices in order to win customers' contracts (or enable them to offer enhanced service at the same price). Reducing charges to suppliers has two elements: controlling costs and controlling market power.

### ***Controlling cost***

- 3.11. A price control should give the DNOs an incentive to reduce the costs of their metering activities. This is because having a fixed revenue or price gives DNOs an incentive to reduce their costs in order to maximise their profits. A well-designed price control will mean that suppliers, and (in a competitive supply market) customers, face charges that reflect expected efficiency gains.
- 3.12. Charges levied by DNOs should reflect the efficient level of costs associated with that activity.

### ***Controlling market power***

- 3.13. A price control should help to limit the ability of DNOs to exploit, to the detriment of consumers, any market power they have in the metering market.
- 3.14. This is in line with Ofgem's principal objective to protect the interests of consumers. Price controls limit the ability of the monopoly provider to charge above the regulated prices. Therefore this is more of an issue in setting the level of the price control than in considering its structure, although some forms of control may better facilitate competition than others.

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<sup>8</sup> Ofgem most recently discussed competition in supply markets in "Domestic gas and electricity supply competition - Recent developments", Ofgem, June 2003

## ***Facilitating the development of new technology***

- 3.15. Technological innovation can bring benefits to consumers in the form of higher quality and reliability of services. The design of a metering price control should have regard to the development and implementation of innovative metering technologies. Ofgem is aware of three categories of technological innovation that may benefit consumers, and these are discussed briefly below. However it is not the function of Ofgem to pick winning technologies. Therefore the intention in designing any metering price control would be to ensure it did not create undue barriers to the development of beneficial innovations.

### ***Automatic meter reading (AMR)***

- 3.16. A frequently discussed form of advanced metering is systems that allow automatic meter reading, which would reduce the need for estimated bills and the need for suppliers to visit customer properties to read meters. This could lead to more accurate and frequent data for consumers, and avoid some of the costs of a meter reading service provided by suppliers. Although meter reading is provided by suppliers some AMR systems will require changes to the installed metering technologies.
- 3.17. This and other AMR facilities may also allow customers to be given more accurate information on their consumption patterns and help them in reducing their electricity usage. These facilities may also facilitate a greater choice in tariffs and payment options for customers.

### ***Metering of distributed generation***

- 3.18. Government targets mean that there is likely to be a significant increase in the amount of distributed generation over the next decade.
- 3.19. In order for distributed generation plant to be connected to the network it is important that they are metered so that the output can be measured and traded. Introduction of new metering for distributed generation will require process innovation and may require, or present opportunities for, product innovation.

## ***Advances in Prepayment Meter Technology***

- 3.20. Further types of technology that may be beneficial are those technological developments that relate to prepayment meters (PPMs). Consumers with PPMs may benefit by the development of technologies that work more effectively, or have lower costs, than those presently in use.



## 4. Metering controls

- 4.1. This section explains the reasons for Ofgem's view that separate electricity metering price controls are warranted. The section also discusses an alternative approach proposed by the DNOs and Ofgem's views on that approach.

### ***Requirement for a control***

- 4.2. In deciding which particular metering services should be subject to price control, Ofgem will evaluate competition in metering services. At this stage, however, Ofgem expects that some form of price control for metering will be necessary to protect consumers until sufficient competition exists in the market. This could be as part of another price control, such as a distribution price control (as presently) or a separate control.
- 4.3. Given the likely pace of change in the metering market, the price control designed would need to be flexible to the loss of market share in the provision of particular metering services by the DNOs.

### ***Desirability of a separate control***

- 4.4. Whilst metering is in the process of being opened to competition, this is not a realistic option for the activity of distributing electricity which is a natural monopoly. Combined with the significant differences in the financial size of these markets, there is substantial scope for companies to cross-subsidise their competitive metering businesses from their monopoly distribution businesses, and thereby restrict or prevent the development of effective metering competition.
- 4.5. In a competitive market the prices for metering would be determined by the supply and demand for metering. At present with an integrated distribution and metering control, metering charges are set by the companies with little to ensure that those prices are not cross-subsidised from distribution activities. Table 1 illustrates the wide variation in prices offered by DNOs for the provision of metering. A well designed price control on metering would help ensure that metering charges were cost reflective.

**Table 1 - DNO metering charges**

This table outlines the indicative annual charges (as at October 2002) for the provision of meters by DNOs. The numbers exclude the cost of installation and maintenance of the meter. Due to the wide variety of I&C metering types I&C metering charges have been excluded from this table to aid clarity.

DNO	£ per annum	Single Phase Single Rate Domestic	Single Phase Two Rate Domestic E7	Single Phase Single Rate Domestic PP	Single Phase Two Rate Domestics PP E7			
		Credit	Credit	PrePayment	PrePayment			
1	£	3.06	£	8.37	£	3.06	£	8.37
2	£	2.56	£	9.49	£	2.56	£	9.49
3	£	2.56	£	9.49	£	2.56	£	9.49
4	£	1.97	£	5.22	£	8.47	£	8.47
5	£	1.83	£	4.72	£	10.36	£	13.21
6	£	1.61	£	5.44	£	9.53	£	10.73
7	£	1.61	£	5.44	£	7.74	£	7.96
8	£	1.57	£	5.26	£	12.81	£	16.50
9	£	1.49	£	5.14	£	10.73	£	14.38
10	£	1.42	£	6.53	£	11.21	£	12.85
11	£	1.35	£	3.50	£	7.34	£	7.41
12	£	1.31	£	5.66	£	9.31	£	13.65
13	£	1.28	£	2.71	£	11.71	£	13.14
14	£	1.00	£	2.41	£	9.67	£	10.92

- 4.6. Separate price controls also give a signal about prices in the developing metering market to potential new entrants and the users of metering services. Separate price controls can also be removed when sufficiently robust competition has developed without the need for another price control review.
- 4.7. Separate metering price controls would also facilitate DNOs selling their metering business and metering assets if they wished to do so as discussed in Ofgem's previous consultation paper on the sale of metering businesses by PESs (see paragraph 2.5).

### ***Distribution network operators' proposal***

- 4.8. Ofgem has received representations from the Electricity Association Distribution Metering Group that separation of price controls is not necessary, on the basis that a combination of an integrated price control for existing metering assets (as at 31 March 2005) and distribution activities and no price controls for assets installed after 31 March 2005 would be sufficient to meet Ofgem's objectives.
- 4.9. Under this proposal Ofgem would publish a notice to the effect that all obligations on distributors to provide new meters would be lifted in April 2005.

Any new meters provided by the distributors after 2005 would be provided voluntarily at their own commercial risk and would not be subject to any regulatory control other than that provided under competition and consumer law.

- 4.10. The DNOs suggested this would mean that price control protection would only be needed in relation to distributors existing metering assets. The DNOs further stated that as these assets have been provided by distributors under licence obligations it should be considered appropriate that they are protected from stranding. They contended that the existing assets should be treated in the same ways as at present with meters in RAV and an allowance for metering depreciation being included in allowed revenue.
- 4.11. The DNOs claimed that having no meter asset term in the price control would allow them the freedom to charge for the metering assets at the prevailing market rate, which would alleviate the pressure on suppliers to replace meters prematurely and strand more assets.

### ***Ofgem's view***

- 4.12. In Ofgem's view the approach proposed by the DNOs would have the effect of protecting all existing metering assets from competition given the ability of the DNOs to cross-subsidise between metering and distribution as discussed above. While Ofgem does not wish to encourage premature replacement of assets, protecting all existing assets from competition until they are replaced at the end of their certification period<sup>9</sup>, regardless of whether anyone is willing to pay the cost of replacing them earlier, runs against the objective of introducing competition into metering.
- 4.13. Under this proposition it would be the assets that have been most recently installed, and therefore are closest to replacement value, that would remain

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<sup>9</sup> Meters are required to be certified by the 1989 Electricity Act. Meter certifications last for a certain length of time, which varies with each meter type, after which time it must be removed and either disposed of or recertified. If the Measuring Instruments Directive (currently under consideration in the EU) is implemented the process of certification for new types of meters will not apply. Instead it is anticipated that manufacturers will provide an estimate of the product life of meters.

protected from competition the longest. This seems counter-intuitive as these are the assets which have the highest reuse value.

- 4.14. Even under the DNOs' proposal discussed here it could still be necessary to provide price protection for those supply points with "new" meters until competition in metering is judged to be effective. It is therefore unclear that the proposal to restrict competition to new metering assets would avoid any significant cost to Ofgem and the DNOs associated with the development of separate price controls.
- 4.15. Given the relative costs of new meters and of meter installation it is not clear that retention of an obligation as meter provider of last resort necessarily exposes DNOs to a significant risk of premature replacement unless there were substantial non-cost benefits of changing meters. Furthermore, using a depreciated replacement cost basis for splitting the Regulatory Asset Value (RAV) (see Chapter 5) would lead to metering charges that, at least initially, reflect market rates. It is not therefore a unique benefit of the DNOs proposal.
- 4.16. There is also the issue of the treatment of any DNOs who sell their metering assets<sup>10</sup>. Retaining the assets within the distribution price control for some DNOs and not others would create an unduly complex system and could limit the benefits to consumers from the introduction of competition in metering. In Ofgem's view it is not desirable to make *ad hoc* adjustments to create separate price controls when a sale is proposed, as set out in previous consultations.
- 4.17. Retaining the assets in the distribution revenue control may also delay the widespread introduction of competition, as it would reduce the ability of competing metering firms to grow quickly and acquire any economies of scale that may exist in the metering market.

## ***Conclusions***

- 4.18. For the reasons outlined above Ofgem does not support retaining metering assets in the distribution price control until they are due for replacement.

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<sup>10</sup> It has been drawn to Ofgem's attention that recently some DNOs have been in discussions about selling their metering assets in the near future.

Ofgem recognises the concerns about premature replacement which lie behind the DNOs' proposals, but believes that those concerns can be addressed to a large extent by the way in which those assets are valued (see Chapter 5).

- 4.19. In order to prevent cross-subsidy of metering, to facilitate competition in metering and avoid undue barriers to the sale of metering businesses, Ofgem is of the view that a separate price control for metering is warranted. **Ofgem welcomes views on this conclusion but will, in work carried out during the consultation on these issues, proceed on the assumption that separate price controls will be introduced.**

## 5. Valuation of metering assets

- 5.1. A distribution company's RAV presently includes both meter assets and assets that are used in distributing electricity. In order to introduce a separate metering price control, it will be necessary to split the RAV between metering and the other distribution assets. There are several methods of calculating the respective values of these two components and the choice of method may have significant implications for a DNO's risk and revenues, as well as for competition in metering.
- 5.2. The split of the RAV will, along with information on operating costs, determine how much the DNOs are able to charge for distribution and metering via use of system and metering charges respectively. One method of splitting the RAV is to value metering and distribution assets on a depreciated historical cost basis. However, the prices DNOs will be able to charge in future for metering services may be restricted by the presence of competition in the metering business and if this method was used DNOs might then be unable to recover all their past investments in metering assets through metering charges.
- 5.3. Alternatively, the metering RAV could be valued at a level to reflect the market prices of metering assets better, e.g. on a depreciated replacement cost basis. This would enable the DNOs to recover any initial difference between the historic value of the metering assets and the estimate of the price they can receive in a competitive market through use of system charges. This approach also helps ensure that the valuation of metering assets in the distribution price control does not unduly restrict the sale of metering assets or businesses to third parties.
- 5.4. As noted in chapter 4, a further alternative to address the issue of the difference between historical cost and market cost has been proposed by the DNOs. That is, Ofgem does not price control newly installed meters and that we retain an integrated price control for assets installed before 1 April 2005. As discussed above Ofgem does not consider this approach is desirable.

## ***Ofgem's view***

- 5.5. Ofgem's preferred approach would be to value the metering assets on a depreciated replacement cost basis for the purpose of splitting them out of the distribution control. This would ensure that, at the start of the control, regulated prices would reflect market prices and hence there should be less incentive for premature replacement of these assets – but without affording total protection going forward against competitive pressures. **Ofgem would welcome views on this proposal.**
- 5.6. Ofgem's view is that it would not be appropriate to use the approach to the valuation of Transco's assets as a precedent for the valuation of the DNO's metering assets. In the 2002 Transco Price Control Review, Transco's metering assets were valued on an adjusted depreciated historical cost basis to maintain consistency with an approach taken by the Monopolies and Mergers Commission in 1997<sup>11</sup> to Transco's assets in general. The same method for valuation has not been used in electricity distribution.

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<sup>11</sup> "A report under the Gas Act 1986 on the restriction of prices for gas transportation and storage services", MMC, May 1997.

## 6. Structure of price control

- 6.1. This chapter considers questions that need to be addressed in relation to the structure and nature of metering price controls. It briefly discusses the options in relation to the criteria set out in Chapter 3.
- 6.2. The design of a control is split into three elements, although there are interactions between the elements and they should not be considered entirely in isolation from one another:
- ◆ Scope – i.e. which activities should be covered by a price control;
  - ◆ Form – i.e. how should the control work; and
  - ◆ Duration – i.e. when should the control end and what criteria for its removal should be used.
- 6.3. Within each subsection is a conclusion that summarises the options Ofgem is considering for metering. **Ofgem would welcome views on these options and on whether there are other viable options available that have not been considered here.**

### *Scope*

- 6.4. The scope of a price control refers to the activities that are within the price control. In some circumstances it may be beneficial to have multiple controls with each one covering a different aspect of the activities within the scope of the price control – in other circumstances it may be better to have a single control covering a range of activities.
- 6.5. One benefit of a greater number of price controls is that it allows price controls to be lifted off different activities as they become sufficiently competitive. This may be of particular relevance in metering given that competition is developing in this market and may do so at different rates for different activities. There could also be arguments in relation to, for example, pre-payment meters for having a separate control given the particular issues associated with that type of meter as discussed at 6.22 –6.25 below and the use of these meters for debt management purposes.



- 6.6. However, having multiple controls may lead to more difficulty in estimating the costs associated with the activity covered by the price control. This is particularly true for those activities that share common costs. Therefore, a risk with narrowly focused controls would be that Ofgem would introduce distortions into pricing.
- 6.7. A larger number of more narrowly focused price controls is also likely to have additional costs associated with establishing and monitoring the price control.

### ***Meter and customer type***

**Table 2 - Possible scope of metering price controls**

			ACTIVITY	
			Meter Asset Provision (MAP)	Meter Operation (MOp)
Customer Type	Domestic Customers	Domestic Credit Meters	(a)	(b)
		Domestic Prepayment meters	(c)	(d)
	Industrial and Commercial Customers	Non Half Hourly I&C meters	(e)	(f)
		Half Hourly I&C meters	(g)	(h)

6.8. Table 2 illustrates different metering activities. Possible subsets of activities that could be subject to controls are:

- ◆ All metering services (a) – (h);
- ◆ All non-half hourly metering (a) – (f);
- ◆ Industrial and commercial NHH metering only (e) – (f);
- ◆ Domestic metering only (a) – (d); and
- ◆ Domestic pre-payment meters only (c) – (d)

These options are considered in turn below.

## **All Metering Services**

- 6.9. This option for price controls would cover all metering activities regardless of the nature of the customer and type of meter. In Table 2 it would involve price controlling all the activities represented by the letters (a) - (h).
- 6.10. One issue with having broad a scope is that it would involve price controlling half hourly (HH) metering<sup>12</sup>. HH metering is not currently subject to price control. Ofgem has not been made aware of any major concerns arising in this segment of the market. HH metering is only required on sites with a significant consumption of electricity and HH customers have much greater scope to protect their own interests.
- 6.11. Therefore Ofgem sees no benefit in extending the scope of a metering price control beyond those activities currently controlled by the distribution price control and is not proposing to do so.

## **All Non-half hourly metering**

- 6.12. Excluding half-hourly metering would mean dividing the metering market into non-half-hourly and half-hourly meters and imposing price controls on non-half hourly metering only. In terms of Table 2 this would mean activities (a)-(f) would be controlled.
- 6.13. This would have the effect of protecting domestic consumers and those industrial and commercial consumers that do not fall into the HH meter category. This approach would maintain price controls for those activities currently covered by some form of price regulation.
- 6.14. In most cases customers with non-half hourly (NHH) meters are less likely to be engaging directly in the metering market; instead their suppliers will be making the arrangements.
- 6.15. However there are some customers that have NHH meters who already are providing their own metering arrangements to their satisfaction. Therefore this

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<sup>12</sup> Sites where HH metering is required are set out in the Balancing and Settlement Code Section L 2.2

approach may impose a price control on some aspects of the market that are sufficiently competitive to protect the consumer.

### **Industrial and commercial NHH metering only**

- 6.16. Under this option the NHH metering market would be divided up into Industrial and Commercial (I&C) and domestic activities and there would be a price control covering only I&C metering activities i.e. activities (e) – (f) in Table 2.
- 6.17. Ofgem does not presently consider that there is a realistic set of circumstances in which it would prove necessary to impose price controls on I&C metering and not to do the same for domestic metering.

### **Domestic metering only**

- 6.18. Under this option only metering activities associated with domestic customers would be price controlled. In terms of Table 2 this means that activities (a) – (d) would be price controlled. This approach is based on an argument that I&C customers are better able to control their metering arrangements to their own benefit than can a domestic customer<sup>13</sup> and the level of development of competition in I&C metering.
- 6.19. One way to make this division would be based on meter capacity, treating single phase meters as domestic. This is commonly used to differentiate the two for statistical purposes.
- 6.20. An alternative approach would be to use the information DNOs have registered on whether customers are either domestic or non-domestic. A division based on this would result in small I&C customers being treated the same as large I&C customers.
- 6.21. In Ofgem's view the metering requirements of small I&C customers (i.e. those who do not have significant electricity consumption) are likely to be similar to those of domestic customers and consequently could be combined. However

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<sup>13</sup> Examples of I&C customers that have made their own metering arrangements can be found in Ofgem's metering factsheet published in April 2003.

electricity suppliers face a variety of special obligations in relation to supply to domestic customers and therefore may require different metering services for those customers from DNOs. This may mean that a distinction based strictly on customer type, rather than meter type, is preferable. **Ofgem would welcome views on whether, if a distinction between domestic and I&C customers were to be used for price control purposes, a “meter mechanism” or “customer type” definition should be used.**

### **Domestic prepayment meters only**

- 6.22. There are approximately 4 million electricity prepayment customers in Great Britain. The domestic market could be further sub-divided into those metering activities associated with prepayment and credit meters. This option would mean that only the metering activities associated with PPMs would be price controlled. In Table 2 this would mean that activities (c) – (d) would be subject to a price control.
- 6.23. The use of PPMs also requires the provision of additional infrastructure (e.g. for directing payments to the relevant supplier) that is not required for credit meters. This could have an impact on the timing of competition in this segment of the market which may distinguish it from domestic credit meters.
- 6.24. One problem in establishing a meaningful price control for PPMs is that the DNOs are unlikely to have divided certain costs between credit meters and PPMs. Dividing costs between these types of meters will rely on assumptions being made about the appropriate basis for allocation which will then affect the level of the price control.
- 6.25. Ofgem considers that it is unlikely that the market will develop in such a way that by April 2005 prepayment metering would be controlled when domestic metering would not. It is therefore unlikely that Ofgem would price control only prepayment metering whilst not controlling other domestic metering.

### ***Activity***

- 6.26. In addition to a division based on meter (or customer) type there could be a division based on the type of activity, i.e. provision and maintenance.

- 6.27. Standard Condition 36B of the electricity distribution licence requires DNOs to produce separate charges for Meter Asset Provision (MAP) and meter maintenance (MOp). These charges are outlined in the DNOs' charging statements that came into operation on 1 April 2003.
- 6.28. Metering services could be divided into meter asset provision and meter operation. Ofgem could consider only imposing price controls on the MAP activity, or only on the MOp activity.
- 6.29. The barriers to entry are higher in MAP than they are in MOp due to the fact that the DNOs have these assets already in place and they are not due for replacement for some time. It can be expected, although not guaranteed, that competition will occur in MOp before MAP. To date one supplier has agreed contracts for metering services with a company other than the in-area DNOs. That supplier is intending to unbundle all MOp services from the DNOs, but is only changing the meter provider (i.e. unbundling MAP) when meter assets are due for replacement.

### ***Basic technology***

- 6.30. Another approach would be to price control only activities associated with current metering technologies. This approach would allow the distributors to invest in alternative new metering technologies and make returns on that investment if they are able to sell the new technology to suppliers and customers.
- 6.31. This approach would require Ofgem to define the functionality of a "basic" meter, and by implication define an "advanced" meter. This approach would not involve "picking a winner" amongst competing technologies but would still involve a degree of regulatory involvement in innovation.
- 6.32. It is Ofgem's intention that a price control would only cover the provision of a "basic" service. Where a supplier (or customer) is seeking an advanced or superior service the price for this service would be set by the supplier and the metering provider through contract.

## ***Conclusions***

- 6.33. Ofgem is actively considering the options of price controlling the following subsets of metering: NHH metering or domestic metering (defined either by customer type or meter mechanism). Ofgem is considering controlling MAP, MOp or both activities. The critical factor in deciding between the options will be the extent to which competition in metering services provides protection for the interests of consumers in relation to those services. Ofgem is currently minded to only price control the provision of “basic” meters. **Ofgem welcomes views on these options and the choice between them.**

## ***Form***

- 6.34. There are three basic forms that future price regulation could take, and one major alternative to price regulation, that is *ex post* regulation. This section outlines how each would function. It will also outline the major advantages and disadvantages of each price control model. It should be noted that the different forms are not necessarily mutually exclusive and different forms for different elements of metering activities as identified in Table 2 may be appropriate. **Ofgem would welcome views on which form of control is appropriate for metering, and whether different forms are appropriate for different activities.**

## ***Price controls***

- 6.35. Price controls can generally be expected to give a degree of certainty to the DNOs as they allow them to control their activities subject to a restriction on the prices that they can charge. This will facilitate the ability of the companies to finance their activities, subject to the level at which the control is set.
- 6.36. Price controls will also, by reducing or removing the ability of DNOs to exploit any market power they have, protect the interests of consumers and can help to lower the cost of metering that suppliers and hence customers face.

## **Revenue caps and price caps**

- 6.37. Revenue caps and price caps are methods by which the money that companies can charge for the services they provide are restricted, but with the companies

left free to choose how they operate their business within these restrictions. If a single service is defined (for instance a particular type of meter) for which there is only one price, an average revenue cap and a price cap are formally equivalent.

- 6.38. A price cap approach is currently used in gas metering and replaces the previous regime where Transco's metering prices were covered by an average revenue cap.
- 6.39. Revenue caps and price caps provide an incentive for DNOs to reduce costs. As the price or revenue they receive is fixed then the only way to increase profit is by reducing costs (or increasing volume if incremental units are profitable under a price cap or average revenue cap). Once the cost saving has been made it can be expected to be sustained for the duration of the price control.
- 6.40. One risk with revenue caps and price caps is that they can create incentives for the DNO to reduce the quality of service provided in order to reduce costs, even if the customers would, in the long run, be prepared to pay higher costs in order to receive a better quality service.
- 6.41. Since these restrictions limit the amount of money that companies can get they may also reduce the incentives for technological innovation. If due to a price or revenue cap restriction the DNO is unable to increase its charges, it would be reluctant to implement the new technology if it were more expensive. However a control which only binds on activities associated with "basic" technology (see above) would significantly mitigate this concern.

#### *Revenue Cap*

- 6.42. At its most basic a revenue cap is a limitation on either the total revenue that a business can raise from a particular activity or a restriction on the average revenue that a business can raise from a particular activity. In relation to metering Ofgem is likely to prefer an average revenue cap as that approach allows the variation in expected volumes, associated with loss of market share as compensation develops, to be accounted for in the revenues allowed.

- 6.43. Revenue controls frequently take the form of an RPI-X average revenue cap, in which the allowed average revenue is increased by a rate of inflation, less some efficiency factor every year.
- 6.44. The most significant aspect of a revenue control is that it allows the business to determine how it will arrange its activities within the revenue control. Thus a revenue cap would permit the DNO to determine its strategy in metering and set relative charges accordingly.
- 6.45. A revenue control does not necessarily ensure that expected cost reductions are allocated evenly across all activities that the control covers, and would not therefore automatically provide the additional scrutiny, protection and emphasis on cost reductions required by specific groups of customers (in the case of metering, for instance, customers with prepayment meters). This concern could be somewhat reduced by combining additional specific constraints on the prices of certain services (effectively price caps of some sort) with a broad revenue control.

#### *Price Cap*

- 6.46. A price cap is a limitation on the price that the DNO can charge for the provision of a particular service. One form of a price cap is an absolute price cap. Absolute price caps are created in such a way as to build in price reductions into the price of the service. This can be done in either real terms (RPI – X) or in nominal terms (Price – X). A price cap is best suited to a single activity such as the provision of a specific type of meter, since these have individual prices. However, it is possible that a particular activity be price capped and related activities be covered by a non-discrimination clause.
- 6.47. An alternative would be to have a relative price cap on certain activities. This would involve limiting the differential in charges between the prices for certain types of meters (for instance fixing the extra charges for prepayment meters over those for credit meters.)

#### **Cost pass-through**

- 6.48. A cost pass-through is where the DNO is allowed to recover all reasonable costs associated with metering from the supplier. An independent organisation,



such as Ofgem, would be responsible for determining what costs were reasonable.

- 6.49. A cost pass-through only controls business costs to the extent that the independent body puts a lot of effort into monitoring the reasonableness of costs. This means significant cost savings are unlikely to be delivered by DNOs, unless additional incentives are provided by another means such as competition or the expectation of competition.
- 6.50. A cost pass through mechanism with an efficiency review seems contrary to the underlying principles of a move to a competitive market. A move to a competitive market would involve reduced regulatory involvement in the metering activities of DNOs. However, the scrutiny of costs of the firms would involve the independent organisation making decisions on the reasonableness of business decisions on a case by case basis.
- 6.51. Such a mechanism would also fail to provide certainty for the industry. The system of review by Ofgem would, in many cases, have to be conducted after the costs had been incurred. This would introduce significant levels of uncertainty into the day-to-day activities of the DNO and put a significant work load on to Ofgem.
- 6.52. If the cost pass through were restricted to those costs associated with the provision and implementation of advanced metering technology then it could be expected to create a substantial incentive for the introduction of new technology. However allowing the pass through of costs would not create a strong incentive to control costs to suppliers and consumers. This may lead to the introduction of technology for its own sake rather than customer benefit.
- 6.53. Most importantly, a cost pass through does not encourage metering firms to pursue efficient outcomes when making business decisions.
- 6.54. So while a cost pass through is theoretically an alternative, given its substantial failure to meet the objectives of a price control, Ofgem does not intend to pursue this approach any further.

### ***Ex-Post regulation***

- 6.55. As discussed above, the scope of a future metering price control may not include all the activities currently covered by the metering aspects of the distribution price control. In so far as metering services are removed from the price control for distribution without being covered by a separate price control for metering Ofgem would be relying on *ex-post* regulation to control those prices. The principle behind this is that a competitive market would set prices and protect customers. The abuse of any remaining market power could be addressed using Ofgem's powers under competition and consumer law.
- 6.56. If there were an effectively competitive metering market this would achieve all the objectives that Ofgem has set for a price control. It would reduce costs, encourage innovation and improve customer service.
- 6.57. The existence of an explicit price control for particular activities may create an expectation by suppliers as purchasers of metering services that Ofgem will continue to "protect their interests" and this may therefore mean that they do not seek to engage in the metering market. This could lead to a slower development of competition in metering services.
- 6.58. However, Ofgem considers that if price controls were lifted before competition was in place then this could have a substantial detrimental affect on both suppliers and electricity customers, since there would be significant levels of market power that Ofgem would need to tackle through other means. Therefore, the key issue is whether the level of competition is such that the balance of risks and benefits favour an *ex-post* regulatory approach.
- 6.59. In the short term it may be entirely appropriate to have a price control for those aspects of metering where competition is insufficiently developed whilst relying on *ex-post* regulation to control the other activities.
- 6.60. In those areas where it is unclear whether competition is sufficiently developed it will be necessary to conduct a competition assessment. The point at which it would be appropriate to undertake a competition assessment is discussed in paragraphs 6.67-6.72.

## ***Conclusions***

- 6.61. In terms of the options for the form of any price control Ofgem is considering average revenue caps and price caps. Critical to the decision of whether *ex-post* regulation might be appropriate as an alternative for particular activities is the efficacy of competition in metering. **Ofgem welcomes views on these options and the decision between them. In particular Ofgem is seeking views on the level, and efficacy, of competition in the provision of metering services.**

## ***Duration***

- 6.62. This section discusses how long any metering price control should run, what factors influence its length and what should determine when a price control is no longer necessary.
- 6.63. The main factor that influences the length of a price control will be the level of competition in place, and in prospect over the short to medium term, in that particular activity. Subject to the form of the control being suitable it would be possible for different elements of the control to be lifted at different times. A range of alternative options are discussed below.

## ***Timeframe***

- 6.64. One approach is to set a fixed time period after which metering price controls would be lifted and DNOs would be free to set the price for those activities at any level.
- 6.65. Such an approach would give the industry certainty as to when the price control would be lifted, and would give suppliers a strong incentive to engage with the development of metering competition before that date, as suppliers that did not do so would remain with the DNOs and, unprotected by price regulation, would potentially face much higher costs. However this approach would be problematic if metering competition were insufficiently developed by the set date and price controls were removed before customers were sufficiently protected by market forces.
- 6.66. One option would be to set the metering price control to run for the same duration as the distribution price control. As noted in the July distribution price

control document the next distribution price control is intended to run for 5 years.

## ***Competition review***

### **Fixed date**

- 6.67. An alternative would be to set a date upon which a competition review would commence or conclude, and to remove the price control if the competition review demonstrated that competition in metering was sufficient to protect the interests of consumers. The decision on whether to remove a price control could then be made based on the outcome of the competition review. This has the advantage of letting the industry know when the competition review is to be conducted and that there exists the possibility of the price control being lifted.
- 6.68. When addressing similar issues in Transco's metering price control the decision was to set the metering price control for five years (the same length as the transportation control) with the possibility of a review during that period.

### **Criteria**

- 6.69. An alternative approach would be to establish simple criteria which when successfully met would operate as a signal to initiate a competition review. This approach is more flexible than a fixed date would be.
- 6.70. The test would need to be simple as it would be redundant if in determining whether to conduct a competition assessment Ofgem needed to carry out a significant amount of work assessing competition. Further, if the test were simple then all industry participants would be able to monitor progress and know when the test was satisfied.
- 6.71. Setting explicit criteria would also have the benefit of being completely transparent. All players in the industry would be aware what would trigger the commencement of a competition assessment.
- 6.72. Given that a competition review requires an allocation of resources by the regulator, DNOs and other interested parties there would be a delay between the criteria being satisfied and the start of the review. This would allow all interested parties to be contacted and informed the criteria had been met. It

would also allow decisions to be made with regards to the scope of the review and its timeframe. It would also be necessary to allow sufficient time for the appropriate resources to be allocated to the task by all interested parties.

## ***Conclusions***

- 6.73. Ofgem is currently considering setting a metering price control that will run for the same duration as the distribution price control introduced at the same time. However Ofgem will monitor competition in metering with a view to removing elements of metering price regulation earlier if competition for those elements becomes sufficiently developed. **Ofgem would welcome views on this approach and on the criteria that should be used to assess competition.**

## 7. Next steps

- 7.1. Responses to this consultation are requested by 22 August. This will allow Ofgem to develop its views on the future of metering competition and metering price regulation and to inform the development of the historical and forward looking businesses planning questionnaire (BPQ) to be issued in September 2003 as part of the wider Distribution Price Control forecast BPQ.
- 7.2. A detailed timetable for the distribution price control review project is provided in Chapter 8 of the July distribution price control document. Ofgem currently anticipates that further developments and conclusions on the metering issues discussed in this document will be included in the documents to be published in December 2003 and March 2004.