

## **Structure of electricity distribution charges**

### **Approval of Central Networks' charging methodologies: Decision document**

February 2005

## Summary

This document provides the Gas and Electricity Markets Authority's (the Authority) decision concerning approval of Central Networks' (CN) use of system (UoS) and connection charging methodologies. Distribution network operators (DNOs) are required by their licences to determine these and for them to be approved by the Authority by 1 April 2005.

The document sets out that the Authority approves the methodology statements subject to certain conditions which shall be completed by CN by 1 April 2005 unless otherwise indicated. The Authority:

1. Approves CN's UoS charging methodologies, in accordance with standard licence condition (SLC) 4(1a), subject to the following conditions:
  - ◆ Development and implementation of a new charging model by 1 April 2006.
  - ◆ Provision of a cost reflective policy for dealing with exceeding agreed capacities.
2. Approves CN's connection charging methodologies pursuant to SLC4B(1a).

Notice of the Authority's proposed decision was provided to CN on 16 December 2004. CN has had 28 days to make representations on issues pertaining to the charging methodologies where conditional approval was proposed. The Authority has considered CN's representations and this document constitutes the Authority's decision.

Where conditional approval has been granted the Authority will consider enforcement action where the condition of that approval is not met.

The following chapters provide further details on the nature and contents of these decisions along with the timing of relevant action.

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# 1. Introduction

- 1.1. This document sets out the Authority's decision concerning approval of CN's charging methodology statements following the modification to standard licence condition (SLC) 4 of the distribution network operators' (DNO) electricity distribution licence (the licence, as amended in July 2004<sup>1</sup>) and following consideration of responses to the October consultation<sup>2</sup> on this matter.
- 1.2. Notice of this decision was provided to CN on 16 December 2004, and 28 days allowed for CN to submit a representation. CN submitted a representation letter on 13 January 2005 and redrafted CN East statements on 31 January 2005. These representations have been considered by the Authority in accordance with SLC4(10) and 4B(20). This decision is based on the 31 January 2005 statements, and not earlier versions. CN has confirmed that the CN West statements have been amended in an identical manner to the redrafted CN East statements.
- 1.3. This constitutes formal publication of the Authority's decision and explains the basis of the decisions, setting out initial views, responses to the October consultation paper and the Authority's conclusion on each matter.
- 1.4. The licence requires the DNOs to determine Use of system (UoS) and connection charging methodologies for approval by the Authority by 1 April 2005. In addition, a statement of use of system charges is required which is subject to Authority approval of the form of the document.
- 1.5. Separate methodologies and charging statements are required for each licensed distribution area. CN submitted documents for the East (E) and West (W) areas in November 2004, and redrafted statements for CN E only on 31 January 2005. CN has confirmed that the CN W documents are identical to the 31 January CN E statements where the wording has been revised since November. This decision

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<sup>1</sup> See Section 11A notice, document reference 150/04 (6 July 2004), available on the Ofgem website at [www.ofgem.gov.uk](http://www.ofgem.gov.uk) under the Licensing (modifications) area of work. This sets out the modification of all distribution licences, to come into effect on 7 July 2004.

<sup>2</sup> "Structure of electricity distribution charges – Proposed DNO charging methodology statements: Consultation document" October 2004 235/04.

covers both licensed areas. References to CN cover both the East and West licensed areas.

### ***Purpose of this document***

- 1.6. The purpose of this document is to set out the Authority's decision on approval of CN's charging methodologies and charging statement. The Authority's conclusions are set out in chapters 4, 5 and 6.

### ***Structure of this document***

- 1.7. The structure of this document is as follows:

◆ Chapter 2

This chapter sets out the interim charging arrangements and implications for the approval of the methodologies.

◆ Chapter 3

This chapter sets out the approvals process, and includes the relevant objectives set out in the licence.

◆ Chapter 4

Chapter 4 details UoS issues that have been considered and outlines the Authority's reasoning for approval or non-approval.

◆ Chapter 5

Sets out connection charging issues that have been considered and outlines Ofgem's reasoning for approval or non-approval.

◆ Chapter 6

This chapter details that the form of the statements of UoS charges has been approved.

## 2. Interim arrangements

- 2.1. In November 2003 Ofgem proposed that the implementation of revised arrangements for the structure of electricity distribution charges be achieved in two stages. In making this decision Ofgem recognised the comments of interested parties that any attempt to introduce wholesale changes to charging arrangements from 1 April 2005 was extremely challenging.
- 2.2. From 1 April 2005 a new charging regime, 'interim arrangements', will be established predominantly addressing a common connection charging boundary for demand and generation, removing deep charging of generators, and introducing the requirement for DNOs to determine connection and use of system charging methodologies.
- 2.3. In parallel with this further consideration needs to be given to the most suitable longer term methodology. It is still Ofgem's view that the demand and generation regimes should be fully aligned with use of system charges established via charging models based on forward looking long run incremental costs (LRIC). Ofgem expects these models to be developed by DNOs in 2005, with consultation and the resolution of any outstanding issues by 2006. The longer term arrangements will be developed within the charging methodology framework introduced and effective from 1 April 2005.
- 2.4. In making the decisions on the methodologies effective from 1 April 2005 the Authority has recognised this two stage implementation and that some issues are not practicable to rectify by 1 April 2005. Therefore, the charging methodologies approved for 1 April 2005 form a baseline for the interim arrangements, from which the longer term arrangements will be developed during 2005.
- 2.5. In addition to the items that require further time to rectify, the DNOs are obliged to review their methodologies at least once a year for the purpose of ensuring that they continue to achieve the relevant objectives as although the methodologies may achieve the relevant objectives at day one, circumstances may change over time and it is important to continually assess that the charging arrangements are still appropriate. The DNO is also obliged to make modifications to their charging methodologies where improvements can be

identified. This document, in addition to the principles outlined above, identifies some areas where the DNO methodologies could be bettered. Ofgem is keen for the longer term arrangements to be progressed and expects DNOs to actively develop longer term charging arrangements over the coming year.

- 2.6. As detailed above the obligation to develop charging arrangements for the longer term is with the DNO but it is proposed that the Implementation Steering Group (ISG) continues as an industry discussion group to facilitate this process, along with Ofgem led wider consultations with the industry, academia and other interested parties as appropriate.

## 3. Approvals process

### *Licence conditions*

- 3.1. SLC 4 of the licence requires each DNO, by 1 April 2005, to determine and prepare charging methodologies and statements approved by the Authority that achieve the relevant licence objectives. In considering whether to approve the charging methodologies to take effect from 1 April 2005 the Authority has considered the relevant objectives and its wider statutory duties<sup>3</sup>.
- 3.2. These obligations, the relevant objectives, are contained within SLC4 and SLC4B of each DNO's electricity distribution licence as amended on 7 July 2004<sup>4</sup>:
- ◆ that compliance with the charging methodologies facilitates the discharge by the licensee of the obligations imposed upon it under the Electricity Act 1989 (the Act) and by its licence;
  - ◆ that compliance with the charging methodologies facilitates competition in the generation and supply of electricity, and does not restrict, distort or prevent competition in the transmission or distribution of electricity;
  - ◆ that compliance with the methodologies results in charges which reflect, as far as reasonably practicable (taking account of implementation costs), the costs incurred by the licensee in its distribution business; and
  - ◆ that so far as consistent with the above objectives, the methodologies, as far as reasonably practicable, will take account of developments in the licensee's distribution business.
- 3.3. The licence specifies that a reader of the methodology should be able to make a reasonable estimate of charges (SLC4A, para 1 and SLC4B, para 4(b)) using the methodology and charging statement.

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<sup>3</sup> Statutory duties are wider than the matters considered by the relevant objectives and include amongst other things having regard to social and environmental guidance provided to Ofgem by the government.

<sup>4</sup> As set out in document reference 150/04, available on the Ofgem website at [www.ofgem.gov.uk](http://www.ofgem.gov.uk).

## ***Consultation process***

- 3.4. Ofgem ran a month long consultation on the draft charging methodologies submitted by DNOs on 30 September in its October 2004 consultation document. Prior to this, initial draft methodologies were consulted on for a month following in July 2004 in an open letter which anonymously set out the DNOs' first draft proposed statements and requested comments on issues raised therein.
- 3.5. Prior to these two consultations focussing on the new DNO methodologies, consultations progressing ideas regarding charging structures were published between December 2000 and April 2004.
- 3.6. The October document invited views on the matters raised in this consultation document and asked for comments on whether the DNOs' draft methodology statements achieve the relevant licence objectives.
- 3.7. Views were invited on the detail of the methodologies, specifically:
- ◆ areas where the methodologies may not achieve the relevant objectives;
  - ◆ whether enough information has been provided to enable users to make a reasonable estimate of charges that they may become liable for; and
  - ◆ areas where the methodology statements could be improved.
- 3.8. Twenty responses were received to the October document<sup>5</sup>. Respondent's views on specific policy areas are included in sections 4, 5 and 6 as appropriate.
- 3.9. Ofgem consulted separately on the transition of EHV demand charges in December 2004 to ensure that industry views were captured on the issue where the method used to calculate charges has been altered by certain DNOs. A decision on this matter is being published separately.

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<sup>5</sup> Responses to the October consultation document are published on the Ofgem website, [www.ofgem.gov.uk](http://www.ofgem.gov.uk) under the Electricity Distribution Charges area of work.

## 4. Use of system charging methodology

- 4.1. This section sets out issues concerning CN's UoS methodology and the Authority's approval of it. For each issue comments received from respondents to the October consultation document are set out along with the Authority's conclusions. The decision on whether to approve the methodology as a whole is based on the consideration detailed below and is provided at the end of the chapter.

### ***DUoS issues***

#### **Regulatory reflective model**

- 4.2. CN's model for determining DUoS tariffs takes approximately half of the output from a version of the distribution reinforcement model (DRM) whilst the other half is driven by the price control tariff baskets which determine CN's regulatory revenue.

#### ***Comments received***

- 4.3. No comments were received on this matter.

#### ***Authority position***

- 4.4. The Authority does not consider that the use of system demand charging model employed is sufficiently cost reflective to meet the relevant licence objectives. The tariff baskets from the price control formula used in setting charges were recognised as being out of date during the recent price control process. These have been updated based on existing tariffs and are not considered cost reflective.
- 4.5. The Authority also notes that the DRM used by CN in setting its fixed costs has not been updated recently, and that while this maintains the original cost reflectivity between these customer groups, such an approach does not review the original cost apportionment between these groups, e.g. for changing network costs or network design. On this basis the ability of the model to reflect costs appropriately to different parties going forward is flawed. It is unlikely that

significant changes have occurred to make the charges produced from the model unreasonable, but it is clear that such a model needs to be changed to better reflect costs to parties with time.

- 4.6. There is no methodology for EHV demand charges. The methodology merely states that the existing charges are either standard EHV tariffs or exceptional sites on site specific capacity charge-only arrangements, but that both have their roots in a 500MW model. Since the basis for these charges is unclear, it is proposed that current charges are indexed in line with the movement in HV charges. The Authority cannot judge the extent to which this approach meets the relevant licence objectives because it is not clear how base EHV demand charges have been calculated.

#### ***DNO representation***

- 4.7. CN's letter of 13 January accepted this condition.

#### ***Conclusion***

- 4.8. The Authority recognises that new models are expected to be in place as part of the longer term framework and understands that CN cannot deliver an alternative model for 1 April 2005.
- 4.9. The Authority views CN's charging model as being insufficiently cost reflective to meet the relevant objectives, but recognises that it may not be possible to develop a more suitable model in time for April 2005. In the absence of a better model, the current model is the most cost reflective and stable basis for determining charges available to CN. However, approval of the demand methodology on this basis is conditional upon a new sufficiently cost reflective model which meets the relevant objectives being developed and implemented before April 2006.
- 4.10. In addition to this condition, the Authority notes that CN is currently charging LV NHH domestic and non domestic customers a common tariff. The Authority considers that the cost reflectivity of CN's DUoS charges could be improved by the separation of the tariffs for these groups of customers, and expects this to be considered during the development of a new cost reflective model before April 2006.

## **Charges for exceeding capacity**

- 4.11. At paragraph 49 CN has explained that costs can be caused by customers exceeding their agreed capacities, and stated that breaches of agreed capacity will be charged at 3 times the normal capacity charge.

### ***Comments received***

- 4.12. One consultation response on this matter was concerned at the lack of consistency between the DNOs' treatments of breaches of agreed capacity.

### ***DNO representation***

- 4.13. CN's 13 January letter offered further explanation of the reasoning behind the 3 times excess charge. CN explained that charging at this premium rate offers a simpler and more proportionate way of charging for breaches of capacity than charging at the maximum demand for the whole year (the method used before 2002). CN also explained that the old method left customers confused about the actual level of their agreed supply capacity, since the agreed and excess levels were simply summed.

### ***Conclusion***

- 4.14. While the Authority notes CN's arguments that the excess charge provides a clear way of charging for breaches of agreed capacity, and may in some circumstances offer a lower charge than the method previously employed, the information provided by CN has not demonstrated that the costs caused by breaches of agreed capacities require the recovery of three times the normal rate in charges, nor that the necessity of providing a disincentive to customers to exceed their agreed capacity merits a premium charging rate. The Authority therefore considers that this charge is not cost reflective and does not meet the relevant objectives, and approval is conditional upon CN proposing a more cost reflective policy for dealing with customers exceeding their agreed capacities.

## ***DUoS general commentary***

### **Tariff structures**

- 4.15. The methodologies need to set out the basis for the determination of different tariff groups and indicate the methodology for charging different customers. Tariff structures are integral to producing transparent methodologies that better meet the relevant licence objectives.
- 4.16. Clarity over tariff structures is required to demonstrate that costs are being recovered across customers that cause the cost, to the greatest extent possible.
- 4.17. The methodology determines the method of charging tariffs. The Authority considers tariff structures to be an integral part of the charging methodology, and any changes in structure would constitute a change in the methodology which would need to follow the change modification process. EDF makes this clear in its methodology which says that any changes to tariff structure elements would form part of a methodology change. CN have made a similar statement, and the Authority approves this approach.
- 4.18. Charges can only be levied on items set out in the charging methodology. Hence, the basis of all charges must be referred to and their basis explained in the methodology.
- 4.19. Issues over appropriate tariff structures will be considered further in development of a longer term framework, taking other developments on the system and metering constraints into account.

### **Standing charge level**

- 4.20. One specific tariff structure issue is the level of standing charges to variable unit charges.
- 4.21. The Authority has noted differences in treatment between the DNOs: Western Power Distribution has no standing charges, whereas the other DNOs levy a standing charge, albeit widely varying.

- 4.22. Respondents to the October consultation noted that the split between standing and usage charges affected different users differently and possibly adversely. One respondent was concerned at the rebalancing of CN West's DUoS charges, resulting in an increase in standing charges: it was suggested that this disincentivised the installation of domestic microgeneration and general energy efficiency by reducing the usage based element of charges.
- 4.23. The suggestion of reassessing tariffs and charges based on actual demand (downstream costs) was also raised in a July open letter consultation response.
- 4.24. This issue will be considered further in development of a longer term framework along with wider tariff structures, as set out above.

### **Reactive charges**

- 4.25. As set out in the October 2004 consultation document, the Authority recognises that charging on a kVA basis reflects the cost imposed by reactive power in that charges are levied on contracted maximum demand in kVA.
- 4.26. However, this method of charging does not recognise total kVArh demand and the impact of this total demand on losses on the system. The Authority views this as an important component of charging in order to incentivise high power factors.
- 4.27. The Authority feels that improvements can be made to the cost reflectivity of use of system charges with regard to incorporating kVArh charges. Responses to the consultation were generally in favour of charging in a manner that increased the incentive on customers to improve their power factors. However, it was noted that on the transmission system costs are smeared across all suppliers and generators. One supplier noted that kVA charging provides no incentive on reactive costs because capacity is fixed in the short term.
- 4.28. The Authority notes the comments received and will progress this issue as part of the longer term charging framework.

### **Demand model: general concerns**

- 4.29. The Authority notes respondents to the October consultation suggested that in order for users to be able to estimate their future charges, full details were needed on the inputs to the model.
- 4.30. Such inputs include operation and maintenance (O&M) costs and calculations, the derivation of modern equivalent asset values, the calculation of yardsticks, line loss factors (LLF) and diversity factors, and the treatment of NGC exit charges and rates. One respondent suggested publishing the models in full, and also noted that the publication of tariff classes and LLFs in a common electronic format would be useful.
- 4.31. The Authority notes these concerns, and considers that the relevant objectives could be better met by increasing the level of detail in the methodology statements. The Authority believes that this issue should be addressed during ongoing review of the methodologies by DNOs, Ofgem and the industry along with consideration over the publication of models/other information.

### ***GDUoS issues***

#### **EHV GDUoS charges**

- 4.32. CN has set out a methodology for charging new generators for use of system on a site specific basis at EHV.

#### ***Comments received***

- 4.33. Four respondents noted the benefits of publishing tariffs for GDUoS charges at EHV, namely that these aided generators at the development stage, and avoided non-transparent bilateral negotiations between DNOs and customers. The majority were in favour of site specific charges at this time for a variety of reasons including uncertainty over year on year tariff movement and consistency with DUoS charges at EHV. One noted that transparency was still a concern with site specific charges, and it would be important that the methodology was clear, to allow future charges to be estimated, if these were to be adopted. One response supported the move to tariffs in the future but thought that a site specific charge at this time would be preferable to an area wide tariff.

### ***Authority position***

- 4.34. The charges proposed for the interim arrangements were expected to facilitate competition in distributed generation. Whilst noting that this is an interim solution and that GDUoS charges are new, the Authority envisaged that the DNOs would deliver UoS charges on a tariff basis rather than site specific charges which are more representative of the recovery of deep reinforcement costs.
- 4.35. The Authority sees no reason for generator GDUoS charges to match site specific EHV demand DUoS charges in the interim period. The Authority wishes to minimise potential future legacy or transitional issues.
- 4.36. However, in discussing this issue with the DNOs it is apparent that some DNOs believe that cost reflectivity at this time is better met using site specific charges rather than a tariff. This does not achieve what the Authority envisaged in terms of forward looking, transparent charges. However, this approach does not appear unreasonable in the short term where DNOs believe this is the most cost reflective solution. The Authority notes that customers should be made aware of plans to change the approach over the longer term when a tariff based approach is implemented.

### ***Conclusion***

- 4.37. The Authority agrees to approve the site specific GDUoS charging methodology until the longer term framework is implemented.

## ***GDUoS general commentary***

### **Replacement costs**

- 4.38. CN's connection charging methodology outlines its policy on generation connections at 6.28 to 6.30, and has removed reference to the recovery of replacement costs as a connection charge. The Authority approves this charging policy, which provides a common connection boundary between demand and generation, but notes that the UoS statement contains a reference to replacement costs not being a part of GDUoS charges (paragraph 58). This reference should

be removed, to ensure that the charging policy is clear, and consistent with the connections methodology.

### **Microgeneration**

- 4.39. The methodology includes the capability for GDUoS charges to be collected from microgenerators or small scale embedded generators.
- 4.40. Responses to the consultation noted the need for any microgeneration charges to reflect actual costs on the system. It was also felt that benefits to the system should be taken into account, but the difficulty of identifying such benefits was noted, given that take up is still low. In general, respondents stressed the need to avoid disincentivising or prohibiting microgeneration connections in the next few years. One respondent also raised the concern that tariff structures (where standing charges are high and variable charges are low) can offset the benefits of installing microgeneration.
- 4.41. The Authority considers that charges should reflect the cost a user imposes on the system. Where DNOs have identified costs associated with LV connected generators, it is appropriate that these customers are charged. DNOs should continue to monitor costs incurred associated with microgeneration connections and adjust charges as necessary.

### **Other GDUoS issues**

- 4.42. The Authority also notes that there are further issues to consider on the structure of generator charges, and that enduring solutions for some issues may be different from the interim approved methods. DNOs' GDUoS charging methodologies should increase in sophistication and cost reflectivity as knowledge of actual costs increases.
- 4.43. These issues include the use of restrictions on volatility, appropriate tariff structures, contractual issues and the reflection of deferred costs on the system. These will be addressed for the longer term framework during 2005.

### **Reactive charges**

- 4.44. Two consultation respondents suggested that charges for poor power factor should be matched by payments for generators who reduced costs on the

system. One other respondent queried the appropriateness of generator reactive charges all together, noting that Grid Code restrictions could force generators to operate at particular power factors, and suggesting that this matter needed further consideration.

- 4.45. The Authority supports reactive charges, but agrees that the appropriateness of levying such charges on generators is a matter for further consideration, which will be dealt with further as part of the development of post April 2005 charging structures.

### **Drafting**

- 4.46. Charge components are described on pages 7 and 8. It would be useful to clarify that these apply for demand and generation alike.

### ***Decision on use of system charging methodology***

- 4.47. The charging methodology is approved on the following conditions:
- ◆ Development and implementation of a new charging model by 1 April 2006, as outlined above.
  - ◆ Provision of a cost reflective policy for dealing with exceeding agreed capacities by 1 April 2005.
- 4.48. CN should also review the other comments made and note that further work to improve the methodology will be required on certain areas now and as the methodology evolves over time, including alterations on the items set out above to ensure that the methodology continues to better meet the relevant objectives.

## 5. Connection charging methodology

- 5.1. There are no major issues concerning CN's connection charging methodology. This section sets out some general comments on the statement.

### *Connections general commentary*

#### **Application of special terms**

- 5.2. The connection charging methodology described applies to almost all possible connection scenarios but CN has reserved the right to decide terms in cases where normal criteria do not apply or where the standard of security of the system is reduced (2.22). It is not clear to parties what these criteria are, or what the offered terms might be.
- 5.3. To ensure transparency of charge application the basis of all charges should be set out in the methodology to the extent that this is possible. Where other terms may apply it would be useful for the methodology to list what charges may apply in such cases.

#### **Metering charges**

- 5.4. SLC4B(5) states that any charges for the provision of special metering or telemetry or data processing equipment which are not covered by the charges in the SLC36 statement of Metering and Data Services charges should be included in the connections statement. If any charges are to be levied for these items as connection charges, details would need to be included in the statement.

#### **Worked examples**

- 5.5. Ofgem has suggested a template format (based on CN's, which is commended) and a range of connections scenarios to serve as common worked examples for all of the connections statements, in the interests of providing transparent and understandable estimates of costs to prospective users. Consideration of whether and how these examples can be included in the statements will be progressed as part of the ongoing review of the connections methodology statements.

## ***Decision on connection charging methodology***

- 5.6. Based on the issues outlined above, the Authority approves CN's connection charging statement.
  
- 5.7. CN should also note that further work to improve the methodology will be required on certain areas as the methodology evolves over time, including alterations on the items set out above to ensure that the methodology continues to better meet the relevant objectives.

## 6. Statement of UoS charges

- 6.1. Statements of indicative UoS charges for CN East and West for 1 April 2005 were submitted on 31 December 2004.
- 6.2. No major issues were identified, and Authority approval of the form of the UoS charging statements was issued on 13 January 2005.