



DCUSA CONSULTATION

DCP 183 - To Convert the Super Red KWH to KVA when Calculating the EDCM Tariffs

1 Purpose

- 1.1 The Distribution Connection and Use of System Agreement (DCUSA) is a multi-party contract between electricity Distributors and electricity Suppliers and large Generators. Parties to the DCUSA can raise Change Proposals (CPs) to amend the Agreement with the consent of other Parties and (where applicable) the Authority.
- 1.2 This document is a Consultation issued to Distributors, Suppliers, Consumer Focus and other interested Parties and the Authority in accordance with Clause 11.14 of the DCUSA seeking industry views on DCP 183 – ‘To Convert the super red KWH to KVA when calculating the EDCM tariffs’. Respondents are invited to consider the questions set out below and submit comments using the form provided as Attachment 1. Responses should be emailed to DCUSA@electralink.co.uk by **Tuesday, 14 October 2014**.

2 Background of DCP 183 - To Convert the Super Red KWH to KVA when Calculating the EDCM Tariffs

- 2.1 The current EHV Distribution Charging Methodology (EDCM) uses a combination of the customer’s maximum import capacity and their historical capacity used at peak, in order to allocate the customer a share of the DNO’s indirect costs and 20 per cent of the residual revenue. The calculation used for the share is the sum of 50 per cent of the customers maximum import capacity (kVA) and their historical capacity at system peak (kW). This methodology is inconsistent as kVA is applied at the level of connection and kWh is applied upstream. Consequently, a development issue was raised by Ofgem asking that this be reviewed.
- 2.2 Following discussions at the Distribution Charging Methodologies Forum (DCMF) Methodologies Issues Group (MIG), DCP 183 has been raised by WPD seeking to amend the calculation to replace the kWh element of the calculation with kVA and thereby take account of reactive power in a consistent manner. Additional information on the proposed change can be found in the CP form provided as Attachment 2.

3 Working Group Assessment of DCP 183

- 3.1 The DCUSA Panel established a Working Group to assess DCP 183. This Working Group consists of DNO and Ofgem representatives.
- 3.2 The group discussed DCP 183 and noted that the allocation of indirect costs and 20% of the residual revenue (scaling) is based on a combination of two elements which currently use different units of measurement (KVA and KWh). The CP has been raised following the Ofgem decision document on the EDCM¹ which identified this inconsistency as a development issue to be considered by DNOs or any other DCUSA party.

Proposed Amendments under DCP 183

- 3.3 The Working Group is proposing to amend the EDCM methodology so that the allocation of indirect costs and 20% of the residual revenue fully takes into account the reactive power consumed by each customer. This requires amending of the super-red consumption which is currently measured in kWh to take account of the reactive power used by the customer in the super-red time period, before using it to allocate the indirect costs and 20% of the residual revenue.
- 3.4 The Working Group is proposing to apply this amendment to all customers except where a site is generation dominated. For any sites that are generation dominated, the Working Group is proposing to assume that the reactive power is zero and therefore the kW equals the kVA. The reason for this is to cater for conditions where the generator is connected to the DNO's distribution system but there is very little or no generation export, or at times of transient running (i.e. generator start-up). The DNO will determine whether a site is generation dominated by examination of the Connectee's Maximum Import Capacity and Maximum Export Capacity or kWh consumption as appropriate.

Modelling Changes required to implement DCP183

- 3.5 With the support of a consultant, the Working Group updated the EDCM model to implement the DCP 183 solution. The updated Long Run Incremental Cost (LRIC) and

¹ Electricity distribution charging: decision on the methodology for higher voltage import charges (6 Sep 2011) - <https://www.ofgem.gov.uk/ofgem-publications/43964/edcm-decision-import-charges-6-sep-2011.pdf>

Forward Cost Pricing (FCP) EDCM models are provided as Attachment 3, along with a description of the changes made and a set of illustrative tariffs.

- 3.6 The updated EDCM model for DNOs that use LRIC requires that a new column to be populated for each customer which is entitled “Super red kVAr import divided by kVA capacity”. For DNOs that use FCP this column is already populated and is used within the model in the calculation of Charge 1. The implication of this is that the decision by the Working Group to set the values within this column to zero for generation dominated sites will have an impact on their charge before the DCP183 solution is implemented. Given the rationale set out above for setting the reactive flows to zero for generation dominated sites, the Working Group believes that this should also apply to the calculation of Charge 1 for generation dominated sites and therefore this consequential change is appropriate. The DNOs that use FCP have also confirmed that the impact of setting this value to zero for generation dominated sites before the DCP183 solution is implemented is minimal with the highest impact being 2%.
- 3.7 The updated models have been used to calculate the impact of DCP 183. The populated models contain confidential customer data and therefore cannot be published. However, the impact on EDCM customers end tariffs is provided as Attachment 4. EDCM customers can identify their sites using the Line Loss Factor Class (LLFC) or their MPANs.
- 3.8 The Working Group assessed the impact on EDCM customers’ estimated annual charges (confidentiality of individual customer charges was maintained by collating a list of charge variances with customer names/MPAN/LLFCs and DNO region removed). This analysis showed that 8% of customers would see an increase of more than 5% in their overall annual charge. The largest decrease was -5.8% and the largest increase was 76.7%.
- 3.9 The majority of customers impacted were demand only customers.
- 3.10 If you would like additional detail on the impact of DCP 183 on your specific tariff, please email DCUSA@electralink.co.uk and we will put you in touch with the relevant DNO for your area(s).

Correcting Power Factor

- 3.11 The Working Group notes that DCP 183 will have the effect of increasing the Distribution Use of System (DUoS) tariffs for customers with a poor power factor. Loads that have a poor power factor increase the electric current flowing in the local distribution network to which they are connected and this increases losses and the ratings required for distribution assets which deliver useful real power from the transmission system to that load. Hence those customers with a poor power factor could be creating additional costs on the network; the Working Group, therefore, believes it is more cost reflective for reactive energy to be taken account of.
- 3.12 Customers can install power factor correction equipment such as SVCs (Static VAR Compensators. The SVC is an automated impedance matching device, designed to bring the system closer to unity power factor), however, the nature of the EDCM model means that the impact of this equipment may not be reflected in DUoS tariffs for a period of two years (as there is a lag in the data used to calculate charges).

4 Assessment Against the DCUSA Objectives

- 4.1 For a DCUSA Change Proposal to be approved it must be demonstrated that it better meets the DCUSA Objectives. There are five General DCUSA Objectives and five Charging Objectives. The full list of objectives is documented in the CP form provided as Attachment 2.
- 4.2 The Working Group has assessed the CP against the DCUSA objectives and the Working Group members agree that the following DCUSA Objectives are better facilitated by DCP 183.

General Objective One - The development, maintenance and operation by the DNO Parties and IDNO Parties of efficient, co-ordinated, and economical Distribution Network

- 4.3 The Working Group agrees that General Objective One is better facilitated as DCP 183 will address an inconsistency within the current methodology. The change will improve price signals, encouraging those customers with a poor power factor to make appropriate changes resulting in more efficient use of the distribution assets.

General Objective Three - The efficient discharge by the DNO Parties and IDNO Parties of obligations imposed upon them in their Distribution Licences

- 4.4 The Working Group agrees that General Objective Three is better facilitated as DCP 183 will address an inconsistency within the current methodology. The change will improve price signals, encouraging those customers with a poor power factor to make appropriate changes resulting in more efficient use of the distribution assets.

Charging Objective One - that compliance by each DNO Party with the Charging Methodologies facilitates the discharge by the DNO Party of the obligations imposed on it under the Act and by its Distribution Licence

- 4.5 The Working Group agrees that Charging Objective One is better facilitated as DCP 183 will address an inconsistency within the current methodology. The change will improve price signals, encouraging those customers with a poor power factor to make appropriate changes resulting in more efficient use of the distribution assets.

Charging Objective Three - that compliance by each DNO Party with the Charging Methodologies results in charges which, so far as is reasonably practicable after taking account of implementation costs, reflect the costs incurred, or reasonably expected to be incurred, by the DNO Party in its Distribution Business

- 4.6 The Working Group agrees that Charging Objective Three is better facilitated as DCP 183 will address an inconsistency within the current methodology. The CP will improve cost reflectivity by ensuring that those that generate the most reactive power will pay more towards use of the system.

5 DCP 183 Legal Drafting

- 5.1 The DCP 183 legal text is provided as Attachment 5. This text amends DCUSA Schedule 17 paragraphs 15.11 and 18.2 and Schedule 18 paragraphs 15.11 and 18.2.

6 Implementation Date

- 6.1 The proposed implementation date for DCP 183 is 1 April 2016.

7 Consultation Questions

7.1 The Working Group is seeking responses to the following questions.

No.	Question
1	Do you understand the intent of the CP?
2	Are you supportive of the principles established by this proposal?
3	Do you agree that the input value for generation dominated sites should be set to zero? Please provide comments.
4	Are there any unintended consequences of this proposal?
5	Do you consider that the proposal better facilitates the DCUSA objectives?
6	Do you have any other comments on the proposed legal text?
7	Are there any alternative solutions or matters that should be considered?
8	Are you supportive of the proposed implementation date of 1 April 2016?
9	Please state any other comments or views on the Change Proposal.

7.2 Responses should be submitted using Attachment 1 to dcusa@electralink.co.uk no later than **Tuesday, 14 October 2014**.

7.3 Responses, or any part thereof, can be provided in confidence. Parties are asked to clearly indicate any parts of a response that are to be treated confidentially.

8 Next Steps

8.1 Responses to the Consultation will be reviewed by the DCP 183 Working Group who will use the responses to aid them in the progression of the CP.

8.2 If you have any questions about this paper or the DCUSA Change Process please contact the DCUSA by email to dcusa@electralink.co.uk or telephone 020 7432 2842.

ATTACHMENTS

- Attachment 1 – Response Form

- Attachment 2 – DCP 183 CP Form
- Attachment 3 – DCP 183 EDCM Models and Illustrative Tariffs
- Attachment 4 – Impact Assessment
- Attachment 5 - Proposed Legal Text