

Structure of electricity distribution charges

Approval of Scottish and Southern Energy's charging methodologies: Decision document

February 2005

Summary

This document provides the Gas and Electricity Markets Authority's (the Authority) decision concerning approval of Scottish and Southern Energy's (SSE) use of system (UoS) and connection charging methodologies. Distribution network operators are required by their licence 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 methodologies subject to one condition which shall be completed by SSE by 1 April 2005. The Authority:

1. Approves SSE's UoS charging methodologies, pursuant to standard licence condition (SLC) 4(1a), subject to the following condition:
 - ◆ Clarification of SSE's demand model descriptions and review of the treatment of trends in asset costs.
2. Approves SSE's connection charging methodologies in accordance with SLC4B(1a).

Notice of the Authority's proposed decision was provided to SSE on 16 December 2004, and SSE has had 28 days to make representations on issues pertaining to the charging methodologies where conditional approval was proposed. The Authority has considered SSE'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 SSE's charging methodology statements following the modification to standard licence condition (SLC) 4 of the distribution network operators' (DNOs) electricity distribution licence (the licence, as amended in July 2004¹) and following consideration of responses to the October consultation² on this matter.
- 1.2. Notice of this decision was provided to SSE on 16 December 2004, and 28 days allowed for SSE to submit a representation. SSE and Ofgem discussed the decisions in a conference call on 11 January 2005, and representations were subsequently submitted in the form of a letter (13 January 2005) and redrafted SHEPD methodology statements (20 January 2005 and 4 February 2005). These representations have been considered by the Authority in accordance with SLC4(10) and 4B(20).
- 1.3. The decisions in this document are based on the 4 February 2005 statements, and SSE have confirmed that the Southern Electric (SEPD) statements are identical to these Scottish Hydro Electric (SHEPD) statements in the areas which have been redrafted between 1/2 December and 4 February.
- 1.4. This constitutes formal publication of the Authority's decision and explains the basis of the decisions, setting out initial views, responses to the October 2004 consultation paper and the Authority's conclusion on each matter.
- 1.5. 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 UoS charges is required which is subject to Authority approval of the form of the document.
- 1.6. Separate methodologies and charging statements are required for each licensed distribution area. In accordance with this, on 1 and 2 December 2004 SSE

¹ See Section 11A notice, document reference 150/04 (6 July 2004), available on the Ofgem website at 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.

² "Structure of electricity distribution charges – Proposed DNO charging methodology statements:

submitted documents for the SEPD and SHEPD areas. This decision document covers both licensed areas, and references to SSE cover both licensed areas. Where there are differences between the statements or comments on the methodologies, SEPD and SHEPD are referred to separately.

Purpose of this document

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

Structure of this document

- 1.8. 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 sets out that the form of the statement 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 duties³.
- 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 2004⁴:
- ◆ 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.

³ 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.

⁴ As set out in document reference 150/04, available on the Ofgem website at 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 by Ofgem for a month 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 document⁵. 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.

⁵ Responses to the October consultation document are published on the Ofgem website, 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 SSE's UoS methodology and the Authority's approval of it. The decision of 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

Description of methodology – tariff smoothing

- 4.2. SSE state that when comparison is made between the existing tariffs and the yardstick prices, note is taken of trends in asset prices. The methodology seems to suggest that this consideration of price trends is only done after the yardstick calculation have been performed.
- 4.3. The Authority considers that it is essential for the statement to provide a clear description of the basis of charges and how they are calculated, and that at present, the description does not offer a sufficiently clear explanation of how these price trends are dealt with.
- 4.4. The Authority does not believe that a model that is deemed to meet the relevant licence criteria in deriving outputs and reflects underlying costs is then open to change through subjective judgement. The Authority believes that such smoothing would reduce the transparency of the methodology statement and reduce cost reflectivity.

Conclusion

- 4.5. The Authority views that no case has been made for tariff smoothing, and approval is conditional upon SSE clarifying that any trends in asset costs would be treated as an input to the model calculations, rather than factored in subsequently.

DUoS general commentary

SSE demand model clarity

- 4.6. The SHEPD simulation model is based on the existing network in order to determine tariffs. The Authority notes that whilst modelling the existing network ensures that sunk costs are recovered, the model could potentially be improved in recognition that future incremental costs on the system will not necessarily mirror the costs incurred developing the existing system.
- 4.7. SEPD are using a 500MW distribution reinforcement model (DRM).
- 4.8. The Authority recognises that SSE has worked on the flowchart description, but considers that further improvement is necessary to increase the transparency of the processes and explain how the functioning of the model (the yardstick and subsequent tariff calculations) relates to the allowed revenue calculation and the scaling process.
- 4.9. Respondents to the October consultation suggested in general that in order for users to be able to estimate their future charges, full details were needed on the inputs to the model.
- 4.10. Inputs such as operations and maintenance (O&M) costs and calculations, the derivation of modern equivalent asset (MEA) values, the calculation of yardsticks, line loss factors and diversity factors, and the treatment of NGC exit charges and rates were cited. One respondent suggested publishing the models in full, and also noted that the publication of tariff classes and line loss factors in a common electronic format would be useful. Specifically, one respondent to the October 2004 consultation questioned whether loss adjustment factors would be relevant for generators, as suggested by SHEPD's statement and further clarity on this matter would be useful.
- 4.11. In conclusion, the Authority acknowledges that the statements constitute a baseline for 1 April 2005, but considers that SSE should examine the level of

detail provided, and that the relevant objectives might be better met by the inclusion of more detail and explanation of the models.

Tariff structures

- 4.12. 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.
- 4.13. Clarity over tariff structures is required to demonstrate that costs are being recovered across customers that cause the cost, to the greatest extent possible.
- 4.14. 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 constitute a change in the methodology which would need to follow the change modification process.
- 4.15. Charges can only be levied on items set out in the charging methodology. Hence, the basis of all charges must be explained in the methodology.
- 4.16. 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

- 4.17. One specific tariff structure issue is the level of standing charges to variable unit charges. The Authority notes that, with the exception of Western Power Distribution, the DNOs levy standing charges, but that these vary widely.
- 4.18. Respondents to the October consultation noted that the split between standing and usage charges affected different users differently and possibly adversely (including microgeneration). The suggestion of reassessing tariffs and charges based on actual demand (downstream costs) was also raised in a July open letter consultation response.

- 4.19. This will be considered further in development of a longer term framework along with wider tariff structure issues.

Out of area networks

- 4.20. The SEPD methodology states that demand and generation customers connected on SEPD's out of area networks will be charged in a manner that ensures that charges do not exceed those of the host DNO.
- 4.21. The Authority regards clarity in charging arrangements for both in and out of area operations to be important, and will consider whether expansion of this area would be an opportunity for the methodology to develop after April 2005 to better meet the relevant objectives.

Reactive charges

- 4.22. As set out in the October 2004 consultation document, the Authority recognises that charging on a kVA basis reflects some of the cost imposed by poor power factor loads in that charges are levied on contracted maximum demand in kVA.
- 4.23. 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 a very important component of charging in order to incentivise high power factors.
- 4.24. 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.
- 4.25. It is not viewed as practicable to include these changes for 1 April 2005. The Authority notes the comments received and will progress this issue as part of the longer term charging framework.

4.26. It is also noted that SSE has removed the reference to different loss adjustment factors applying to customers operating outside the range of 0.8 lagging and unity. If this is still the case, then this information needs to be included in the methodology.

Special arrangements

4.27. SSE has stated that cases where the UoS methodology does not apply are exceptional, which is a useful note for potential users. However, it is not clear to parties when the DNO may judge a case to be special, and not clear why SSE has amended 'special' to 'appropriate'. To ensure that customers are clear on what is expected to be charged all charges should be assumed to be included within the connection charging methodology unless otherwise detailed.

4.28. SEPD has also stated that these appropriate arrangements will also apply to EHV connections, although an explanation of EHV charges is provided on page 16 of the methodology. The relationship between these two sections is not clear, and may be misleading if EHV connections are dealt with as described on page 16, and SSE should clarify this issue.

GDUoS issues

4.29. There are no major issues with the GDUoS methodology and the Authority's approval of it. Some general points are outlined below.

GDUoS general commentary

Microgeneration

4.30. The methodology includes the capability to levy GDUoS charges for microgenerators or small scale embedded generators (SSEG).

4.31. Responses to the consultation noted the need for any microgeneration charges to reflect actual costs on the system. It was also felt that benefits of all DG to the system should be taken into account, but the difficulty of identifying such benefits was noted (with one response noting that this was particularly hard in SSE's area). 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.

- 4.32. The Authority considers that charges should reflect the cost and benefits 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.

Reactive charges

- 4.33. Responses to the October consultation strongly supported the imposition of reactive charges on users operating at poor power factors. However, two 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.
- 4.34. 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

- 4.35. SSE states that the GDUoS models will evolve over time, and also notes that charges for different areas may be applied in the future. Although one respondent to the consultation praised SSE's suggestion that locational signals may apply in the future, the Authority considers the charging methodology to be a description of how users are charged at the current time, and providing indications of possible developments may confuse the statement unnecessarily.
- 4.36. The statement is not entirely clear on how 'forecasts and assumptions' contribute to the calculation of the GDUoS network charge. The Authority considers that in the interests of allowing users to estimate their charges, SSE should consider

adding detail as part of the ongoing review of their methodology's compliance with the relevant objectives.

Other GDUoS issues

- 4.37. 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 cost impacts increases.
- 4.38. 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.

Decision on use of system charging methodology

- 4.39. Based on the issues outlined above, the Authority approves SSE's UoS charging methodology on the following condition, to be completed by 1 April 2005:
- ◆ Clarification of SSE's demand model descriptions and review of the treatment of trends in asset costs.
- 4.40. SSE should also note the Authority's general comments on the methodology statements, in particular those on the level of detail in the UoS statements, as areas requiring review now and in the future.

5. Connection charging methodology

- 5.1. The Authority approves SSE's statement of connection charging methodology. Some general points are outlined below.

Connections general commentary

Asset replacement costs

- 5.2. SSE has stated that the costs of age expired sole use asset replacement for generators will be met by the generator.
- 5.3. The Authority notes that the question of the appropriate recovery of replacement costs has not been considered in detail during the implementation of the interim charging regime, and will be subject to further discussion in the development of longer term charging arrangements.
- 5.4. In the meantime, SSE should note the importance of operating this policy in a non-discriminatory fashion, and ensure that the recovery of replacement costs is done in accordance with customers' existing bilateral connection agreements.

Application of special terms

- 5.5. The connection charging methodology applies to almost all possible connection scenarios but SSE has recognised that there may be cases where the normal criteria do not apply, and SSE will determine terms in these cases. It is not clear to parties what these criteria are, or what the offered terms might be.
- 5.6. 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.
- 5.7. Similar arrangements are described in the UoS charging methodology, as noted above; wording between the statements needs to be consistent if the two references refer to the same circumstances, and the appropriate policy set out clearly in both statements.

Worked examples

- 5.8. Ofgem has suggested a range of connections scenarios and a template format 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. Ofgem recognises that SSE has included some of these scenarios as examples. Consideration of whether and how the remainder can be included in the statements, and whether these can be presented in a common format, will continue as part of the ongoing review of the connections methodology statements.

Metering charges

- 5.9. 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.

Decision on connection charging methodology

- 5.10. Based on the issues outlined above, the Authority approves SSE's connection charging methodology.
- 5.11. SSE should 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.

6. Statement of UoS charges

6.1. In November 2004, SSE submitted charging statements for charges effective from 1 April 2005 that were not significantly different in form from the statements submitted for charges from 1 April 2004. Authority approval of the form of the statements was provided on 16 December 2004 together with notice of the Authority's proposed decision on the charging methodologies. In advance of the submission of final charging statements for April 2005, some comments are made below.

Drafting

- 6.2. The explanation of SLC4 on page 4 (both statements) is misleading: the statement referred to in condition 4 is the UoS charging methodology statement, not the statement of UoS charges. The charging statement is, as is stated further down the page, only subject to form approval. Clarification of this paragraph would be useful.
- 6.3. The reference to definitions of words on page 9 of the SHEPD statement is incorrect.