

Electricity distribution charging boundary between higher (EDCM) and lower (CDCM) voltages - Impact Assessment

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Overview:

Distribution Network Operators' (DNOs) introduced a common method for charging customers on the lower voltages of their networks (CDCM) in April 2010. Common methods for charging at higher voltages (EDCMs) are anticipated from April 2011, with the submission of proposals to the Authority by 1 September 2010. Currently DNOs apply a variety of approaches to determining whether customers are charged on the basis of the CDCM or according to the charging method at higher voltages.

Our July 2009 EDCM decision document set out that further work was required on this issue ahead of 1 September 2010. Following DNO consultation, this consultation now seeks industry views on options for defining the boundary to be used to determine whether customers should be subject to the EDCM or the CDCM. Based on the initial evidence DNOs provided, various options are presented here together with their illustrative impacts.

Contact name and details: Chris Chow, Senior Policy Analyst, Distribution

Tel: 020 7901 7021

Email: chris.chow@ofgem.gov.uk

Team: Distribution Policy, Local Grids and RPI-X@20

Context

Distribution Network Operators (DNOs) have an obligation to implement revised charging approaches for use of their networks at the extra high voltage (EHV) levels for 1 April 2011. This follows the implementation of a common approach at the lower voltages in 1 April 2010. The aims of the project are to introduce new, more cost reflective charging methodologies and to ensure these can evolve to reflect changes in patterns of use and investment on the DNOs' networks.

An issue raised in the course of the project to introduce common charging approaches is where the methodology at EHV should end and where the more average model used for charging customers at lower voltage levels should apply. Currently not all DNOs apply the same dividing line between EHV and lower voltages. Due to the specific nature of some connections, most DNOs currently treat a small number of customers as if they are connected at EHV when they are actually connected and / or metered further down the distribution network. For example, some DNOs apply their current EHV methodology for calculating charges to some customers metered on the 11kV busbar of a substation with a primary voltage of 33kV, whilst others do not.

In our July 2009 decision document on the EHV common methodologies we indicated it might be appropriate for all DNOs to apply the same dividing line between customers subject to EHV and lower voltage charging methodologies. Because of the potential impact on customers we were unable to conclude this matter at that time and indicated that DNOs should consult further. The licence currently maintains the status quo for customers for 2010/11 but our expectation is that this matter will be sorted prior to DNOs submitting their EDCM proposals to us by 1 September 2010. The DNOs have consulted on the boundary, and in this document we present an assessment of the potential impacts on customers of moving the boundary. DNOs are still developing their EHV methodologies therefore impacts presented here in respect of potential new EHV prices are illustrative only.

Associated Documents

- DNOs' consultation on the EDCM/CDCM boundary, April 2010
http://2010.energynetworks.org/storage/WSB_BoundaryCons_230410.pdf
- Responses to DNOs' consultation on the EDCM/CDCM boundary, May 2010
<http://2010.energynetworks.org/storage/structure-of-charges/Boundary%20Consultation%20Responses%20v1%200.pdf>
- Modification of standard licence conditions in respect of charging at higher voltages and new open governance arrangements, September 2009
- Delivering the electricity distribution structure of charges project: decision on extra high voltage charging and governance arrangements (Ref 90/09), July 2009
- Modification of standard licence conditions in respect of charging at lower voltages, June 2009

Table of Contents

Summary	1
1. Introduction.....	3
Background.....	3
Features of the CDCM and EDCM	4
Aims	5
Structure of this document.....	6
2. Boundary Options	7
Current classification of customers	7
DNOs' proposed options.....	8
Option 1 - No change (NC).....	10
Option 2 - Raised boundary (RB)	10
Option 3 - Optional raised boundary (ORB)	11
Option 4 - Lowered boundary (LB)	11
Option 5 - No change 2 (NC2)	12
Option 5a - Lowered boundary 2 (LB2)	13
Option 6 - Authorised capacity (AC)	13
Additional considerations	14
DNOs' preferred option	15
3. Option Assessment	16
Relevant factors.....	16
Commonality	16
Cost reflectivity	16
Facilitating competition	17
Perverse incentives.....	17
Risk of undue discrimination	17
Evaluation.....	17
Option 1 - No Change	18
Option 2 - Raised boundary	18
Option 3 - Optional raised boundary	19
Option 4 - Lowered boundary.....	19
Option 5 - No change 2	20
Option 5a - Lowered boundary 2	21
Option 6 - Authorised capacity	21
Charging impacts.....	22
Respondents' views.....	23
4. Next Steps	24
Timelines	24
Workshop on the charging boundary - 28 June, 2.30pm	24
Longer term development.....	25
Appendices	26
Appendix 1 - Consultation questions.....	27
Appendix 2 - Summary of responses to DNOs' boundary consultation ..	29
High level summary of responses.....	29
Responses to DNOs' options and more detailed comments	29
Appendix 3 - Impact Assessment.....	38
Summary.....	38
Key issues and objectives	38
Options.....	39
Impacts on consumers	39
Impacts on competition (including effects on small businesses)	48
Impacts on sustainable development.....	48
Impacts on health and safety	48
Risks and unintended consequences	49

Other impacts, costs and benefits	49
Post-implementation review	49
Conclusion	49
Appendix 4 - The Authority's Powers and Duties	50
Appendix 5 - Glossary	53
Appendix 6 - Feedback Questionnaire	55

Summary

Distribution Network Operators (DNOs) delivered a common charging approach at lower (HV/LV) voltages from 1 April 2010 (CDCM) and are currently developing common approaches at the higher voltage (EHV) levels (EDCM). This document consults on the position of the charging boundary between EHV and HV/LV customers for the purposes of levying electricity distribution use of system (UoS) charges. In voltage terms the EHV level is commonly described as applying to assets at or above 22kV, whilst the HV level covers 1kV to 22kV assets.

The EHV charging boundary applied to new connections since 1990 means that customers at 22kV and above are charged on an EHV basis along with customers connecting at a substation with a primary voltage of 66kV and above. Before that time alternative approaches were taken by some DNOs.

The position is therefore not common across DNOs. A customer in one DNO area may currently be charged as if they are a higher voltage customer whereas a customer connected at a similar level of the network in another DNO area, or in some cases, within the same DNO area, may be treated as if they are a lower voltage customer for charging purposes.

The decision of the DNO to treat a customer as a low voltage or higher voltage customer can have a significant impact on the overall level of charges levied on that customer. Customers are typically expected to pay lower charges if they are treated as connected at EHV because they are deemed to use fewer assets than customers connected at the lower voltages. However, the locational nature of EHV charging means that this is not necessarily the case at all locations.

This consultation presents illustrative impacts on charges of determining the boundary. We seek views on where the boundary should be for existing and new customers.

DNOs delivered common charging for HV/LV customers in April 2010 and are required to deliver one of two common methods for charging EHV customers for April 2011. The common charging arrangements for HV/LV customers have been introduced without making any changes to, or looking to harmonise the boundary. Further work may be required ahead of April 2011 to determine the appropriate boundary, and we have previously noted that we consider there would be benefits in having a common boundary in place in time for the introduction of the EDCM.

DNOs have to submit their proposals in respect of EHV level methods and associated illustrative charges by 1 September 2010 for Authority approval. This submission needs to follow the boundary definition set out in the licence. The current licence represents an interim position and this consultation is designed to enable us to determine the appropriate approach going forward, so that we can make the necessary licence amendments ahead of the DNO submission in September.

The DNOs have already consulted on how to categorise customers for the purposes of use of system charges. The options considered in this document follow on from the DNOs' earlier consultation, responses to that consultation and detailed discussions with each DNO:

- DNOs' option 1: Status quo for existing customers, new customers connecting at 22kV and above treated as EHV (DNOs call this 'no change');

- DNOs' option 2: All customers (existing and new) connecting at 22kV and above treated as EHV;
- DNOs' option 3: Existing customers subject to EHV-type charges but connecting at below 22kV can opt to be treated as if they are EHV, plus new customers at 22kV and above treated as EHV;
- DNOs' option 4: All customers connecting at 22kV and above plus all customers connected on the lower voltage side of any substation with a primary voltage of 33kV, 66kV or 132kV treated as EHV;
- Option 5: Status quo for all customers, i.e. as DNOs' option 1 but new customers connecting at 22kV and above or to the lower voltage side of a substation (11kV) with a primary voltage of 66kV or 132kV are treated as EHV. This maintains the policy in previous price controls.
- A variant of this, option 5a, is to apply this approach to both new and existing customers, which would give a common boundary across all customers; and
- Option 6: Charging boundary based on the authorised capacity of the connection and used in conjunction with another option, for example (but not limited to) in conjunction with option 2 for all connections at 22kV and above, plus any connections over a threshold (say 15MVA or 10MVA) connecting at lower than 22kV treated as EHV.

As a result of their consultation, the DNOs have recommended a clear-cut boundary for all customers from April 2011 based on their option 2. The small number of existing customers responding to the DNO consultation generally favoured maintaining the current position and not moving to a common boundary (DNOs' option 1). If implemented, the move to a common approach under DNOs' option 2 would have an impact on a minority of existing customers (around 80) who would move between charging categories, from EHV-type charging to the CDCM.

If the EDCM charging boundary moves to cover all HV-level connections this would capture more than 20,000 additional customers. The DNOs do not consider this approach is feasible for September 2010 because the EDCM does not model DNOs' entire HV networks at this point in time.

DNOs are currently developing their methodologies at EHV, including a number of improvements to the templates set out in our July 2009 decision document, designed to enhance the cost reflectivity of charges. DNOs have recently presented illustrative EDCM prices to us based on their development work and will consult on their new EHV proposals shortly where they will include illustrative pricing impacts.

The timescales for delivering decisions on the boundary ahead of 1 September 2010 mean that this is a four week consultation. We are holding a workshop on this consultation on 28 June and ask DNOs to ensure that their potentially affected customers are informed of this and given the opportunity to attend.

We understand from the DNOs that they have already contacted their customers as part of their earlier consultation and would urge customers to let us know if they are not receiving the information they require from the DNOs. Under the majority of options fewer than 80 customers are affected by a potential change in boundary, though lowering the boundary could affect more than 400 customers. We will update the figures set out in our impact assessment should they change materially during the consultation period.

1. Introduction

Chapter summary

This chapter provides the background to this consultation, explains the different features of the charging methodologies at the higher and lower voltages and outlines the objectives underlying the development of the charging methodologies. We also explain the structure of this document.

Background

1.1. A new common charging methodology for customers connected at the extra high voltage level (EHV), known as the EDCM will apply from 1 April 2011. Customers connected at the lower voltage levels (HV/LV) are subject to charges under the Common Distribution Charging Methodology (CDCM) which came into effect on 1 April 2010.

1.2. In our July 2009 decision document concerning the EDCM we noted that DNOs did not use a common approach in deciding whether to charge customers according to lower voltage or high voltage methodologies. DNOs took different approaches pre-1990 and until now there has been little imperative to move to a common boundary. We consider there are benefits in having a single boundary across all DNOs (and within each DNO). This aids transparency and ensures customers connected at the same points on different networks are treated on a consistent basis. However, we note the potentially large impact that this could have on the bills of a minority of customers. It is for this reason that we think it is important to conduct impact assessments and consult thoroughly on the issue ahead of September 2010.

1.3. The DNOs currently apply site specific (non-CDCM) charges to 'EHV premises'. Since 1990, in previous price controls these tended to be defined for the purpose of accounting for units of consumption at each voltage level as²:

"(a) in relation to premises connected to the licensee's distribution system as at the date this licence enters into force, those premises specified in the list of EHV premises notified in writing to the Authority by the licensee within twenty-eight days after this licence enters into force; and

(b) in relation to premises connected to the licensee's distribution system which are either first connected or (having been previously connected) have had their connections materially altered following the date this licence enters into force, means premises connected to the licensee's distribution system as a voltage at or higher than 22 kilovolts or at a sub-station with a primary voltage of 66 kilovolts or above."

1.4. In mid-2009, as part of the development of common charging methodologies, we made a preliminary enquiry on the boundary issue. We found that the majority of DNOs

² For example page 48 to the following 2001 document:
http://epr.ofgem.gov.uk/document_fetch.php?documentid=10034.

treated a small number of their customers as if they were connected at the highest voltage levels where they were actually connected and / or metered further down the distribution network. For example, some DNOs apply their EHV methodology in calculating charges for customers metered on the 11kV busbar of a primary substation with a primary voltage of 33kV or higher, while others do not.

1.5. We also found that the possible impact on customer charges of a change to the boundary could be substantial. Some preliminary estimates from DNOs at that time showed that moving a customer from a site specific charge based on an EHV charging methodology to a charge based on an HV/LV charging methodology would increase charges on average by anything from thirty per cent to well over one hundred per cent. Moving a customer in the opposite direction would have the opposite effect, although this would not be the case in every instance. Although the number of customers affected seemed relatively small (for example 80 under DNOs' option 2), because the potential impact on individual customers' charges could be material, we considered that this matter warranted consultation prior to deciding whether an enduring common boundary was appropriate and the level at which the boundary was set.

1.6. In light of this context, between July and September of 2009, we modified the standard licence conditions (SLCs) to set out the way forward for the EDCM. This included defining the HV/LV common methodology (CDCM) as applying in a manner consistent with the status quo for 2010/11 and with EHV charges calculated on the basis of existing methodologies prior to the EDCM going live on 1 April 2011. EDCM licence drafting was an interim solution, pending the outcome of full consultation on this issue.

1.7. In addition, we made clear our expectation that the process of considering the issue of inconsistent boundaries across DNOs should include DNOs identifying possible options for determining the boundary, consulting their customers and wider stakeholders on an open basis and sharing with us their conclusion. We set out that the whole process should be completed on time for DNOs to have a clear boundary as a basis for them to determine their final EDCM proposal for submission by 1 Sept 2010 according to SLC50A.

1.8. We envisage that the relevant licence conditions that sought to maintain status quo on an interim basis might have to be modified before September 2010 to allow the position from 1 April 2011 (whatever option is selected going forward) to be clear.

1.9. The DNOs undertook a consultation between April and May 2010, presenting four options for determining the boundary between EHV and HV/LV. The consultation document was sent to the distribution charging methodologies forum (DCMF) for comment before it was published, to the DCMF email list and to all DCUSA contract managers, which includes all licensed suppliers. Details, including responses to the consultation can be found online, as listed in Associated Documents above. The DNOs have very recently provided us with illustrative CDCM and EDCM charges which have allowed us to present an impact assessment in Appendix 3 to this document.

Features of the CDCM and EDCM

1.10. A comparison of the key features of the two charging methodologies is given in table 1 below. The features of the EDCM are given on an illustrative basis, subject to changes shortly as the methodology is still being developed and the EHV boundary being determined.

Table 1

CDCM (from April 2010)	EDCM (anticipated from April 2011, subject to Authority approval)
<ul style="list-style-type: none"> ▪ Started to apply from 1 April 2010. ▪ DNOs apply the same methodology. 	<ul style="list-style-type: none"> ▪ The EDCM is being developed and expected to replace each DNO's methodology for calculating EHV charges from 1 April 2011. ▪ Each DNO is required to choose one of two methods for EHV charging for implementation from 1 April 2011.
<ul style="list-style-type: none"> ▪ Covers use of system charges for customers connected at the HV and LV levels but currently excludes certain designated properties that are treated on the same charging basis as premises connected at EHV. 	<ul style="list-style-type: none"> ▪ Covering use of system charges primarily for customers connected at the EHV level, subject to any change of the EHV boundary.
<ul style="list-style-type: none"> ▪ Charges are based on the relative contribution of different customers to a hypothetical 500 MW reinforcement. ▪ Charges are average per customer category. In particular there is a 'HV HH metered' customer group for customers connected to the HV system and a 'HV Substation HH metered' customer group for customers metered at the substation. 	<ul style="list-style-type: none"> ▪ Charges are based on future reinforcements triggered by additional capacity at different locations on the network. ▪ Charges are site specific and locational.
<ul style="list-style-type: none"> ▪ Subject to open governance arrangements through the DCUSA. 	<ul style="list-style-type: none"> ▪ Same as the CDCM.

Aims

1.11. We have rehearsed the aims and benefits of developing common charging methodologies in detail in a number of decision documents published online in the last two years. They are summarised below.

1.12. Baseline aims, per the relevant charging objectives linked to this project:

- Commonality: suppliers, generators and customers more widely, who, when entering into contracts with customers, will need to know the basis of distribution charging. Legacy boundary arrangements will significantly reduce transparency in this area and cause confusion to customers who operate across a number of distribution services areas.

- **Cost reflectivity:** A cost reflective boundary effectively gives more value to spare capacity on the EHV level network (good cost signals), such that customers are collectively more effectively incentivised to pursue the cheapest solution in areas with lower demand in the longer run, minimising the need for reinforcements in congested areas.
- **Not distorting competition in the generation, distribution and supply of electricity** is another key objective for the common charging methodologies. If a generator is charged on a different basis to a similar generator elsewhere this could distort competition. A common boundary would be particularly helpful to those customers with businesses with different DNO areas and to prospective distributed generators and small suppliers who are interested in entering the energy market.
- **Not unduly discriminatory:** UoS charges should be determined on the basis of costs unless the difference can be objectively justified. It is difficult to square this objective with the application of different boundaries across the DNOs.

1.13. Wider aims include potentially:

- **Establishing an enduring solution:** the charging boundary forms a fundamental part of the common charging methodologies. Having a robust boundary that can be applied on an enduring basis would mean a period of stability for further developments of the common charging methodologies.

Structure of this document

1.14. Chapter 2 sets out the DNOs' proposed options and their collective recommendation as well as additional options based on our discussions with DNOs and responses to DNOs' consultation on this issue.

1.15. Chapter 3 explains the criteria of option assessment and considers the options in turn. Appendix 3 provides our assessment of the potential impact of the options on prices.

1.16. Chapter 4 provides next steps for the project.

2. Boundary Options

Chapter summary

This chapter sets out the current licence drafting covering the CDCM and EDCM and defines the four options considered in the DNOs' boundary consultation. Two additional options and a new sub-option to 'no change' are defined alongside further issues for consideration. This chapter explains the DNOs' favoured approach to the boundary.

Question box

Question 1: We welcome views on any aspect of the options presented in this chapter, and seek to understand whether any additional options or issues should be considered.

Question 2: We seek views on whether 'sole use' assets should feature in the definition of the boundary.

Question 3: We welcome views on how customers subject to 'special' metering arrangements should be treated in the definition of the boundary.

Question 4: We welcome views on how customers subject to 'special' settlement arrangements should be treated in the definition of the boundary.

Question 5: We welcome views on how 20kV customers should be treated in the definition of the boundary.

Current classification of customers

2.1. The CDCM applies across all DNOs from 1 April 2010, covering UoS charges where the customers are connected at the High Voltage (HV) and Low Voltage (LV) levels. However some HV customers are currently exempt from the CDCM and charged on the same basis as Extra High Voltage (EHV) customers according to the existing SLCs³ governing the development and delivery of common methodologies.

2.2. The scope of customers subject to CDCM charges is set out in SLC50.10::

- *"Designated Properties are premises or Distribution Systems connected to assets on the licensee's Distribution System at a voltage level of less than 22 kilovolts, but excluding any such premises or Distribution Systems in respect of which the Use of System Charges levied by the licensee are calculated on the same basis as those levied in respect of premises or Distribution Systems connected to assets on the licensee's Distribution System at a voltage level of 22 kilovolts or more".*

2.3. The EDCM licence condition currently sets out that the scope of customers subject to the EDCM, per SLC50A.11 is:

³ Standard licence conditions.

- *"Designated Properties are any of the following: a) Distribution systems connected to assets on the licensee's Distribution System at a voltage of 22 kilovolts or more; b) premises connected to assets on the licensee's Distribution System at a voltage of 22 kilovolts or more; and c) premises which do not fall within (b) ... but which at 1 April 2010 were excluded from the Common Distribution Charging Methodology by virtue of paragraph 10 of standard condition 50 (Development and implementation of Common Distribution Charging Methodology)".*

2.4. The definitions of designated properties in SLC50 and SLC50A replace 'EHV premises' as the basis for determining which customer should be subject to site specific charges. The definitions were designed to maintain the status quo for existing customers when the CDCM was implemented. The definition under the EDCM mirrors this for customers connected on or before April 2010 but currently defines a 'higher' boundary of 22kV and above for new connections. This differs from the previous approach for new connections which included connections to the 11kV busbar of 132/11kV and 66/11kV substation in the definition of EHV.

2.5. This consultation therefore seeks, in relation to the options presented, to determine both the appropriate approach going forward (i.e. whether a 22kV approach is appropriate for new connections) and the basis for charging existing customers connected below 22kV but charged on the basis of higher voltage methodologies.

2.6. Currently the definitions of designated properties mean that the EDCM tariffs would apply to two broad classes of customers when the EDCM becomes in force, i.e. 1 April 2011 as stated in SLC50A:

- Customers and networks supplied at 22 kV or above ('**Class A**').
- Customers that are supplied at HV (at least 1 kV but less than 22 kV) through a dedicated feed from a primary substation and are excluded from the CDCM because they were on site-specific tariffs at 1 April 2010 ('**Class B**').

DNOs' proposed options

2.7. DNOs presented four options for stakeholders to consider in their April 2010 consultation. They set out how the following groups of customers would be classified according to their proposed options:

- **Class A**, customers and networks supplied at 22 kV or above.
- **Class B**, customers supplied at HV (at least 1 kV but less than 22 kV, typically 11 kV, through a dedicated feed from a primary substation) who are currently excluded from the CDCM were further divided by DNOs into three groups:
 - **Class B1** - Customers who were classified as EHV premises and are currently metered at a substation with a primary voltage of 66 kV or above.

- *New customers in this category have been treated as EHV in previous price controls⁴. Older customer connections (pre-1990, for example) would be customers DNOs notified to the Authority as being EHV⁵.*
 - **Class B2** - Customers who were classified as EHV premises and are currently metered at a substation with a primary voltage of at least 22kV but less than 66 kV — typically 33 kV.
 - *These would be customers DNOs notified to the Authority as being EHV⁶.*
 - **Class B3** - Customers who are metered outside the substation.
 - *These would be customers DNOs notified to the Authority as being EHV⁷.*
- **Class C** includes existing customers who are supplied at an HV level of at least 1kV but less than 22kV and are currently subject to the CDCM charges, as well as any new customers who will be supplied at the same levels. DNOs further divided Class C into three groups:
 - **Class C1** - Customers who are metered at a substation with a primary voltage of 66kV or above.
 - *These customers would presumably be those connected before price control definitions deemed this to be EHV, and - under the DNOs' definition - customers connecting during 2010/11.*
 - **Class C2** - Customers who are metered at a substation with a primary voltage of at least 22kV but less than 66 kV.
 - **Class C3** - Customers who are metered outside the substation.

2.8. The estimated number of customers in the DNOs' classes is set out in the tables 2 and 3 below, and figure 1 below seeks to represent the DNOs' definitions.

Table 2 - Estimated numbers of customers in different classes across GB

	Class A	Class B	Class C
Demand	554	70	20,333
Generation	329	11 ⁸	1,032

Source: DNOs' April 2010 boundary consultation, tables 3 and 6

⁴ As explained at paragraph 1.3(b) on page 3.

⁵ As explained at paragraph 1.3(a) on page 3.

⁶ As explained at paragraph 1.3(a) on page 3.

⁷ As explained at paragraph 1.3(a) on page 3.

⁸ Our understanding is that this should read 13 to tie in with the breakdown in table 3 below.

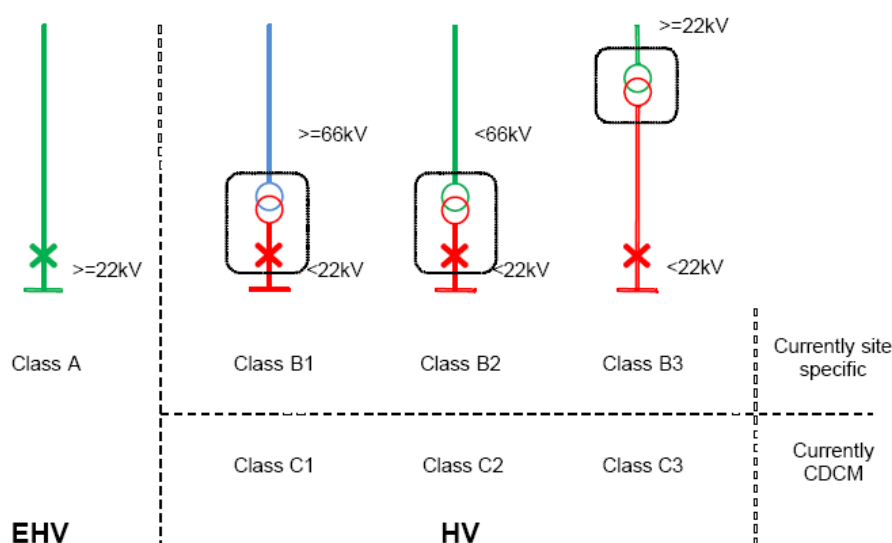
Table 3 - Illustrative breakdown of customers within class B and class C across GB

	Class B, no information	Class B1	Class B2	Class B3	Class C, no information	Class C1	Class C2	Class C3
Demand	2	37	25	6	10,425	5	409	9,494
Generation	3	3	6	1	713	1	30	288

Source: DNOs' April 2010 boundary consultation, tables 4, 5, 7 and 8

2.9. The DNOs' four proposed options are outlined below. We welcome views on any aspect of the options presented in this chapter and seek to understand whether any additional options or issues should be considered.

Figure 1 - DNOs' classification of customers



Source: DNOs' April 2010 consultation paper

Option 1 - No change (NC)

2.10. In this option, from April next year, the EDCM would apply to all customers currently excluded from the CDCM (Class B) and all new customers supplied at 22 kV or above (Class A).

2.11. Respondents should note that this option essentially changes the treatment of connections to the 11kV busbar at 132/11kV and 66/11kV substations for new customers. Such customers were treated as EHV in recent price control definitions but under the DNO option 1 they would be subject to charges under the CDCM. An alternative option would therefore be to maintain the most recent EHV definition going forward. This is considered as option 5 below.

Option 2 - Raised boundary (RB)

2.12. This is a 'straight-line' option, with the EDCM applying only to customers supplied at 22 kV or above (Class A).

2.13. All HV customers currently excluded from the CDCM (Class B) would be migrated to the CDCM on 1 April 2011. Within this class, customers who are not metered at a substation (Class B3) would be charged according to the CDCM tariff structure, i.e. the HV network tariff or for independent DNOs (IDNOs) a set of HV portfolio tariffs. Customers connected to the 11kV busbar of a 132/11kV or 66/11kV substation and currently treated as EHV would be migrated to the CDCM. This approach would require a change to the CDCM approach as the current HV substation tariff does not include 132/11kV and 66/11kV substations.

2.14. For customers metered at a substation with a primary voltage of at least 22kV but less than 66kV (Class B2), the relevant CDCM tariff is an HV substation tariff or, in the case of IDNO networks, a set of HV portfolio tariffs. In respect of customers who are metered at a substation with a primary voltage of 66kV or above (Class B1), the applicable CDCM tariffs are being considered - as explained in the next paragraph, or, in the case of IDNO networks, a set of HV portfolio tariffs.

2.15. Under the CDCM tariff structure, Class B customers who are connected at a 132/11kV substation would be charged HV Substation tariff after migration to the CDCM. The DNOs consider that applying the existing HV substation tariff to this group of Class B customers would overstate the costs for these customers. The DNOs generally consider that, as a condition for this option, at least one new HV Substation tariff within the CDCM would need to be created for both Classes B1 and C1 customers. DNOs have confirmed that new tariffs are possible under this option.

Option 3 - Optional raised boundary (ORB)

2.16. Under this option, HV customers currently excluded from the CDCM (Class B) could elect to remain subject to the EDCM charges or to migrate to the relevant CDCM tariff. The DNOs consider that under this option the choice should be given on a one-off and irreversible basis.

2.17. This is an extension of option 1. Thus, the EDCM would apply to customers supplied at 22kV or above (Class A) and to those Class B customers who choose to stay under EDCM charges⁹.

Option 4 - Lowered boundary (LB)

2.18. Under this DNO option, the EDCM would apply to all existing and new customers metered at a primary substation (Classes B1, B2, C1 and C2) or supplied at 22 kV or above (Class A).

2.19. Whilst newly connecting customers (Class B1) have been treated under EHV charging arrangements since 1990, the lowering of the boundary would see the EDCM extended to all customers currently on CDCM HV Substation tariffs¹⁰. In addition some

⁹ We note that the approach used here could also be used in conjunction with new option 5.

¹⁰ According to Note 4 to Table 5 of Schedule 16 of the DCUSA, HV Substation tariffs apply to "customers connected to the licensee's distribution system at a voltage of at least 1 kV and less than 22 kV at a substation with a primary voltage (the highest operating voltage present at the

IDNO networks currently on HV portfolio tariffs would be migrated to the EDCM from 1 April 2011. HV customers that are currently excluded from the CDCM but are not metered at a substation (Class B3) would be migrated to the CDCM from 1 April 2011.

2.20. Table 4 below shows the re-classification of customers that would take place under the DNOs' different options to change the boundary.

Table 4 - DNOs' classification of customers under their proposed options

	Option NC	Option RB	Option ORB	Option LB
Class A	EDCM	EDCM	EDCM	EDCM
Class B1	EDCM	CDCM	EDCM unless customer opts for CDCM	EDCM
Class B2	EDCM	CDCM		EDCM
Class B3	EDCM	CDCM		CDCM
Class C1	CDCM	CDCM	CDCM	EDCM
Class C2	CDCM	CDCM	CDCM	EDCM
Class C3	CDCM	CDCM	CDCM	CDCM

Source: DNOs' April 2010 consultation paper

2.21. We note that the LB and RB options provide commonality across similar types of customers regardless of when they connected, whereas options NC and ORB do not.

2.22. Following responses to the DNOs' consultation and discussions on this issue a number of other options have come to light, as set out below.

Option 5 - No change 2 (NC2)

2.23. This option is identical to the DNOs' option 1 with the addition that new customers connecting to the lower voltage side (11kV) of a substation with a primary voltage of 66kV or above will be charged under the EDCM. This maintains the policy of previous price controls. This requires a split of DNOs' existing C1 definition, to define as subset as class A1, representing new connections as follows:

- Class A - Customers and networks supplied at 22kV or above.
- **Class A1 - new customers (or materially altered existing connections) connected to the licensee's distribution system at a substation with a primary voltage of 66kV or above. Existing customers of the same type continue to be defined as C1^(E) (existing only) customers.**

substation) of at least 22 kV and less than 66 kV, where the current transformer used for the customer's settlement metering or for metering used in the calculation of the customer's use of system charges or credits is located at the substation."

- Class B - Customers that are supplied at HV (at least 1 kV but less than 22 kV) through a dedicated feed from a primary substation and are excluded from the CDCM because they were on site-specific tariffs at 1 April 2010.

2.24. This option is Ofgem's definition of no change (NC2), as set out in table 5 below. A variant of this, option 5a below, would be to apply this approach to new and existing customers.

Table 5 - Option NC2

	Option NC2
Class A	EDCM
Class A1	EDCM
Class B1	EDCM
Class B2	EDCM
Class B3	EDCM
Class C1^(E)	CDCM
Class C2	CDCM
Class C3	CDCM

Option 5a - Lowered boundary 2 (LB2)

2.25. The DNOs' option 4, LB could be further altered to exclude B2 and C2 customers from the EDCM which would give consistency across new and existing customers on a basis most closely aligned to the treatment of new EHV customers in recent years, in line with DNOs' licences from 1990 (DPCR1 through DPCR4). The DNOs did not consider this option in their consultation. We call this Option 5a, as illustrated in table 6 below.

Table 6 - Option LB2

	Option LB2
Class A	EDCM
Class B1	EDCM
Class B2	CDCM
Class B3	CDCM
Class C1 (i.e. A1 + C1 ^(E))	EDCM
Class C2	CDCM
Class C3	CDCM

Option 6 - Authorised capacity (AC)

2.26. Some DNOs in the past considered connections of a certain size to warrant treatment as if they were EHV customers, for example connections to the network below 22kV of say 10MVA or 15MVA. This approach could 'bolt on' to other options, for example as a 'bolt on' to option LB2 class B2, B3, C2 and C3 customers would be charged under the EDCM should their authorised capacity exceed a set threshold, for example 10MVA, set out in table 7 below.

Additional considerations

2.27. Further issues were raised in the course of the discussion of the options, but are not included in the main options above. We seek views on these issues.

- **Sole use assets:** where a customer is connected at a primary substation employed and solely used by that customer they would be charged on the basis of the EDCM. This option effectively applies to Class A customers and a subset of Classes B1, B2, C1 and C2 customers. Whilst we seek views on this approach (which like option 6 can be used as a bolt on to other options) our understanding is that assets are shareable. This means that the sub-stations are technically not 'sole-use' on a permanent basis. We are concerned for the potential for confusion over what is shareable and what is not and that over time the classification of customers could change between CDCM and EDCM.

2.28. We seek views on whether 'sole use' assets should feature in the definition of the boundary. For example, we welcome any views on how to define 'sole use' and what assets to which 'sole use' could apply, in a way that is both technically and commercially sensible.

- **Metering arrangements:** some DNOs have noted connections where assets are at the primary voltage, for example 132kV, with only the metering provided at, say 11kV. DNOs have argued that such metering is provided to allow easy customer access to the site (being authorised to enter 132kV sites is more onerous than 11kV site access) and because this was the most efficient solution.

2.29. We welcome any views on how such customers should be treated.

Table 7 - Example of the application of option 6 when added to option LB2 with an illustrative threshold of 10MVA

	Option LB2	Option LB2 + Option 6
Class A	EDCM	EDCM
Class B1	EDCM	EDCM
Class B2 ($\geq 10\text{MVA}$)	CDCM	EDCM
Class B2 ($< 10\text{MVA}$)		CDCM
Class B3 ($\geq 10\text{MVA}$)	CDCM	EDCM
Class B3 ($< 10\text{MVA}$)		CDCM
Class C1	EDCM	EDCM
Class C2 ($\geq 10\text{MVA}$)	CDCM	EDCM
Class C2 ($< 10\text{MVA}$)		CDCM
Class C3 ($\geq 10\text{MVA}$)	CDCM	EDCM
Class C3 ($< 10\text{MVA}$)		CDCM

- **Settlement configuration:** one DNO has noted the potential for customers to be treated in settlements as if they are, say, 132kV customers when in fact they are metered at say 11kV. Elexon logs up their settlement as if it is at 132kV after making an adjustment for deemed transformer losses between 132kV and metering at 11kV. The DNO suggests these customers be treated as 132kV connected.

2.30. We welcome any views on how such customers should be treated.

- **20kV connections:** one DNO has noted that modern network design developments mean that some DNOs are trialling the connection of users at 20kV, for example EDF in its London area. The DNO suggests considering that the definition of EDCM customers be extended to 20kV for DNOs where this occurs so that users connected at this voltage can be accommodated. If this is not deemed appropriate, the alternative suggested by the DNO would be to model a 20kV tariff in the CDCM.

2.31. We welcome any views on how such customers should be treated.

DNOs' preferred option

2.32. In proposing a way forward the DNOs assessed the advantages and disadvantages of the options they considered and also took into account the relevant principles and objectives that apply to the development of common charging methodologies. DNOs' views differ on this issue, however on balance their collective preferred option is option 2, Raised boundary, i.e. a common boundary for new and existing customers where connections at or above 22kV are subject to EDCM and below this level connections are subject to the CDCM. This option would mean around 80 customers currently charged on an EHV basis being subject to the CDCM.

2.33. It appears that the DNOs' recommendation was made primarily on the grounds of avoiding the risk of being accused of undue discrimination and in order to achieve commonality. Most DNOs thought that Class B3 and C3 customers (i.e. connected to the wider network rather than to a substation) should be subject to charges under the CDCM rather than the EDCM.

2.34. Some DNOs considered that the options of lowering the boundary from the 22kV level to include certain Class B and C customers in EHV charging were worth exploring, e.g. where the substation and subsequent assets are dedicated to one user, and/or where a customer is metered at a substation and their level of electricity usage exceeds a certain threshold. One DNO considered that the EDCM should be applied as far down the network as modelling allows.

2.35. The next chapter provides an initial assessment of the options, in order to solicit respondents' views. In Appendix 3 we provide an assessment of the potential impacts of the options on customer charges. Appendix 2 provides a summary of responses to the DNOs' consultation.

3. Option Assessment

Chapter summary

This chapter suggests the factors for assessing boundary options, and our evaluation of the options against the factors. Our evaluation addresses other key issues raised by the industry. This chapter should be read alongside our impact assessment in Appendix 3 to this document.

Question box

Question 1: What are your views on our suggested factors for considering the boundary options, and are any other factors relevant?

Question 2: What are your views on the grounds and issues that should be taken into account in determining whether any potential discrimination can be objectively justified? What are your views as to whether discrimination occurs in respect of the options under consideration?

Question 3: We seek views on option 6 along with views on any of the hybrid approaches that respondents consider appropriate.

Question 4: We seek views on the role/treatment of 'sole use' assets in defining the CDCM/EDCM charging boundary and on metering and settlement issues that have been raised.

Question 5: What issues are there around charging impacts? In relation to these are any specific measures required?

Question 6: In view of this chapter and the impact assessment in Appendix 3, what is your preferred option for the boundary, and why?

Relevant factors

3.1. We set out below some factors as guidance for considering the merits of the boundary options, in accordance with the principles and objectives set out in Chapter 1 and we welcome views on these factors.

Commonality

3.2. The DNOs are required to ensure that the UoS charges are determined on a common basis.

Cost reflectivity

3.3. A factor to consider is whether the charging boundary hinders determination of cost reflectivity. Charges are determined on a site-specific / locational basis under the EDCM and on a more average basis under the CDCM. The CDCM requires more approximation than the EDCM, and the level of accuracy of applying the CDCM will reduce in line with the level of diversity of a specific group of customers. Therefore, arguably the more the customers are subject to the EDCM, the more cost-reflective charges are.

Facilitating competition

3.4. Other things equal, transparency of the arrangements applying to customers is expected to be helpful for industry participants and customers including prospective distributed generators and small suppliers who are interested in entering the energy market.

Perverse incentives

3.5. Based on our discussions with the DNOs, we are concerned with a possible perverse incentive that new customers would choose a connection level purely based on the differential in charges under the CDCM and EDCM.

3.6. Whilst the EDCM is currently still under development, the illustrative charging differential suggests that there is scope to improve the cost-reflectivity of the CDCM¹¹ and the EDCM.

Risk of undue discrimination

3.7. By definition 'discrimination' means treating one or more members or a group differently compared with other members of that group without objective justification for difference in treatment.

3.8. We welcome views on the grounds and issues that should be taken into account in determining what boundary treatment can be objectively justified as well as views on whether discrimination may occur in respect of any of the options under consideration.

Evaluation

3.9. We set out below our initial evaluation on the options set out in chapter 2. This is based on a number of sources of evidence, including discussions with the DNOs, responses to their consultation on the issue of boundary in recent months (see Appendix 2) and drawing on our impact assessment in Appendix 3.

3.10. According to the DNOs' latest results of charge modelling the differential in charges between the illustrative EDCM and CDCM could be an issue because it is possible that the charge under the EDCM could be substantially lower than that under the CDCM for the same type of connection, as our impact assessment shows in Appendix 3¹².

3.11. We note that some responses to the DNOs' consultation suggested that customers may seek connections to take advantage of different charges under either the CDCM or the EDCM. At locations on the network where such a choice of connection is possible this

¹¹ Examples of improvements we expect the industry to consider further can be found in Chapter 2 to our decision on the CDCM, Electricity distribution structure of charges: the common distribution charging methodology at lower voltages (Ref 140/09), available on our website at <http://www.ofgem.gov.uk/Networks/ElecDist/Policy/DistChrgs/Pages/DistChrgs.aspx>.

¹² The impacts set out are illustrative as the EDCM is under development.

could provide a perverse incentive for new customers to 'cherry pick' a connection level to take advantage of the lower charges in any specific case. This would represent an unintended consequence which would not be conducive to the development of the common charging methodologies. We note, however, that it is a DNO's responsibility to provide a connection consistent with developing and maintaining an efficient network which should prevent some of these connection requests.

Option 1 - No change

3.12. Under this option, there is no change in boundary for existing customers. From April 2011 the EHV boundary for new customers would be 22kV and above. This means that new customers connecting to the lower voltage side of a 132/11kV and 66/11kV substation will be subject to the CDCM going forward, which is likely to necessitate new HV CDCM tariff classes. The DNOs appear concerned that they are exposed to the risk of being accused of undue discrimination which is not objectively justified due to the inconsistency in their dividing lines to determine whether customers are charged on an averaging (CDCM) or a site-specific / locational basis (EDCM).

3.13. In particular, other than noting the position may have changed over time, they find it hard to justify why Classes B1 and B2 customers are currently charged as if they are EHV customers whereas Classes C1 and C2 customers are treated as CDCM customers. DNOs find it even harder to justify why Class B3 customers are not charged under the CDCM when they are connected at a level below 22kV and metered outside a substation. However, one DNO has commented that the connection voltage is determined at the time of connection and the boundary in place at that time determines what the customer should pay for use of system going forward and customer responses to the DNOs' consultation appeared to favour no change. This amounts to 'grandfathering' of legacy arrangements whilst subjecting fewer new connections to the EDCM than were subject to EHV charging arrangements from 1990 onwards.

3.14. A possible perverse incentive under this approach would be for an existing C1 customer to modify its connection to enable it to become an EDCM customer should charges under EDCM be lower than CDCM charges. Modifying a connection purely to 'game' the boundary does not appear appropriate or efficient.

3.15. A potential disadvantage with this option is the inconsistency in treating customers which reduces transparency and is likely to confuse customers who operate across a number of distribution services areas. The difference in treatment may potentially distort competition in, for example the generation market should similar generator connections be subject to the CDCM at one location and the EDCM at another.

Option 2 - Raised boundary

3.16. Under this option, all class B customers would move from being charged as EHV customers to being charged under the CDCM. Around 80 customers are affected and the illustrative impact on these customers is set out in table A to our impact assessment in Appendix 3, and summarised in table B. This shows that a move to the CDCM generally increases these customers' charges, by an average of 130%, which comprises a range from -71% to 806%.

3.17. Option 2 means that all customers connected at the same voltage level would be subject to the same charging basis - either the CDCM or the EDCM - regardless of when they connected and which DNO's network they are connected to. This straight-line

boundary provides the simplest boundary when compared with other options, without further exceptions to any groups of customers. All DNOs would apply the same rule.

3.18. The clear and transparent nature of this option makes it easy for everyone to understand the boundary. This appears to minimise the scope for discrimination and means that this option may facilitate competition.

3.19. In terms of the impact on the CDCM, we note that the existing CDCM may not cater well for Class B customers moving to it. This issue is that from a commercial perspective it may not be appropriate to apply an average charge (e.g. HV half-hourly metered) to a diverse group that consists of customers who have substantially different levels of electricity demand. This could be the case when some big Class B customers become subject to CDCM tariffs, however this could be mitigated using this option in conjunction with the hybrid option 6 (see below).

Option 3 - Optional raised boundary

3.20. This option gives Class B customers the choice as to whether they want to remain treated as EHV customers (and therefore migrating to EDCM) or whether they want to move to the CDCM. The illustrative evidence shows that the majority of the Class B customers would have to pay significantly more under the CDCM than under new EDCM prices as a result of 'raising' the charging boundary. Based purely on this initial evidence on charges we consider that the majority (at least three quarters) of Class B customers would choose to stay put as EHV customers, leading to issues similar to the no change option, i.e. differences in treatment across customers.

3.21. DNOs generally considered giving Class B customers an option to choose the basis of charging inappropriate as it appears discriminatory. One DNO suggested that whilst they do not believe customers should be given a choice, they thought an exception could be made in the case of legacy customers. They further added that this should be on a one-time only basis and only once the methodology has been finalised and the true impact on these customers is known. Some customers liked this option in their responses to the DNOs' consultation.

3.22. A potential concern with implementing this option is the impact of the decision on other customers, meaning that until customers have made their choice, CDCM and EDCM prices are uncertain. If for example Class B customers made the choice by December 2010 the impact on charges for all customers would not be known until that time.

Option 4 - Lowered boundary

3.23. Under this option all DNOs would apply the same dividing line for determining the basis of charging customers, i.e. applying to customers connected at and above 22kV and to substations where the primary voltage of the substation is at and above 22kV. Under this option, and based on illustrative prices:

- Classes B1 and B2 customers (over 60) stay as EHV customers, and would move to the EDCM which increases charges to just over half of customers (see analysis under option 1; tables A and B and graph A to our impact assessment in Appendix 3);
- Class B3 customers (fewer than 10) move to be charged under the CDCM which increases their charges in each case by over 100%; and
- C1 and C2 customers would move to being charged under the EDCM (more than 400 customers). The sample of customers we present in table C and graph B to Appendix

3 suggests that based on the illustrative charges provided, these customers' charges would fall in moving from the CDCM to the EDCM.

3.24. This boundary could be considered more cost reflective when compared with other options as more customers would be subject to site-specific / locational charges under the EDCM. In addition, this option appears to be clear and transparent which should be effective in facilitating competition.

3.25. Whilst a voltage level based boundary rule (e.g. the raised boundary option) is potentially clearer still, it is possible to employ a charging boundary at a different point on the network and one DNO has stated that larger connections would more generally connect direct to the substation and smaller ones to the wider network, as the wider network cannot easily support larger connections.

3.26. However, some DNOs have argued that lowering the boundary in this way is potentially the most discriminatory option. This is because Classes B1, B2, C1 and C2 would all be subject to the EDCM charges which are generally lower than the comparable CDCM charges. Therefore, compared with other options, there will be the most customers charged (under the EDCM) differently from other CDCM customers, even though they are all connected at a voltage level below 22kV.

3.27. The DNOs generally considered that the fact that these Classes B and C customers are metered at the substation does not seem to be a convincing justification for classifying them under the EDCM. This is because identically sized neighbouring customers located on the network a very short distance from the substation would be classified as CDCM customers as they are not connected to the 11kV busbar. The EDCM models the network down to 33/11kV but not the wider 11kV network. It is not currently possible to model the impact of subjecting more than 20,000 wider HV network customers to EDCM charges (C3 customers) or to implement this approach at this time in the project.

3.28. Secondly, and as mentioned above, customers may seek connections at a substation rather than to the wider network to take advantage of the classification as EDCM at the substation. Some DNOs are concerned that under this option, the perverse incentive for new customers to 'cherry pick' a connection level to take advantage of the lower charges in the immediate future under the EDCM would lead to adverse unintended consequences which would not be conducive to the development of the common charging methodologies. We note earlier that we consider that DNOs' obligation to maintain an efficient network could counter this concern.

3.29. An additional disadvantage is that treating substation customers within Classes B and C in an exceptional way would add minor complexity to classifying customers, thus reducing transparency. At least one DNO is struggling to classify its customers as connected to a substation or the wider network which could impede implementation of this option for that DNO.

Option 5 - No change 2

3.30. This option represents a continuation of the existing approach rolled on from the previous (DPCR4) price control (22kV and above plus connections to the 11kV busbar of 132/11 and 66/11kV substations) and could be used as an enduring solution, or an interim solution should this be required. The impact on customers is the same as for all other customers in the move to the new common methodologies.

3.31. It appears from the licence definitions of EHV premises that the treatment of EHV customers should be broadly consistent across DNOs from 1990. The issue with using this as an enduring solution is whether it is appropriate to treat existing and new customers differently, as discussed above.

Option 5a - Lowered boundary 2

3.32. This option ensures a consistent boundary, based on the arrangements set out in the licence for EHV customers connecting or materially changing their existing connections from 1990 onwards. In this sense it is a simple option.

3.33. The option would entail C1 customers moving in to the EDCM (this affects possibly fewer than 10 customers who would, on the basis of current illustrative charges generally see their charges reducing) and B2 and B3 customers moving from EHV based charging to the CDCM (which affects fewer than 40 customers who would see their charges increase). A key question with this option is whether a charging boundary dividing line between 66/11kV and 33/11kV substations is appropriate and we seek views on this.

Option 6 - Authorised capacity

3.34. This option is to be used in conjunction with other options and potentially mitigates the concern that from a commercial perspective it may not be appropriate to apply an average charge (e.g. HV half-hourly metered) to a diverse group that consists of customers who have substantially different levels of electricity demand. This would be the case when some big Class B customers become subject to CDCM tariffs, however treating larger customers as EHV would solve this issue. An alternative approach to this issue could be to increase the number of HV tariff classes.

3.35. A number of DNOs would support this approach. One concern raised around this option regards the definition of, and changes to, customer capacity since customers could potentially 'flip-flop' between EDCM and CDCM charging categories over time. One DNO advocates a hybrid approach with EDCM customers defined as:

- Group 1, All Class A,
- Group 2, Classes B1, B2, B3, C1, C2 & C3 – where the substation and subsequent assets are dedicated to one user (see below), and
- Group 3, Remaining Classes B1, B2, C1 & C2 – where the users Agreed Capacity is greater than, say, 10MVA¹³. All other classes should be charged on an applicable CDCM tariff.

3.36. We seek views on option 6 along with views on any 'hybrid' approaches that respondents consider appropriate.

¹³ Around 55% of Class B customers have an authorised capacity at or above 10MVA, and around 35% of Class B customers are at or above 15MVA.

Assessment of additional issues

Sole use assets

3.37. There could be merit in treating as EDCM some customers connected below 11kV but who make no (or very minimal) use of the HV/LV networks, so long as their 'sole use assets' can be clearly and appropriately defined. Our initial views are that we have concerns about the ability to define such customers in a clear manner, and note that assets are potentially shared. We also note the potential for movement between EDCM and CDCM charging categories should sole use assets become shared.

Metering and settlement issues

3.38. We are not clear the extent to which special metering and settlement issues impact on the costs imposed on the network, and we seek views on whether these customers are a special case.

20kV connections

3.39. We seek to understand this issue further, and request both information on the number of affected customers, the characteristics of these customers relative to other EDCM/CDCM connections and whether there are any other similar instances.

Charging impacts

3.40. Based on the initial illustrative evidence DNOs provided, we have carried out an impact assessment, as set out in Appendix 3. The impact of any reclassification of the boundary on existing customers appears significant for the majority of potentially affected customers in terms of the difference between illustrative EDCM prices and CDCM prices using existing tariff structures.

3.41. Some DNOs have suggested that the differential in charges under the CDCM and the EDCM for the same customer could reflect some areas for improvements in the two common charging methodologies. The CDCM is at its early stage of implementation and open governance is aimed at ensuring the industry will improve the methodology as appropriate. The key issue here is the difference between EDCM and CDCM prices for customers where the boundary is grey. However, the number of customers subject to the EDCM and their associated charges has a knock-on impact on CDCM charges.

3.42. In respect of charging volatility, the possible implications of options 'No Change' and 'Raised Boundary' are set out in Table B to Appendix 3. A number of end users have quoted one reason for their preference for maintaining the status quo for now was to minimise charging volatility, particularly following implementation of the CDCM from April 2010. We recognise this common concern in the context of both the determination of the charging boundary and the development of common charging methodologies. We would like to encourage interested parties to share concerns and views with us around the potential movement between charging categories, along with views on potential remedies.

Respondents' views

3.43. In view of our assessment, we seek to understand what other issues should be considered, and respondents' views on how any issues should be addressed. We would also like to know what respondents' preferred options are, and why. As set out in the conclusion to our impact assessment in Appendix 3, we will consider consultation responses in coming to a final decision on this matter.

4. Next Steps

Chapter summary

This document has considered the options around the boundary between CDCM and EDCM charges. In this chapter we set out next steps and associated timescales. We also highlight that we will be holding a workshop on the charging boundary on 28 June.

Question box

Question 1: We seek views on the next steps we have noted and the associated timescales.

Question 2: We seek views on whether the boundary should additionally change over time, for example in response to technological developments.

Timelines

4.1. Following conclusion of this consultation in early July, we anticipate the following:

- This consultation includes illustrative charging impacts. The impacts presented here are expected to change as the DNOs continue to develop the EDCM methodology ahead of submission to the Authority by 1 September. We will therefore update our impact assessment (Appendix 3) towards the end of June should impacts change materially through this consultation period;
- We note that DNOs are currently planning to consult on their methodologies from around 18 June. Respondents may find it useful to read and consider the DNO document in conjunction with this consultation;
- Making a decision on next steps by late-July;
- Discussing any changes to the licence via a licence change working group. We anticipate one to two meetings will be required to discuss this;
- Any changes to the licence as a result of this decision would be subject to a minimum 28-day statutory consultation period and would be timed (subject to DNOs not blocking any proposed change) to ensure a change in the licence by 27 August 2010;
- Any knock-on impacts to the methodology at lower voltages would have to be progressed through open governance arrangements under the DCUSA; and
- We note the wider issues raised by respondents in response to DNOs' consultation on this issue and expect DNOs to action these responses where appropriate.

4.2. We seek views on the next steps noted and the associated timescales.

Workshop on the charging boundary - 28 June, 2.30pm

4.3. We are aware that this is a relatively complex issue and are keen to ensure all interested parties understand the options, impacts and potential next steps.

→ **We are planning to hold a workshop to discuss this consultation on 28 June from 2.30pm, at or near the Energy Network Association's office in London.**

Discussion of the boundary will follow a morning session on the DNOs' consultation on the EHV methodologies¹⁴. Attendance for this event is being arranged by the ENA. Please contact Craig Handford, by emailing craig.handford@engage-consulting.co.uk on or before 23 June to register your attendance at this event, stating whether you want to attend for the whole day or for the boundary session only.

4.4. DNOs should ensure that affected customers are aware of both our workshop and this consultation at the earliest opportunity, and need to engage these customers on an ongoing basis.

Longer term development

4.5. We seek views on when/whether the boundary should additionally change over time, for example in response to technological developments such as smart metering or enhanced computing power which could make it easier to run the EDCM at lower parts of DNOs' networks in the future.

¹⁴ The DNOs' EDCM consultation will be published on the ENA's website at <http://2010.energynetworks.org/edcm/>.

Appendices

Index

Appendix	Name of Appendix	Page Number
1	Consultation questions	27
2	Summary of responses to DNOs' boundary consultation	29
3	Impact Assessment	38
4	The Authority's Powers and Duties	50
5	Glossary	53
6	Feedback Questionnaire	55

Appendix 1 - Consultation questions

- 1.1. Ofgem would like to hear the views of interested parties in relation to any of the issues set out in this document.
- 1.2. We would especially welcome responses to the specific questions which we have set out at the beginning of each chapter heading and which are replicated below.
- 1.3. Responses should be received by 13 July 2010 and should be sent to:
- Chris Chow
Distribution Policy
9 Millbank
London SW1P 3GE
020 7091 7021
chris.chow@ofgem.gov.uk
- 1.4. Unless marked confidential, all responses will be published by placing them in Ofgem's library and on its website www.ofgem.gov.uk. Respondents may request that their response is kept confidential. Ofgem shall respect this request, subject to any obligations to disclose information, for example, under the Freedom of Information Act 2000 or the Environmental Information Regulations 2004.
- 1.5. Respondents who wish to have their responses remain confidential should clearly mark the document/s to that effect and include the reasons for confidentiality. It would be helpful if responses could be submitted both electronically and in writing. Respondents are asked to put any confidential material in the appendices to their responses.

CHAPTER: Two

Question 1: We welcome views on any aspect of the options presented in this chapter, and seek to understand whether any additional options or issues should be considered.

Question 2: We seek views on whether 'sole use' assets should feature in the definition of the boundary.

Question 3: We welcome views on how customers subject to 'special' metering arrangements should be treated in the definition of the boundary

Question 4: We welcome views on how customers subject to 'special' settlement arrangements should be treated in the definition of the boundary.

Question 5: We welcome views on how 20kV customers should be treated in the definition of the boundary.

CHAPTER: Three

Question 1: What are your views on our suggested factors for considering the boundary options, and are any other factors relevant?

Question 2: What are your views on the grounds and issues that should be taken into account in determining whether any potential discrimination can be objectively justified? What are your views as to whether discrimination occurs in respect of the options under consideration?

Question 3: We seek views on option 6 along with views on any of the hybrid approaches that respondents consider appropriate.

Question 4: We seek views on the role/treatment of 'sole use' assets in defining the CDCM/EDCM charging boundary and on metering and settlement issues that have been raised.

Question 5: What issues are there around charging impacts? In relation to these are any specific measures required?

Question 6: In view of this chapter and the impact assessment in appendix 3, what is your preferred option for the boundary, and why?

CHAPTER: Four

Question 1: We seek views on the next steps we have noted and the associated timescales.

Question 2: We seek views on whether the boundary should additionally change over time, for example in response to technological developments.

Appendix 2 - Summary of responses to DNOs' boundary consultation

1.1. The DNOs consultation closed in May. A summary of responses, prepared by DNOs is provided below. Responses are published in full (alongside the DNOs' consultation and DNOs' comments to responses) at <http://2010.energynetworks.org/edcm/>.

High level summary of responses

Respondent	Type	Preferred option
Chemical Industries Associate (CIA)	Group of end users	ORB with transitional relief
Corus	End user	ORB and optional lowered boundary
Power Efficiency / Morgan Stanley	End user	NC
CE Electric (CE)	DNO	RB
Central Networks (CN)	DNO	RB
EDF Energy Networks (EDFEN)	DNO	New proposal (dedicated substation or over 10 MW, one-off customer choice)
Electricity North West (ENW)	DNO	RB
SP Energy Networks (SPEN)	DNO	RB
SSE Power Distribution (SSEPD)	DNO	New proposal (one-off choice for legacy or over 10 MW)
Western Power Distribution (WPD)	DNO	LB

Responses to DNOs' options and more detailed comments

1.2. This section sets out more specific issues and comments, including answers to four DNO questions (referenced in the 'question' column to the tables below) set out below. References to appendices etc in these responses are to the DNOs' consultation document, and many of the comments are taken verbatim from responses:

- DNO question 1: Should other options be considered?
- DNO question 2: Are there any other implications of increasing the number of sites that are charged for on a site specific basis that should be taken into account, such as billing implications or Line Loss Factor Class implications?
- DNO question 3: Are there any advantages or disadvantages of each option that we have not identified above?
- DNO question 4: Which option for the boundary between EDCM and CDCM would you prefer? Should the option involving customer choice be pursued?

Responses concerning DNO option 1 (NC)

Issue / comment	Raised by	Question	Response Type
<p>Our client's preferred option is NC (No change).</p> <p>We believe that this option best reflects the circumstances involved in the set up of existing Class B Customer sites, including but not limited to the financing and ownership of the required infrastructure, the rationale behind the original infrastructure investment decisions made by the site owners as well as the site-specific arrangements between the site owners and the Distribution Network Operators.</p> <p>We share the view expressed in the consultation that the implementation of option NC can be justified by legacy arrangements.</p> <p>We do not share the view expressed in the consultation that the implementation of option NC and the resultant application of different tariffs based on the connection date (i.e. up to and including 01 April 2010 / post 01 April 2010) may be seen as discriminatory. We believe that option NC provides the necessary protection for and recognition of investment decisions made for sites connected prior to the EDCM, whilst providing adequate cost and planning signals to new connections.</p>	Power Efficiency / Morgan Stanley	General	Preferred option: NC
<p>The option of making no change to the EHV boundary could be considered discriminatory.</p> <p>Many of the Class B customers are connected to the network at the same level as class C customers, but are priced on a different charging methodology. We believe that there is no good reason for maintaining this inconsistent charging basis and that the option for no change should be dismissed.</p>	ENW	Q1	Argument against NC

Responses concerning DNO option 2 (RB)

Issue / comment	Raised by	Question	Response Type
<p>The mechanisms associated with three of the four proposed solutions (options NC, ORB and LB) entail the application of both charging methodologies – the EDCM and the CDCM – to different classes of customers connected to distribution networks at the same voltage. We view this to be inherently discriminatory and, as such, support the implementation of option RB</p>	CN	General	Preferred option: RB
<p>The mechanisms associated with three of the four proposed solutions (options NC, ORB and LB) entail the application of both charging methodologies – the EDCM and the CDCM – to different classes of customers connected to distribution networks at the same voltage. We view this to be inherently discriminatory and, as such, support the implementation of option RB</p>	CN	General	Preferred option: RB
<p>We believe that moving the boundary up to 22kV has the lowest impact on customers. It also provides a clear and consistent boundary between EDCM and CDCM which will be beneficial to all customers. Having the boundary at a distinct voltage level, ensures there is no ambiguity and no potential discrimination issues. We believe that this is clearly the best option.</p>	ENW	General	Preferred option: RB

Issue / comment	Raised by	Question	Response Type
Of the other, objective, options, we believe that Raised Boundary is the preferable one, as extending the EDCM to lower voltage levels defeats the purpose of cost reflective charges, as it involves a great deal of approximation and therefore spurious accuracy.	SPEN	General	Preferred option: RB
<p>The indicative costs provided in the consultation show significant increase for customers classed as EHV sites and charged on a site specific basis should they be moved to the CDCM and given an average charge based on the current HV network tariff. The estimated income recover for these 10 customers is currently £1.8m moving to £5.5m under the CDCM HV network tariff.</p> <p>Given that there are 34 customers across the county in this situation we would therefore have preferred to stay with the no change option, with a view to addressing these inconsistencies over time. We do however recognise Ofgem's desire for a common approach across all DNOs, and the fact that this could be considered discriminatory, with that in mind we would therefore support the preferred option in the consultation which raises the boundary to 22kV but with a provision for the option suggested by SSE, for customers who have physical metering on 11kV side of a 132/11kV transformer but metering calibrated to reflect the losses and thus connection is effectively metered at 132kV. We believe this could also be applied to 66kV customers.</p> <p>It is important to note that customers metered for convenience at the primary voltage do not benefit from the interconnection of the lower voltage network and therefore it seems inequitable that they should pay for a share of these assets on the same basis as those who fully utilise the network.</p>	CE	Q1	Preferred option: RB
Our conclusion is that a 'clean' voltage-based boundary is the only one that does not carry an inherent risk of discrimination and, as such, option RB is the only acceptable alternative. The implementation of any alternative presented in the consultation document (including option RB) may spawn transitional issues in some cases and these may require sensitive treatment (possibly amounting to transitional relief). However, we do not believe that transitional issues should be the main factor when consideration is given to an appropriate and defensible boundary between the EDCM and CDCM in the longer term.	CN	General	Comment
If the boundary is raised to option RB then it will be imperative to increase the tariff options within the CDCM	EDF	Q3	Comment
EDCM should apply to customers metered at 22kV or above. This should include customers who have physical metering on 11kV side of a 132/11kV transformer but metering calibrated to reflect the losses and thus connection is effectively metered at 132kV. The customer in settlements trades as a 132kV customer.	SSEPD	General	Comment
It is our understanding that the 14 Distribution Network Operators' preferred option is RB (Raised Boundary). The implication of this option would be that all existing HV customers currently exempt from the CDCM (Class B Customers) would be migrated to the CDCM on 01 April 2011.	Power Efficiency / Morgan Stanley	Q4	Argument against RB

Issue / comment	Raised by	Question	Response Type
<p>We are highly concerned by the potential implications of option RB as we do not believe that the automatic migration of all Class B Customer sites recognises individual circumstances at the affected sites or the background of the site specific infrastructure arrangements. In addition, we share the view expressed in the consultation that this option carries a high risk of shocks to Class B Customers' distribution charges. The consultation document includes a cost estimate for our client's site at Heathrow Corporate Park, which indicates that distribution charges could rise by approximately 46% if option RB was implemented. We also note that the potential increases to charges for other Class B Customers may be significantly higher.</p> <p>We believe that option RB in its current format is not appropriate and we therefore strongly oppose it.</p>	Power Efficiency / Morgan Stanley	Q4	Argument against RB

Responses concerning DNO option 3 (ORB)

Issue / comment	Raised by	Question	Response Type
<p>At this stage, the option involving customer choice, ORB, should therefore be pursued as some customers will prefer to have control over whether their connection charges are largely fixed in nature or variable. In addition, as referred to in Table 2, it may benefit some customers, particularly Classes B1 and B2/B3 but not others, to have a more cost reflective charge as may be the case under EDCM. However, as identified, the risk of discrimination between Class B & C would mean that a similar choice may have to be allowed for at least classes C1 and C2 to opt for a lower boundary, effectively an OLB. If both an ORB option for Class B customers and an OLB option for Class C customers cannot be accommodated then the current ORB option may also have to be dropped.</p>	Corus	General	Preferred option: ORB and optional lowered boundary
<p>The options described seem appropriate and relevant. Making a special case for Class B3 seems rather strange as allocation to this class seems to be purely based on the position of the meter, I would question how relevant making this Class a special case is. The ability to opt for a lowered boundary, effectively an OLB, see later, should be considered for Class C1 customers, and maybe Class C2 as well. C1 customers are pretty similar to B1 customers so such an option should be considered.</p>	Corus	Q1	Comment
<p>As an end user the predominant factor in supporting one option over another will always be obtaining acceptable security for lowest possible cost, until costs under the various options are better known and disseminated it is not possible to make that choice. If forced to make a choice on the limited information available to date the adoption of the ORB option would be preferred, provided that adequate information was provided and enough time given for consideration ahead of making the choice.</p>	Corus	Q4	Comment

Issue / comment	Raised by	Question	Response Type
<p>Of the options presented the Optional Raised Boundary (ORB) option is more favourable and should form the basis for further development. This allows affected consumers the option to choose the charging methodology and hence lessen any potential cost impact. This disadvantage of this is the potential discrimination of class C sites and hence the comments earlier in this paragraph are supported. Overall we support options that allow end consumers the ability to adapt and adjust as members are both expanding and downgrading plant in a continually changing environment.</p>	CIA	Q1	Preferred option: ORB
<p>We do not believe that customers should be given a choice on which charging methodology they should be priced under, we could however make an exception the case of the legacy customers on a one-time only basis once the methodology has been finalised and the true impact on these customers is known. In reality the connection voltage is determined at the time of connection and the boundary that is in place at that time determines what the customer should pay for use of system going forward.</p>	CE	General	Argument for customer choice to be one off
<p>We would support giving the current legacy HV metered customers who have site-specific charges (as listed in paper) the option to remain in EDCM. However, they must decide prior to April 2011 and cannot "flip-flop" afterwards. The issue of potential undue discrimination of other HV customers on CDCM needs to be carefully considered.</p> <p>We would also support applying EDCM to customers whose "qualifying demand" is equal to or greater than 10MW. The qualifying criteria could be similar to the 100kW qualifying threshold.</p> <p>If our preferred option is adopted, we would support creation of a 132/11kV (or 66/11kV) substation tariff in CDCM and review the determination of the HV Substation tariff.</p>	SSEPD	General	Preferred option: new proposal with one-off customer choice
<p>Finally, as an alternative to our preferred option NC, which would equally be applied to all Class B customer sites, we believe that the implementation of choice-based option ORB (Optional Raised Boundary) would also represent a suitable outcome of the consultation.</p> <p>We therefore believe that pursuing this option would be appropriate.</p>	Power Efficiency / Morgan Stanley	Q4	Second preference: ORB
<p>The ability for customers to choose will depend on the outcome of the boundary decision. In principle we support the ability for customers to choose site specific EDCM charges in preference to CDCM where their type of connection permits (this would exclude HV network and below) and where there is suitable materiality to warrant the cost of administering the charges. However, if our boundary option and other charging observations are progressed then we feel that the ability to have customer choice will be less important as the groups outlined above should provide good deciding factors for using the EDCM above the CDCM. Otherwise, it should be clear that where a choice to move methodologies has been made that no subsequent 'flip-flopping' between methodologies will be allowed.</p>	EDF	Q4	In favour of customer choice

Issue / comment	Raised by	Question	Response Type
We do not believe that customers should be given a choice on which charging methodology they should be priced under. This raises potential discrimination issues that some customers that connect at the same voltage level have the option to cherry pick the cheaper charge while others do not. It also raises the possibility of customers flipping between pricing methodologies rather than incurring the charge that is most appropriate to that customer. Furthermore, a customer that moves between charging methodologies can have a potential impact on other customers charges, particularly within EDCM and it would not be fair for EDCM customers to incur an increase because a customer has decided to move to CDCM for the next year.	ENW	Q4	Arguments against customer choice
We believe that there should not be customer choice, as this is the only option for DNOs to discharge, without room for arguing otherwise, their duty of non-discrimination between customers. Any option involving customer choice will expose the DNO to future challenges under competition law. Also, it is not clear how a customer would play the options to ensure that they pay the lowest DUoS charges (pushing the recovery of allowed revenue to other customers and therefore allowing unfair cross-subsidies). Would the customers be allowed to "flip" in an out of the methodologies?	SPEN	Q4	Arguments against customer choice

Responses concerning DNO option 4 (LB)

Issue / comment	Raised by	Question	Response Type
The boundary should be set at a voltage level which is as low as is possible consistent with load flow modelling limitations.	WPD	General	Preferred option: LB
Ignoring who owns the assets, the most efficient network results from connecting customers to the lowest possible voltage as this reduces the number of substations/transformers on the network	WPD	General	Comment
Retaining the lower voltage busbar at a substation as part of the distribution network (rather than it being customer owned) allows additional feeds to local networks reducing future reinforcement costs and improving reliability	WPD	General	Comment
In moving the boundary down the impact on the CDCM also needs to be taken into consideration. The impact on most HV customers from April 2010 has already been significant with most customers seeing much increased prices. We need a period of stability for these customers and a period over the coming year to allow the full impact of the CDCM to be analysed.	CE	General	Argument against LB
Yes, availability of LLFCs.	SPEN	Q2	Pt against LB
SSE with its out of area networks has particular issue with limited availability of LLFCs. Also having a large number of site specific tariffs will increase administration and costs. So a pragmatic and cost reflective solution should be adopted.	SSEPD	General	Argument against LB
We believe there is the a potential issue with the number of LLFCs which would be required if the boundary were to move down and the associated cost of managing site specific charges for a significantly increased number of customers should be taken into consideration.	CE	General	Argument against LB

Issue / comment	Raised by	Question	Response Type
There are two factors that we see as important in deciding whether HVS customers should be included within EDCM. The first factor is again one of discrimination. If the boundary is lowered to include HVS customers there will be customers connected at the same level of connection, but on different charging methodologies. This situation could occur where one customer is metered within the substation and a second customer is metered just outside the substation. It would not be appropriate to use a different charging methodology under this circumstance where the physical connection of two customers is very close. The second factor is whether it is more appropriate to charge HVS customers on a locational (EDCM) or average (CDCM) charging methodology.	ENW	General	Arguments for and against LB
We believe that it is only appropriate to provide locational signals to customers who can react to the signal and change their behaviour as a result. Customers are more likely to change their behaviour where they have a large annual consumption or capacity requirement. In our area, the typical HVS customers are as large as our EDCM customers and it would appear sensible to extend the EDCM charging methodology to these customers. However, other DNOs have found that HVS customers tend to be much smaller than EDCM customers and therefore we believe that it is not appropriate to lower the boundary to include HVS customers within EDCM	ENW	General	Arguments for and against LB

Responses concerning additional options and technical issues with options

Issue / comment	Raised by	Question	Response Type
The charges contained within Appendix A show a large change (generally an increase) in the expected charge for class B customers if they are moved from the current EHV charging methodology onto the appropriate CDCM tariff. For customers connected at a 132/11 substation, these customers would fall into the HH metered tariff within CDCM. However, this is not an appropriate tariff and therefore overstates the costs. While this may give the impression that the EHV boundary should be moved down to include HVS customers, the CDCM should be amended to create a new 132/11 substation tariff to ensure these customers are not disadvantaged. We would therefore support the introduction of a new 132/11 substation tariff within CDCM as a condition of moving the boundary up to 22kV.	ENW	General	Comment
With regard to the actual physical boundary location we do not feel that a charging methodology boundary should stifle efficient network design. So while it may be advantageous to have a clearly defined boundary for the benefit of Suppliers and users, this might not deliver the most efficient network design. Additionally if the charging boundary is lowered too far the increase of individually charged users may unnecessarily increase the charging administration costs for both DNOs and Suppliers. Therefore, achieving the 'best' charging boundary may necessitate more sophisticated parameters than those currently offered. Our preferred options for the charging boundary would be to allocate the following class groups to the EDCM: Group 1, All Class A, Group 2, Classes B1, B2, B3, C1, C2 & C3 – where the substation and subsequent assets are dedicated to one user, Group 3, Remaining Classes B1, B2, C1 & C2 – where the users Agreed Capacity is greater than [10MVA].	EDFEN	General	Preferred option: new proposal

Issue / comment	Raised by	Question	Response Type
<p>All other classes should be charged on an applicable CDCM tariff. Separating the B and C classes into Group 2 and 3 would have the advantage of allocating individual costs using the EDCM to those users whose use was 'sterilising' assets from other users as in the case of a dedicated transformer connection (Group 2) or where the materiality of their connection was sufficient to warrant the need to model their cost individually (Group 3). As long as there are documented rules for assigning the EDCM to users we do not feel that there should be any issues over clarity. Additionally Suppliers and users will be able to identify EDCM MPANs though the LLFC allocated by the DNO.</p>	EDFEN	General	Preferred option: new proposal
<p>We have detailed our preference for allocating the EDCM based on additional criteria of dedicated assets and materiality of the connection. A further consideration could be to allow flexibility to DNOs to lower the 22kV voltage parameter to 20KV so that modern network design individual to some DNOs and the users connected at this voltage can be accommodated. An alternative to this would be to model a 20kV tariff in the CDCM.</p>	EDFEN	Q1	Treatment of 20 kV assets.

General comments, including pricing impacts

Issue / comment	Raised by	Question	Response Type
<p>As a final statement we would like to highlight that there is minimal transparency in the calculation of electricity distribution charges in sharp contrast to gas where distribution charges and hence overall cost can be easily found and calculate. We support the move to further transparency.</p>	CIA	General	Comment
<p>Given the potential high cost impacts to some of our members, we are disappointed that it appears input from end users has not been sought. The CIA was unaware that this consultation was taking place, it is also apparent that our members and their suppliers were also in the dark. Given the complex nature of the discussions we fully understand that valued technical input may not always be available from the consumer side. However given the impacts, we feel it is up to the industry to engage early with end users and fully explain the detail, to allow energy consumers to feedback positively.</p>	CIA	General	Complaint about transparency
<p>Before commenting on the more detailed nature of the consultation we would first like to remark on the potential charge increases if some boundary changes are made.</p> <p>Although there could be some winners with some proposed boundary changes there is a significant amount more of potential losers. Looking at the examples in more detail, the magnitude of the changes do not inspire confidence in the fairness of either existing, or proposed charging methods. The potential rises are not 10%, 20%, 30% but in some cases (CE NEDL as an example) there could be up to eightfold increases for class B customers. At a time of economic recovery we would question a sudden increase in charges that are currently not transparent and do not allow end users to budget ahead for. If current arrangements are deemed inadequate and hence boundary changes are definitions of EHV / HV are changed, there must be proposals to ensure that new charges are phased in, therefore limiting the potential damaging effect of eight fold price increases.</p>	CIA	General	Argument against shocks

Issue / comment	Raised by	Question	Response Type
We believe that the average EDCM UoS charge and the average CDCM UoS charge at the same network boundary location should be roughly similar. Therefore, on average, there should be no observed financial advantage of being charged using the EDCM or CDCM at the same network boundary location. There is an interaction between engineering decision on network design and the commercial framework which includes UoS charges. What is sought is the most economically efficient engineering solution. It is therefore imperative that users should not perceive that one methodology provides lower charges than the other and for this to drive the decision about connection location of their desired voltage/method of connection. Any boundary selected and consequential methodology must minimise perverse incentives.	EDFEN	General	Comment
To contribute to this principle and minimise perverse incentives it is also important that the charge structure is similar between the EDCM and CDCM so that users with a high or low load factor do not gain a benefit from one methodology due to the difference in fixed and variable charges. For example, under the current design of the EDCM a low load factor user would benefit from charges through the CDCM due to the lower allocation of revenue recovery to fixed charges. Because of this effect we would like to see a similar use of fixed, capacity and unit charges in similar proportions in the EDCM as there are in the CDCM.	EDFEN	General	Comment
We are satisfied that the options outlined provide a balanced view on potential options for the treatment of existing EHV premises (Class B Customers).	Power Efficiency / Morgan Stanley	Q1	Comment
No, the options considered are sufficient.	SPEN	Q1	Comment
Other than the increase in administration costs we do not foresee any other implications.	EDF	Q2	Comment
Looking at the consultation in more detail we note the advantages and disadvantages of the four proposed options. We believe that options with the lowest risk of customer shocks from boundary issues should be prioritised. We also believe that options should take account of the historic legacy of customers ensuring that the definitions used in the past are as near consistent to that of the future. It is clear that many of the disadvantages of the presented options are the discrimination between the different classifications of customers.	CIA	Q3	Comment
Perhaps there is an over simplification of fitting all the classifications into 2 charging methodologies (CDCM/EDCM) and there is scope to further expand the charging methodologies to lessen this discrimination. Perhaps scaling of charges depending on the classification could be investigated.	CIA	Q3	Comment
You have identified the risk of shocks to customers. However, you have not identified the Other Factor of potential moves of customers between essentially fixed EDCM and time banded variable charges under CDCM. The LB Option would result in more customers moving to the fixed EDCM charges, from the time banded variable charges under CDCM. The RB Option would have the opposite effect. Essentially the ORB option gives Class B customer the choice of whether to have time banded variable CDCM costs or fixed EDCM costs.	Corus	Q3	Comment

Appendix 3 - Impact Assessment

Question box

Question 1: What other material impact of a boundary change as per the options presented in this document on consumers should be taken into account in considering boundary options?

Question 2: We are interested to receive feedback from IDNOs about the implications of this boundary issue to them, and how the concerns if any could be addressed.

Summary

1.1. This appendix considers the costs, benefits and impact on tariffs of the various options for the boundary between CDCM and EDCM charging approaches.

1.2. We invite views on the issues discussed below. Where they identify issues, costs and benefits, respondents are encouraged to indicate the magnitude of these. We acknowledge that there is a significant qualitative element to this assessment and that it may not be possible to quantify many of the secondary impacts and costs of these proposals.

1.3. The development of the EDCM has not been concluded and both CDCM¹⁵ and EDCM figures shown in this consultation document are therefore illustrative. Respondents should note that the DNOs plan to undertake a consultation on the EDCM later this month (around 18 June) and they may publish more up to date figures within their consultation at that time. We will therefore provide an update on the figures set out in this appendix should these change materially during the course of this consultation. Project development is expected to be ongoing through the summer which will have an ongoing impact on associated illustrative end charges.

Key issues and objectives

1.4. The aim of the structure of charges project is to deliver common charging arrangements across DNOs that meet a baseline concerning relevant objectives covering cost reflectivity, competition, reflecting developments in the DNO's business as well as ensuring the DNOs comply with relevant legislation and their electricity distribution licence.

1.5. The relevant factors for assessing the options for the boundary is set out in chapter 3 and cover commonality, cost reflectivity, facilitating competition, the risk of undue discrimination and of perverse incentives.

¹⁵ CDCM prices are affected by changes to the level of EHV charges since overall allowed revenue has to be recovered overall, meaning the methodologies are linked.

1.6. The key objective of this impact assessment is to consider the costs, benefits and impacts of a move to a common boundary. A key area of the project is commonality and in our decision on the EHV charging methodologies in July 2009 we noted a variance across and within DNOs in the categorisation of certain customers between the CDCM and EDCM charging approaches.

1.7. The benefits of commonality were noted in responses to our earlier consultations on the project and cover efficiency savings to suppliers in terms of increased transparency and reduced administration costs associated with understanding different approaches. Commonality is therefore expected to lower barriers to new generation and supply market entrants. Commonality is also about non-discrimination and the promotion of fair competition and about enabling changes going forward to apply to similar customers. Commonality also facilitates the smooth operation of governance arrangements.

1.8. The costs of commonality are in terms of the impact on customers for whom the boundary changes, and if the boundary is raised this may be considered less cost reflective as more customers would be subject to an average CDCM approach against the more targeted locational EDCM approaches. EDCM charges are expected to be generally lower than CDCM charges and moving the boundary for some customers will have a significant impact on charges.

Options

1.9. The boundary options presented in chapters 2 and 3 predominantly affect two classes of customer, and various subsets of these classes:

- Existing customers that are supplied at HV (at least 1 kV but less than 22 kV) through a dedicated feed from a primary sub-station and are excluded from the CDCM because they are on site-specific tariffs on 1 April 2010 (i.e. Class B as defined in Chapter 2). Class B totals around 80 customers; and
- Customers who are supplied at an HV level of at least 1kV but less than 22kV and are currently subject to the CDCM charges, as well as any new customers who will be supplied at the same HV level (i.e. Class C). Class C totals over 20,000 customers.

1.10. A summary of these options is as follows:

- DNOs' option 1 - no change (NC)
- DNOs' option 2 - raised boundary (RB)
- DNOs' option 3 - optional raised boundary (ORB)
- DNOs' option 4 - lowered boundary (LB)
- Option 5 - No change 2 (NC2), which adds Class A1 customers
- Option 5a - Lowered boundary 2 (LB2), which adds Class A1 customers
- Option 6 - Authorised capacity / other hybrid approaches

1.11. In chapter 3 we ask respondents to consider these options (taking into account this impact assessment), whether alternative options are more appropriate and what the impact of the options means for their viability.

Impacts on consumers

1.12. The definition of the boundary has an impact on customers' charges. Each of the classes outlined in earlier sections (e.g. Class B1) consist of both demand and generation

customers. Customers will be interested in the impact of whatever option is selected against their current charge, and in the difference between this impact and the impact had another approach been applied. Respondents should note that ignoring any boundary options the move to common EDCMs has an impact on EHV customers.

1.13. The boundary options generally impact on the largest users on the system (including motor manufacturers, chemical plants, recycling plants, etc.), and under some options the impacts are significant.

1.14. The illustrative impact on Class B demand customers of a move from existing site specific charges to either CDCM (under option 2, RB) or EDCM (under options 1, NC, and 4, LB) charges is set out in table A below, summarised in table B and shown in graph A. The illustrative impact on Class B generation customers is shown in table C below.

1.15. The illustrative impact on Class C customers is shown in table D and graph B below, on a sample basis.

1.16. Customers are not identified by name in the tables, rather by a reference (ID) number. We are happy to provide customers with details of their ID on request.

Impacts on demand customers

1.17. Option 1, NC, affects only new customers. Existing customers' charges will change on 1 April 2011 (see table A), but only to the extent that the calculation of charges using the DNOs' existing methods is replaced by the EDCM. New 11kV customers connected to 132/11kV and 66/11kV substations would be subject to CDCM prices. New CDCM tariffs are likely to be required for this, since customers would be overpaying on the basis of the existing tariffs which model more of the network than these customers are deemed to typically use. As set out in tables A and C below, CDCM prices are generally higher than EDCM prices.

1.18. The impacts presented here are on the basis of existing CDCM tariffs. This is likely to slightly overstate CDCM prices, and therefore slightly overstate any increases in charge.

1.19. Under option 2, RB, illustrative prices generally increase on existing prices. Graph A shows that for around 45 per cent of customers that would move under this option from EHV charging arrangements to the HV/LV CDCM this would more than double current UoS bills, with some bills rising by more than 300 per cent¹⁶ in this illustrative analysis. These customers represent a small subset of customers but the impact on some customers of this option is significant. We seek to understand the impact on individual businesses of the various proposed options and to understand what this means for the merits of each option.

¹⁶ These figures are on the basis of the CDCM as it is currently, and do not consider possible new tariffs for specific customers, e.g. 132/11kV customers. Any new tariffs would be expected to lessen the illustrative impacts shown here slightly as the new tariffs would be lower relative to those presented in the current CDCM.

1.20. Under option 3, ORB, the impact on individual customers of moving from EHV prices to the CDCM (should they opt to) varies, and given that CDCM prices are generally higher than EDCM prices we would expect a minority of customers to choose to move to the CDCM.

1.21. For option 4, LB, the impacts are as presented for option 1 for Classes B1 and B2 customers. Class B3 customers would move to the CDCM and charges generally increase, Classes C1 and C2 customers who move to the EDCM would generally see their charges reduce.

1.22. Under option 5, NC2, there is no change aside from the general move from existing EHV site specific prices to the EDCM. This represents the 'least change' option (qualitatively at least) as the classification of new customers under the EDCM would mirror the arrangements that have been in place since 1990 in terms of the definition of EHV premises. The impact of this option on customers is the same as for all customers in the move from DNOs' individual EHV methods to the EDCM. This move also has a knock-on impact on CDCM prices. We will carry out an impact assessment on the move to the EDCM once DNOs submit their formal EDCM proposals (i.e. on or before 1 September).

1.23. Option 5a, LB2, maintains existing arrangements and moves legacy (essentially pre-1990) customers in line with the approach taken from 1990. This affects C1 customers (who move in to the EDCM) and Classes B2 and B3 customers (who move out of the EDCM). The impacts on Classes B2 and B3 customers are shown on table A and mirror the general trend for illustrative CDCM prices to be higher than illustrative EDCM prices. There are only a few Class C1 customers and a sample of illustrative prices would suggest that Class C1 customers moving on to the EDCM would generally enjoy reduced prices.

1.24. Option 6, AC, would see some existing Class B customers stay as EHV (and their charges would move in line with the general movement to the EDCM) and some Class C customers become EHV (these customers charges would be expected to generally fall).

Impacts on generation customers

1.25. Affected Class B generation customers are not currently charged for UoS. This is because generation customers connected before 2005 when UoS charges did not apply. During the last price control, DPCR4, generators were exempt from paying UoS charges. In 2010 the exemption was lifted and DNOs are currently proposing to charge such customers.

1.26. The illustrative impact for Class B customers of a move from a zero charge to being charged/credited under the CDCM and the EDCM is set out in table C below. Under option 2, RB, CDCM prices are either low charges or credits to generators. If charged under the EDCM, the illustrative prices range from a credit of £223k to a charge of £23k per year. For the two Class C generation customers provided in the sample the move from current charges to illustrative EDCM charges results in a lower credit or a move from a credit to a charge.

Impacts on consumers more generally

1.27. The level of EDCM charges has a knock on impact on the charges recovered from customers at lower voltages via the CDCM, however this impact is not expected to be material to general customers' bills.

Impact assessment - charging boundary between the EDCM and CDCM June 2010

Table A - Illustrative charging impact on Class B customers under different boundary definitions¹

Customer ID	DNO	Customer Class	Demand/ Generation	Illustrative 2010/11 DUoS charges (£/year)			Impact of moving from current charge to the CDCM (option RB)		Impact of moving from current charge to the EDCM (options NC and LB) ⁵	
				Under current arrangements (1)	Under the CDCM ^{2, 3} (2)	Under the EDCM ⁴ (3)	Absolute change in annual charge (£/year) (2)-(1)	% change in annual charge [(2)-(1)]/(1)	Absolute change in annual charge (£/year) (3)-(1)	% change in annual charge [(3)-(1)]/(1)
1	EDF EPN	B1	Demand	349,256	1,663,000	423,150	1,313,744	376.2%	73,894	21.2%
2	CE NEDL	B1	Demand	132,476	1,054,900	367,350	922,424	696.3%	234,874	177.3%
3	WPD WALES	B1	Demand	918,602	1,739,050	917,500	820,448	89.3%	-1,102	-0.1%
4	CE NEDL	B1	Demand	646,369	1,447,050	387,650	800,681	123.9%	-258,719	-40.0%
5	WPD WALES	B1	Demand	1,376,928	2,107,850	1,482,000	730,922	53.1%	105,072	7.6%
6	EDF EPN	B1	Demand	92,605	502,600	161,100	409,995	442.7%	68,495	74.0%
7	CE NEDL	B1	Demand	88,396	460,300	127,450	371,904	420.7%	39,054	44.2%
8	WPD WALES	B1	Demand	158,504	489,450	274,800	330,946	208.8%	116,296	73.4%
9	WPD WEST	B2	Demand	146,846	476,350	191,500	329,504	224.4%	44,654	30.4%
10	WPD WEST	B2	Demand	246,981	551,900	291,700	304,919	123.5%	44,719	18.1%
11	EDF EPN	B2	Demand	80,420	378,100	114,350	297,680	370.2%	33,930	42.2%
12	SP DIST	B2	Demand	174,006	469,800	193,850	295,794	170.0%	19,844	11.4%
13	SEPD	B3	Demand	236,596	527,500	80,450	290,904	123.0%	-156,146	-66.0%
14	CE NEDL	B1	Demand	129,172	416,700	135,600	287,528	222.6%	6,428	5.0%
15	CN West	B1	Demand	108,042	390,000	125,200	281,958	261.0%	17,158	15.9%
16	WPD WALES	B1	Demand	118,746	370,950	162,300	252,204	212.4%	43,554	36.7%
17	CE NEDL	B1	Demand	663,233	894,300	353,750	231,067	34.8%	-309,483	-46.7%
18	SEPD	B2	Demand	284,426	511,900	399,300	227,474	80.0%	114,874	40.4%
19	SP DIST	B2	Demand	435,841	653,050	241,900	217,209	49.8%	-193,941	-44.5%
20	SEPD	B3	Demand	294,820	503,900	62,050	209,080	70.9%	-232,770	-79.0%
21	SEPD	B2	Demand	598,862	795,500	284,350	196,638	32.8%	-314,512	-52.5%
22	WPD WALES	B1	Demand	123,388	308,100	187,050	184,712	149.7%	63,662	51.6%
23	SEPD	B1	Demand	384,109	562,100	322,800	177,991	46.3%	-61,309	-16.0%
24	WPD WALES	B1	Demand	107,857	274,200	195,350	166,343	154.2%	87,493	81.1%
25	WPD WEST	B2	Demand	52,826	189,050	76,450	136,224	257.9%	23,624	44.7%
26	SEPD	B2	Demand	323,360	458,500	72,750	135,140	41.8%	-250,610	-77.5%
27	WPD WEST	B2	Demand	34,598	165,100	117,250	130,502	377.2%	82,652	238.9%
28	WPD WEST	B3	Demand	56,548	182,750	74,600	126,202	223.2%	18,052	31.9%
29	SP DIST	B2	Demand	460,381	586,200	226,050	125,819	27.3%	-234,331	-50.9%
30	CE NEDL	B2	Demand	81,342	204,600	113,500	123,258	151.5%	32,158	39.5%
31	EDF LPN	B2	Demand	299,783	408,400	298,100	108,617	36.2%	-1,683	-0.6%
32	WPD WALES	B1	Demand	50,609	159,050	112,200	108,441	214.3%	61,591	121.7%
33	SP MANWEB	B2	Demand	40,224	121,850	35,150	81,626	202.9%	-5,074	-12.6%
34	CE NEDL	B1	Demand	59,138	140,550	60,050	81,412	137.7%	912	1.5%
35	SP MANWEB	B2	Demand	139,578	220,400	101,250	80,822	57.9%	-38,328	-27.5%
36	SEPD	B2	Demand	492,923	561,400	262,350	68,477	13.9%	-230,573	-46.8%
37	WPD WALES	B1	Demand	399,286	454,100	490,600	54,814	13.7%	91,314	22.9%
38	SP MANWEB	B2	Demand	177,941	223,400	237,250	45,459	25.5%	59,309	33.3%

Impact assessment - charging boundary between the EDCM and CDCM June 2010

39	WPD WEST	B2	Demand	5,041	45,700	48,500	40,659	806.5%	43,459	862.0%
40	WPD WALES	B1	Demand	40,149	69,500	363,700	29,351	73.1%	323,551	805.9%
41	WPD WEST	B2	Demand	8,880	37,100	30,300	28,220	317.8%	21,420	241.2%
42	WPD WALES	B1	Demand	15,683	40,950	46,600	25,267	161.1%	30,917	197.1%
43	EDF LPN	B1	Demand	5,607	30,000	45,900	24,393	435.1%	40,293	718.7%
44	EDF LPN	B1	Demand	17,330	28,300	22,100	10,970	63.3%	4,770	27.5%
45	CE NEDL	B1	Demand	2,628	11,000	4,100	8,372	318.6%	1,472	56.0%
46	CE NEDL	B1	Demand	21,282	29,500	64,550	8,218	38.6%	43,268	203.3%
47	SEPD	B1	Demand	163,975	169,200	186,450	5,225	3.2%	22,475	13.7%
48	EDF LPN	B2	Demand	17,327	21,700	29,250	4,373	25.2%	11,923	68.8%
49	SEPD	B1	Demand	39,554	43,700	27,050	4,146	10.5%	-12,504	-31.6%
50	SEPD	B1	Demand	468,162	471,200	425,250	3,038	0.6%	-42,912	-9.2%
51	ENW	B1	Demand	5,203	6,300	3,700	1,097	21.1%	-1,503	-28.9%
52	WPD WALES	B1	Demand	1,483	1,550	122,300	67	4.5%	120,817	8145.5%
53	EDF SPN	B1	Demand	2,868	2,000	26,450	-868	-30.3%	23,582	822.2%
54	SEPD	B2	Demand	224,996	223,400	147,050	-1,596	-0.7%	-77,946	-34.6%
55	EDF LPN	B1	Demand	23,232	17,500	17,800	-5,732	-24.7%	-5,432	-23.4%
56	EDF SPN	B1	Demand	39,531	29,900	34,650	-9,631	-24.4%	-4,881	-12.3%
57	ENW	B1	Demand	34,120	19,300	12,900	-14,820	-43.4%	-21,220	-62.2%
58	CE NEDL	B1	Demand	21,159	6,150	44,250	-15,009	-70.9%	23,091	109.1%
59	EDF LPN	B1	Demand	77,933	30,000	33,250	-47,933	-61.5%	-44,683	-57.3%
60	SEPD	B1	Demand	94,772	41,200	69,350	-53,572	-56.5%	-25,422	-26.8%
61	EDF LPN	B1	Demand	188,634	117,200	88,300	-71,434	-37.9%	-100,334	-53.2%
62	SEPD	B1	Demand	370,094	283,900	341,650	-86,194	-23.3%	-28,444	-7.7%
63	SEPD	B1	Demand	238,558	120,400	368,500	-118,158	-49.5%	129,942	54.5%
64	EDF SPN	B2	Demand	671,420	454,300	273,350	-217,120	-32.3%	-398,070	-59.3%
65	WPD WALES	B1	Generation	0	108	0				
66	WPD WALES	B1	Generation	0	108	0				
67	WPD WALES	B2	Generation	0	-644	22,550				
68	WPD WEST	B2	Generation	0	95	0				
69	WPD WEST	B2	Generation	0	95	0				
70	WPD WEST	B2	Generation	0	95	-1,000				
71	WPD WEST	B2	Generation	0	95	-6,400				
72	WPD WEST	B2	Generation	0	95	100				
73	WPD WEST	B3	Generation	0	95	0				
74	CE NEDL	B1	Generation	0	-3,200	-100				
75	EDF LPN	B1	Generation	0	-1,158,900	-223,450				
76	EDF SPN	B1	Generation	0	-47,450	-13,150				

- Notes:
- 1 For generation customers only illustrative charges are demonstrated.
 - 2 CDCM charges will be impacted by a migration of B customers from site-specific arrangements into the CDCM. The impact depends, among other things, on the number of migrating customers.
 - 3 B1 customers do not currently have a dedicated tariff in the CDCM. Their charge is calculated on the assumption that they would fall under an existing HV network tariff in the CDCM.
 - 4 The EDCM is still in development. Final charges may substantially differ from the above.
 - 5 The charges were derived under the assumption that all B customers are in the EDCM (NC option). The figures will change under the assumption that all B customers are in the CDCM (LB option). In most cases, the change does not appear significant.

Table B - GB summary of illustrative charging impact on Class B demand customers under different boundary definitions

	Absolute Impact (£/year)							
				Number of cases of increase by threshold				
	Smallest	Average	Largest	>£500k	£250k-£500k	£100k-£250k	£0-£100k	<£0
Impact of moving from current charge to the CDCM (option RB)	-£217,120	£165,785	£1,313,744	5	11	16	20	12
Impact of moving from current charge to the EDCM (options LB or NC)	-£398,070	-£11,365	£323,551	0	1	6	31	26

	Percentage Impact							
				Number of cases of increase by threshold				
	Smallest	Average	Largest	>500%	300-500%	100-300%	0-100%	<0%
Impact of moving from current charge to the CDCM (option RB)	-71%	130%	806%	2	8	18	24	12
Impact of moving from current charge to the EDCM (options LB or NC)	-79%	197%	8145%	5	0	7	26	26

Note that the illustrative 8145% largest change in the table above appears to be a single outlier customer.

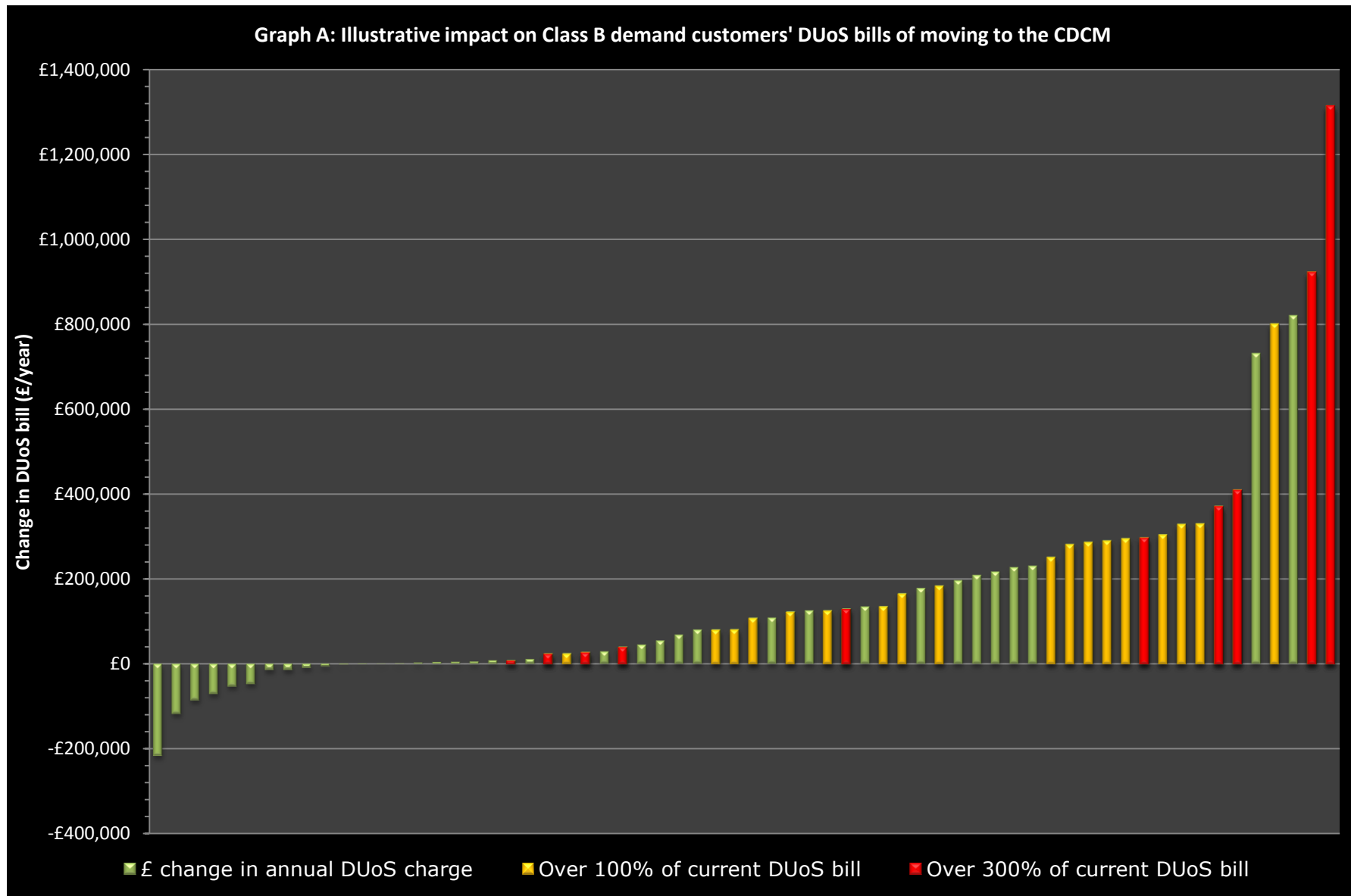
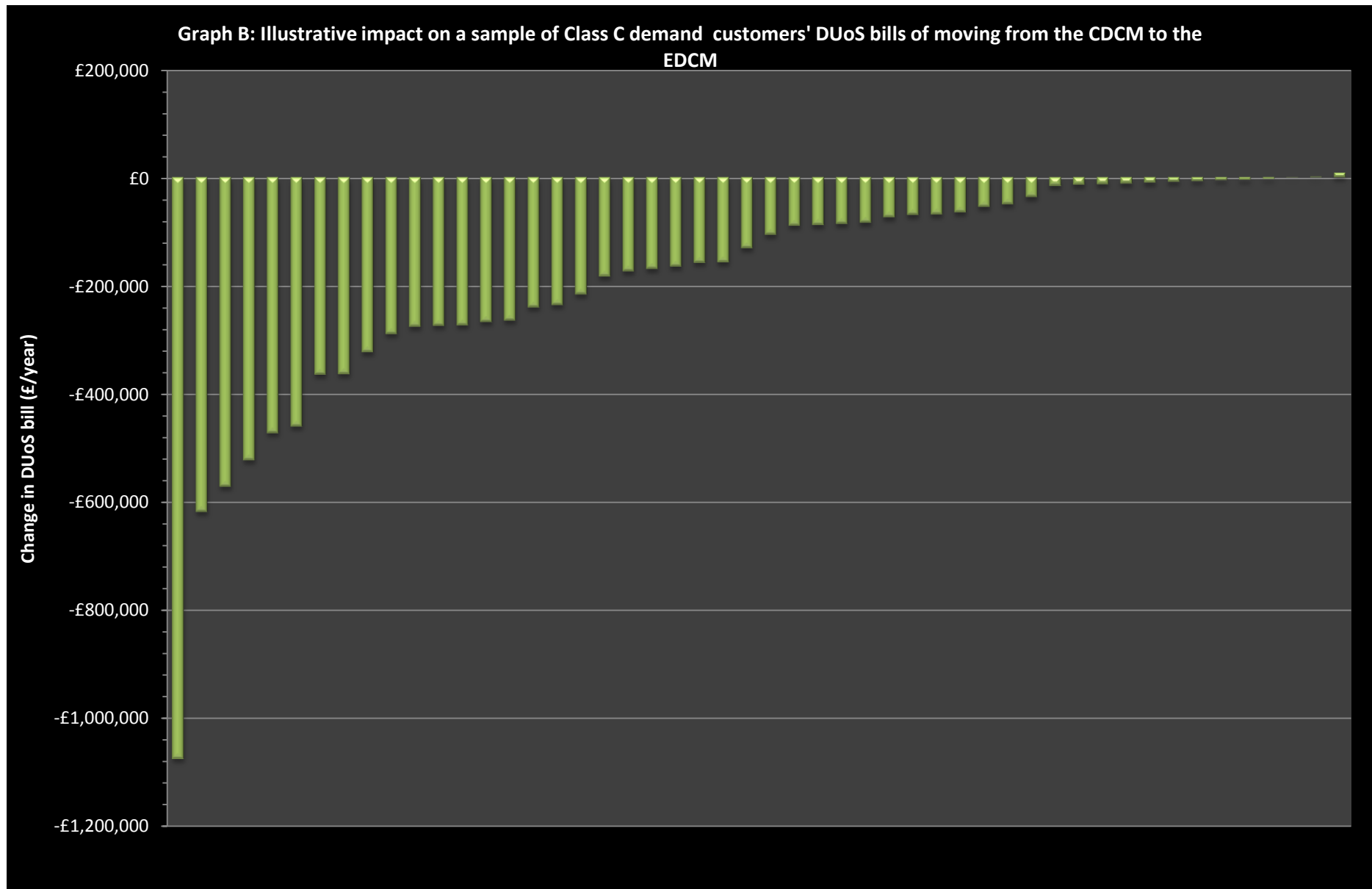


Table C - Illustrative charging impact on Class C demand and generation customers under different boundary definitions¹

Customer ID	Customer Class	Demand/Generation	Illustrative 2010/11 DUoS charges (£/year)		Impact of moving from current charge to the CDCM (option RB)	
			Under current arrangements (CDCM) (1)	Under the EDCM (LRIC/FCP) ² (2)	Absolute change in annual charge (£/year) (2)-(1)	% change in annual charge [(2)-(1)]/(1)
1	C2	Demand	7,055	15,300	8,245	116.9%
2	C2	Demand	280	1,200	920	328.6%
3	C2	Demand	1,515	1,950	435	28.7%
4	C2	Demand	13,160	10,200	-2,960	-22.5%
5	C2	Demand	34,700	29,900	-4,800	-13.8%
6	C2	Demand	7,275	2,000	-5,275	-72.5%
7	C2	Demand	8,150	1,250	-6,900	-84.7%
8	C1	Demand	12,140	3,650	-8,490	-69.9%
9	C2	Demand	12,890	2,700	-10,190	-79.1%
10	C2	Demand	18,605	6,700	-11,905	-64.0%
11	C2	Demand	18,480	5,400	-13,080	-70.8%
12	C2	Demand	15,820	1,950	-13,870	-87.7%
13	C2	Demand	25,635	9,400	-16,235	-63.3%
14	C2	Demand	85,680	48,900	-36,780	-42.9%
15	C2	Demand	56,820	6,800	-50,020	-88.0%
16	C2	Demand	145,815	90,850	-54,965	-37.7%
17	C2	Demand	130,795	66,000	-64,795	-49.5%
18	C2	Demand	128,465	59,800	-68,665	-53.5%
19	C2	Demand	184,815	115,100	-69,715	-37.7%
20	C2	Demand	84,040	10,050	-73,990	-88.0%
21	C1	Demand	142,975	58,700	-84,275	-58.9%
22	C2	Demand	236,055	149,700	-86,355	-36.6%
23	C2	Demand	148,375	59,850	-88,525	-59.7%
24	C2	Demand	107,915	18,350	-89,565	-83.0%
25	C2	Demand	178,085	71,900	-106,185	-59.6%
26	C2	Demand	205,205	73,950	-131,255	-64.0%
27	C2	Demand	177,990	20,550	-157,440	-88.5%
28	C2	Demand	178,580	20,550	-158,030	-88.5%
29	C2	Demand	236,055	70,750	-165,305	-70.0%
30	C2	Demand	227,370	57,950	-169,420	-74.5%
31	C2	Demand	404,930	231,200	-173,730	-42.9%
32	C2	Demand	203,195	19,750	-183,445	-90.3%
33	C2	Demand	313,460	96,850	-216,610	-69.1%
34	C2	Demand	307,755	71,700	-236,055	-76.7%
35	C2	Demand	287,585	47,150	-240,435	-83.6%
36	C2	Demand	491,355	226,500	-264,855	-53.9%
37	C2	Demand	448,075	180,600	-267,475	-59.7%
38	C2	Demand	301,855	28,400	-273,455	-90.6%
39	C2	Demand	445,580	171,150	-274,430	-61.6%
40	C2	Demand	408,055	131,700	-276,355	-67.7%
41	C1	Demand	403,340	113,500	-289,840	-71.9%
42	C2	Demand	355,200	31,850	-323,350	-91.0%
43	C2	Demand	448,380	84,500	-363,880	-81.2%
44	C1	Demand	488,960	124,150	-364,810	-74.6%
45	C2	Demand	617,360	156,950	-460,410	-74.6%
46	C2	Demand	536,345	63,600	-472,745	-88.1%
47	C2	Demand	573,595	50,650	-522,945	-91.2%
48	C2	Demand	918,775	347,050	-571,725	-62.2%
49	C1	Demand	819,080	200,700	-618,380	-75.5%
50	C2	Demand	1,176,005	101,400	-1,074,605	-91.4%
51	C2	Generation	-4,000	600		
52	C2	Generation	-30,420	-3,450		

Notes: 1 For generation customers only illustrative charges are demonstrated.

2 The EDCM is still in development. Final charges may substantially differ from the above.



Impacts on competition (including effects on small businesses)

1.28. In the context of this consultation, the relevant objective to consider is not to distort competition in the generation, distribution and supply of electricity. Our current view is that common and transparent treatment of like customers will reduce barriers to entry to new suppliers and will aid clarity and understanding across all users. The issue we are seeking to understand is whether some of the options are potentially unduly discriminatory in the sense that, under either of these options, two customers who are connected at a voltage level below 22kV are / would be charged on a different basis. Charging like customers on a different basis could affect competition, for example in the generation market.

1.29. With respect to commonality of charging methodologies, various options mean that the charging boundary would remain inconsistent across users. The opacity and complexity for determining the basis of charging customers are generally considered not conducive to the promotion of competition. The costs for handling customers could put small distributed generators and small suppliers in a less advantageous position when compared with their established counterparts. In addition, the opacity and complexity could be a barrier for prospective market entrants. By contrast, all other options would better facilitate competition as there would be a broadly clear boundary for all DNOs to apply.

Impacts on sustainable development

1.30. The charging boundary in question forms a core element of the common charging methodology frameworks which among other things seek to accurately reflect site specific and locational costs and this gives relevant pricing signals to encourage efficient use of networks. This could in turn lead to the fewer, or deferred, requirements for network reinforcement, and thus fewer carbon emissions.

1.31. We consider that distributed generators would find it easier to enter the energy market in light of a clearer and common boundary that across DNOs. This would help to promote all generation, including generation of cleaner energy, which would therefore contribute to the reduction of carbon emissions from the energy sector.

1.32. The raised boundary option means that some of Class B customers who might have to pay significantly more UoS charges are major waste treatment and recycling businesses. However, we currently have no evidence to suggest that this would lead to any threat to the viability of these customers. Similarly, on the basis of the sample provided, we we currently have no evidence to suggest that a change in charging boundary would threaten the viability of a generator.

Impacts on health and safety

1.33. We are not aware of any health and safety implications related to consideration of the options for the charging boundary.

Risks and unintended consequences

1.34. We note the DNOs' general concern that a change in boundary could lead to customers changing their connection configuration to enable them to switch between CDCM and EDCM to take advantage of whichever method provides the lowest UoS charges. DNOs are required to build and operate an efficient and economic network, however so long as customers bear the increased costs associated with any choice regarding a connection that does not represent the most economic and efficient solution to the DNO (the minimum cost scheme) it is the customer who pays for this choice. However, this does not appear an efficient use of resources.

1.35. We expect DNOs to consider further the charges under EDCM and CDCM in relation to the concerns raised by one respondent to the DNOs' consultation on the boundary that there appears to be an inexplicably big step change between EDCM and CDCM tariffs.

Other impacts, costs and benefits

1.36. The administration costs of implementing a change to the boundary are not expected to be high. We are not aware of any changes to contracts that are required, and DNOs have indicated that once determined there are no significant costs associated with implementing a potential change in the boundary. We are not aware of any significant adverse knock-on effect on suppliers, for example on their billing systems.

Post-implementation review

1.37. We would monitor the impact of any proposal that may be implemented via the distribution charging methodologies forum (DCMF) which discusses charging developments.

Conclusion

1.38. As set out in chapter 3, we will consider consultation responses in coming to a final decision on this matter.

Appendix 4 - The Authority's Powers and Duties

1.1. Ofgem is the Office of Gas and Electricity Markets which supports the Gas and Electricity Markets Authority ("the Authority"), the regulator of the gas and electricity industries in Great Britain. This appendix summarises the primary powers and duties of the Authority. It is not comprehensive and is not a substitute to reference to the relevant legal instruments (including, but not limited to, those referred to below).

1.2. The Authority's powers and duties are largely provided for in statute (such as the Gas Act 1986, the Electricity Act 1989, the Utilities Act 2000, the Competition Act 1998, the Enterprise Act 2002 and the Energy Acts of 2004, 2008 and 2010) as well as arising from directly effective European Community legislation.

1.3. References to the Gas Act and the Electricity Act in this appendix are to Part 1 of those Acts¹⁷. Duties and functions relating to gas are set out in the Gas Act and those relating to electricity are set out in the Electricity Act. This appendix must be read accordingly¹⁸.

1.4. The Authority's principal objective is to protect the interests of existing and future consumers in relation to gas conveyed through pipes and electricity conveyed by distribution or transmission systems. The interests of such consumers are their interests taken as a whole, including their interests in the reduction of greenhouse gases and in the security of the supply of gas and electricity to them.

1.5. The Authority is generally required to carry out its functions in the manner it considers is best calculated to further the principal objective, wherever appropriate by promoting effective competition between persons engaged in, or commercial activities connected with,

- the shipping, transportation or supply of gas conveyed through pipes;
- the generation, transmission, distribution or supply of electricity;
- the provision or use of electricity interconnectors.

1.6. Before deciding to carry out its functions in a particular manner with a view to promoting competition, the Authority will have to consider the extent to which the interests of consumers would be protected by that manner of carrying out those functions and whether there is any other manner (whether or not it would promote competition) in which the Authority could carry out those functions which would better protect those interests.

¹⁷ Entitled "Gas Supply" and "Electricity Supply" respectively.

¹⁸ However, in exercising a function under the Electricity Act the Authority may have regard to the interests of consumers in relation to gas conveyed through pipes and vice versa in the case of it exercising a function under the Gas Act.

1.7. In performing these duties, the Authority must have regard to:

- the need to secure that, so far as it is economical to meet them, all reasonable demands in Great Britain for gas conveyed through pipes are met;
- the need to secure that all reasonable demands for electricity are met;
- the need to secure that licence holders are able to finance the activities which are the subject of obligations on them¹⁹; and
- the need to contribute to the achievement of sustainable development.

1.8. In performing these duties, the Authority must have regard to the interests of individuals who are disabled or chronically sick, of pensionable age, with low incomes, or residing in rural areas²⁰.

1.9. Subject to the above, the Authority is required to carry out the functions referred to in the manner which it considers is best calculated to:

- promote efficiency and economy on the part of those licensed²¹ under the relevant Act and the efficient use of gas conveyed through pipes and electricity conveyed by distribution systems or transmission systems;
- protect the public from dangers arising from the conveyance of gas through pipes or the use of gas conveyed through pipes and from the generation, transmission, distribution or supply of electricity; and
- secure a diverse and viable long-term energy supply,
- and shall, in carrying out those functions, have regard to the effect on the environment.

1.10. In carrying out these functions the Authority must also have regard to:

- the principles under which regulatory activities should be transparent, accountable, proportionate, consistent and targeted only at cases in which action is needed and any other principles that appear to it to represent the best regulatory practice; and
- certain statutory guidance on social and environmental matters issued by the Secretary of State.

1.11. The Authority may, in carrying out a function under the Gas Act and the Electricity Act, have regard to any interests of consumers in relation to communications services and electronic communications apparatus or to water or

¹⁹ Under the Gas Act and the Utilities Act, in the case of Gas Act functions, or the Electricity Act, the Utilities Act and certain parts of the Energy Acts in the case of Electricity Act functions.

²⁰ The Authority may have regard to other descriptions of consumers.

²¹ Or persons authorised by exemptions to carry on any activity.

sewerage services (within the meaning of the Water Industry Act 1991), which are affected by the carrying out of that function.

1.12. The Authority has powers under the Competition Act to investigate suspected anti-competitive activity and take action for breaches of the prohibitions in the legislation in respect of the gas and electricity sectors in Great Britain and is a designated National Competition Authority under the EC Modernisation Regulation²² and therefore part of the European Competition Network. The Authority also has concurrent powers with the Office of Fair Trading in respect of market investigation references to the Competition Commission.

²² Council Regulation (EC) 1/2003.

Appendix 5 - Glossary

A

Authority

The Authority is the governing body for Ofgem, consisting of non-executive and executive members.

C

CDCM – Common Distribution Charging Methodology

The CDCM is the name given to the common methodology for HV/LV charging which was developed by the DNOs under standard licence condition 50 and was implemented from 1 April 2010.

D

DCMF – Distribution Charging Methodologies Forum

The DCMF is an industry group run by the ENA that discusses charging developments on the electricity distribution networks. See <http://2010.energynetworks.org/dcmf/>.

DCUSA – Distribution Connection and Use of System Agreement

The DCUSA is an industry code which governs connection and use of system arrangements between DNOs, suppliers and some generators on the distribution networks.

DG - Distributed Generation

Generation which is connected directly into the local distribution network as opposed to the transmission network, as well as combined heat and power schemes of any scale. The electricity generated by such schemes is typically used in the local system rather than being transmitted for use across the UK.

DNOs - Distribution Network Operators

A licensed distributor which operates electricity distribution networks in its designated distribution service areas.

DPCR - Distribution Price Control Review

DNOs operate under a price control regime, which are intended to ensure DNOs can, through efficient operation, earn a fair return after capital and operating costs while limiting costs passed onto customers. Each price control typically lasts five years at a time. DPCR5 is the current price control which commenced 1 April 2010.

E

EDCM – Extra High Voltage Distribution Charging Methodology

The EDCM is the collective name given to each of the two common methodologies for EHV charging to be developed and submitted by the DNOs on or before 1 September 2010 for approval by the Authority under standard licence condition 50A.

Electricity Act 1989

Electricity Act 1989 c.29 as amended. Also referred to as 'The Act'.

EHV - Extra High Voltage

Term used to describe the parts of distribution networks that are extra high voltage typically consisting of a voltage level of 22kV or more.

ENA - Energy Networks Association

The ENA is a trade association for UK energy transmission and distribution licence holders and operators. Its working groups are developing the charging methodologies. See <http://2010.energynetworks.org>.

H**HV/LV – High/Low Voltage**

Term used to describe the parts of the distribution networks typically at a voltage level of less than 22kV.

I**IDNOs - Independent Distribution Network Operators**

A licensed distributor which does not have a distribution services area and competes to operate electricity distribution networks anywhere within the UK.

S**SLC - Standard Licence Condition**

These are conditions that licensees must comply with as part of their licences. SLCs can only be modified in accordance with Section 11A of the Electricity Act. Failure to comply with SLCs can result in financial penalties and/or enforcement orders to ensure compliance.

U**UoS Charges**

Use of System Charges: charges paid by generators and suppliers for the use of the distribution network.

Appendix 6 - Feedback Questionnaire

1.1. Ofgem considers that consultation is at the heart of good policy development. We are keen to consider any comments or complaints about the manner in which this consultation has been conducted. In any case we would be keen to get your answers to the following questions:

1. Do you have any comments about the overall process, which was adopted for this consultation?
2. Do you have any comments about the overall tone and content of the report?
3. Was the report easy to read and understand, could it have been better written?
4. To what extent did the report's conclusions provide a balanced view?
5. To what extent did the report make reasoned recommendations for improvement?
6. Please add any further comments?

1.2. Please send your comments to:

Andrew MacFaul

Consultation Co-ordinator

Ofgem

9 Millbank

London

SW1P 3GE

andrew.macfaul@ofgem.gov.uk