



DCUSA Consultation

DCP 166 – Common Connection Charging
Methodology: Additional Text to Provide Clarity
Where a Customer Requests a Supply Voltage in
Excess of the Minimum Scheme for the Capacity
Requested

1 PURPOSE

- 1.1 The Distribution Connection and Use of System Agreement (DCUSA) is a multi-party contract between electricity Distributors, 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 all DCUSA Parties, interested third parties, and the Authority in accordance with Clause 11.14 of the DCUSA seeking industry views on DCP 166 'Additional text for the DNO Common Connection Charging Methodology to provide clarity where a customer requests a supply voltage in excess of the minimum scheme for the capacity requested'.
- 1.3 Parties are invited to consider the options for proposed legal drafting set out in Section 5 of this document and submit comments using the response form provided as Attachment A to DCUSA@electralink.co.uk by **Wednesday, 02 October 2013**.

2 DCP 166 - Additional Text for the DNO Common Connection Charging Methodology to Provide Clarity where a Customer Requests a Supply Voltage in Excess of the 'Minimum Scheme' for the Capacity Requested

- 2.1 DCP 166 has been raised by UK Power Networks, following on from the work of the Commercial Operations Group (COG) Connections Sub Group and the Connection Charging Methodologies Forum (CCMF).
- 2.2 The CP seeks to provide further clarity on the principle that the chargeable 'minimum scheme' is based solely on providing the capacity the customer has requested. Where the customer has specific requirements in respect of the voltage level or number of phases to be provided (which does not match that resulting from the 'minimum scheme'), then any costs in excess of the minimum scheme must be met in full by the customer.
- 2.3 The CP has been drafted to be consistent with the minimum scheme definition defined in clauses 1.1 to 1.7 of the DCUSA Schedule 22 (please refer to Attachment 4). *"The Minimum Scheme is the Scheme with the lowest overall*

capital cost (as estimated by us), solely to provide the Required Capacity.” It is noted that use of ‘capacity’ is consistent with the maximum power requirement within the ‘notice’ referred to in section 16A (2) of the Electricity Act 1989.

- 2.4 The Working Group considered that the Common Connection Charging Methodology (CCCM) would benefit from additional text explaining how charges would be applied where a customer requests a supply voltage and/or number of phases that are unnecessary to provide the capacity requested. This CP will capture arrangements that many DNO’s have on single phase/split phase networks which will require the customer to pay for an upgrade of the line from a two wire connection to a three wire connection if the capacity could not be provided via a two wire connection. In certain circumstances a cost apportionment factor will be applied to the charge to be met by the customer.
- 2.5 Please find DCUSA Clauses 1.1 to 1.11 relevant to this CP at attachment 4 to this consultation.

3 WORKING GROUP ASSESSMENT

- 3.1 The DCUSA Panel has established a DCP 166 Working Group which consists of Customer, DNO and Ofgem representatives.
- 3.2 The Working Group has considered the solution put forward in the CP which introduces legal text at Clause 1.12:
- "Where you have requested a three phase connection and/or a supply voltage that is not necessary to meet the Required Capacity, and the local distribution system is not of the requested number of phases and/or voltage, then the cost of reinforcing the distribution system to your specified number of phases and/or voltage will be charged to you in full".*
- 3.3 Working Group members have discussed the application of the legal text and have expressed differing views, primarily between DNO and customer representatives. The discussions are outlined below and these discussions led to an alternative question on inserting a capacity threshold for three phase connections.

Working Group Analysis

Minimum Scheme _- as defined in Clauses 1.1 to 1.7 of the DCUSA Schedule 22	
Under what circumstances is a three phase connection considered to be reasonable? Please refer to Question 4 in Section 7 of the consultation.	
DCUSA Schedule 22 Clause 1.7 states <i>"We may recover the reasonable costs incurred, both direct and indirect, in providing a connection and may, where allowed by our Licence, apply a margin on some of those costs"</i> .	
Customer	A Customer representative pointed out that the DNOs representatives considered the minimum scheme to be a two wire connection. However, for supplies above a certain standard a three phase connection would be standard and not a single phase connection. Customer representatives considered that the proposal does not provide sufficient transparency or clarity as to where a three phase connection should be considered to be reasonable and therefore would lead to inconsistency in both the charging methodology and its application.
DCUSA Schedule 22 Clause 1.1 states <i>"The Minimum Scheme is the Scheme with the lowest overall capital cost (as estimated by us), solely to provide the Required Capacity"</i> .	
DCUSA Schedule 22 Clause 1.11 states <i>"Where you have requirements for additional security or the characteristics of your load requires us to install assets in excess of the Minimum Scheme then you will pay the costs in excess of the Minimum Scheme in full"</i> .	
DNO	DNO representatives noted that the CP seeks to add clarity to the existing methodology rather than propose any material change to the methodology. The CP was raised to address the application of a charge which would apply where a DNO had a typical 11 kV single phase or split phase network which was to be upgraded

	to three phase. DNO representatives considered the current minimum scheme definition which provides for the lowest overall capital cost to provide the required capacity to be a reasonable circumstance under which the three phase connection is considered. It is also noted that the existing text at Clauses 1.1 and 1.11 is generic and will apply equally to a wide range of connection scenarios and voltages.
Single Phase High Voltage Connections	
Customer	Customer representatives have raised concerns about connections to 'single phase' high voltage overhead line networks and believe that the cost apportionment factor should still be applied to the cost of reinforcement even where the capacity could have been provided over the original single phase network.
DNO	DNOs make extensive use of single phase networks [two wire high voltage] as an efficient and economical means to provide distribution networks serving rural communities. These networks often consist of overhead line sections extending many kilometres in length where upgrading to three phase operation would be both costly, and disruptive in terms of network access and network outages.
Should capacity be the sole determining factor under the minimum scheme?	
Please refer to Questions 4, 5 and 9 in Section 7 of the consultation.	
DNO	DNO representatives believe that the existing methodology and the proposed new text make clear that if the customers capacity request (but not their technical requirements) can be provided by the 'single phase' network then if the customer should require a three phase connection the customer is to be liable for the full costs including in respect of any reinforcement assets that may be required.

Customer	<ul style="list-style-type: none"> • Whilst the minimum scheme may satisfy the capacity requirements for a particular connection the reality is that larger motors and generators are designed for connection to three phase circuits. • It should be questioned whether 'capacity' should be the sole determining factor in deciding upon the 'minimum scheme'. • Assuming that capacity was not the sole requirement for determining the 'minimum scheme' what criteria should be used?
<p align="center">Should a capacity limit be specified for a three phase connection?</p> <p align="center">Please refer to question 7 in section 7 of the consultation.</p>	
Customer	<p>Customer representatives believe that a capacity limit of say 49kVA should be specified such that any request for a three phase connection with capacity in excess of 49kVA may attract application of the reinforcement cost apportionment factor irrespective of whether the capacity could have been provided at single phase. One customer representative has supplied a letter addressed to the COG Connections Sub Group (dated 30 November 2012) setting out his concerns. The content of this letter is included as Appendix A.</p>
DNO	<p>DNO representatives believe it would be inappropriate to specify any capacity level within these clauses as to do so would be a departure from the generic approach to the methodology which is based upon high level principles which can be applied over a wide range of connection scenarios and distribution voltages. For example these clauses would equally be applicable where a customer requests an 11kV connection in an</p>

	<p>area served by a 6.6kV distribution network and a 49kVA boundary would not be meaningful in these circumstances.</p> <p>Whilst not supporting any capacity level being stated within the proposed text, several DNOs have commented that they can provide individual connections up to 100kVA from a single phase overhead line network.</p>
<p>How high is the risk posed by customers seeking a three phase connection for small appliances?</p> <p>Please refer to Questions 4 and 5 in Section 7 of the consultation.</p>	
DNO	<p>DNO representatives are concerned that some customers may wish to use small capacity three phase appliances where a single phase appliance would be just as appropriate for the task, but where to require a three phase connection would cause disproportionate costs to be incurred with almost all of the cost to be met by 'use of system' customers.</p>
Customer	<p>Customer representatives commented that if a single phase appliance was appropriate for the task and available to purchase then the customer would most likely ask for a single phase connection. It is only where the customer has no practicable choice other than to purchase a three phase appliance that a three phase connection would be requested.</p>
<p>Is the application of the Reinforcement Cost Apportionment Factor for three phase connections over 49kVA a reasonable connection charge?</p> <p>Please refer to questions 7, 8 and 9 in section 7 of the consultation.</p>	
DNO	<p>For the upgrading of single phase/split phase HV networks DNO representatives note that operation of the 'reinforcement cost apportionment factor' would</p>

	result in only a very small proportion (typically <5%) of the costs being included in the connection charge which would not provide a sufficient locational signal leading to inefficient network investment overall and with the remainder of the costs to be met by DUoS customers.
Customer	A customer representative considered that it would be possible for DNOs to state a capacity or capacities above which a customer would be entitled to a minimum supply voltage with the normal reinforcement apportionment rules applying.
DNO	DNO representatives believe it not to be appropriate to provide a list of minimum capacities due to the wide range of legacy design practices and local variations.

3.4 DNOs support the CP as written but recognise that there are different views held by customer representatives. The Working Group seeks the views to the questions set out in Section 7 of this consultation in order to progress the change.

4 ASSESSMENT AGAINST THE DCUSA OBJECTIVES

- 4.1 DNO representatives have reviewed the CP against the DCUSA Objectives and agree that DCP 166 better facilitates DCUSA General Objectives 1 and 3, and DCUSA Charging Objective 1 by improving clarity within the methodology.
- 4.2 Customer representatives have expressed other views as described in this document.
- 4.3 The Working Group considered that Objectives one of the Charging Objectives and Objective one and three of the General Objectives were better facilitated by this Change Proposal.

Charging Objectives

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.

Working Group view: The Working Group agreed that Objective one is better facilitated by DCP 166 as it improves clarity within the methodology and acts to maintain an efficient and economical Distribution System.

Objective two - that compliance by each DNO Party with the Charging Methodologies facilitates competition in the generation and supply of electricity and will not restrict, distort, or prevent competition in the transmission or distribution of electricity or in participation in the operation of an Interconnector (as defined in the Distribution Licences).

Working Group view: The Working Group agreed that Objective two is neutral.

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.

Working Group view: The Working Group agreed that Objective three is neutral.

Objective four - that, so far as is consistent with Clauses 3.2.1 to 3.2.3, the Charging Methodologies, so far as is reasonably practicable, properly take account of developments in each DNO Party's Distribution Business.

Working Group view: The Working Group agreed that Objective four is neutral.

Objective five – that compliance by each DNO Party with the Charging Methodologies facilitates compliance with the Regulation on Cross-Border Exchange in Electricity and any relevant legally binding decisions of the European Commission and/or the Agency for the Co-operation of Energy Regulators.

Working Group view: The Working Group agreed that Objective five is neutral.

General Objectives

Objective one - The development, maintenance and operation by each of the DNO Parties and IDNO Parties of an efficient, co-ordinated, and economical Distribution System.

Working Group view: The Working Group agreed that Objective one is better facilitated by DCP 166 as it improves clarity within the methodology.

Objective two – The facilitation of effective competition in the generation and supply of electricity and (so far as is consistent therewith) the promotion of such competition in the sale, distribution and purchase of electricity.

Working Group view: The Working Group agreed that Objective two is neutral.

Objective three – The efficient discharge by each of the DNO Parties and IDNO Parties of the obligations imposed upon them by their Distribution Licences.

Working Group view: The Working Group agreed that Objective three would be better facilitated by DCP 166 as it improves clarity within the methodology assuming a conclusion is reached.

Objective four – The promotion of efficiency in the implementation and administration of this Agreement and the arrangements under it.

Working Group view: The Working Group agreed that Objective four is neutral.

Objective five – Compliance with the Regulation on Cross-Border Exchange in Electricity and any relevant legally binding decisions of the European Commission and/or the Agency for the Co-operation of Energy Regulators.

Working Group view: The Working Group agreed that Objective five is neutral.

5 LEGAL DRAFTING

- 5.1 It is proposed that a new clause at 1.12 be added to Schedule 22 (the connection charge methodology) to accommodate this proposal. The suggested legal drafting for this new clause at 1.12 is shown below in redlined text:

1.12 Where you have requested a three phase connection and/or a supply voltage that is not necessary to meet the Required Capacity, and the local distribution system is not of the requested number of phases and/or voltage, then the cost of reinforcing the distribution system to your specified number of phases and/or voltage will be charged to you in full.

- 5.2 Existing Clause 1.12 and all subsequent Clauses will each have Clause numbering increased by a sub Clause count of 1. Please refer to the proposed legal text in Attachment 2.

6 IMPLEMENTATION

- 6.1 The proposed implementation date for DCP 166 is the next DCUSA release following Authority consent.

7 CONSULTATION

- 7.1 The Working Group is seeking views on the below questions:
1. Do you understand the intent of the DCP 166?
 2. Are you supportive of the principles of the DCP 166?
 3. Do you have any comments on the proposed legal text?
 4. Do you believe it would be more appropriate for the proposed legal drafting to be amended to include a level of capacity or capacities below which the new clause will apply?
 5. If you answered 'yes' to question four above what value of capacity or capacities do you believe should be included?

6. If you answered 'yes' to the question five above do you believe it is necessary for other parts of the methodology to be amended? If yes, what amendments should be made? (Please include any proposed legal drafting)
7. Are there any alternative solutions or matters that should be considered by the Working Group?
8. Are you aware of any wider industry developments that may impact upon or be impacted by this CP?
9. Which DCUSA General Objectives does the CP better facilitate? Please provide supporting comments.
 1. The development, maintenance and operation by each of the DNO Parties and IDNO Parties of an efficient, co-ordinated, and economical Distribution System.
 2. The facilitation of effective competition in the generation and supply of electricity and (so far as is consistent with that) the promotion of such competition in the sale, distribution and purchase of electricity.
 3. The efficient discharge by each of the DNO Parties and IDNO Parties of the obligations imposed upon them by their Distribution Licences.
 4. The promotion of efficiency in the implementation and administration of this Agreement and the arrangements under it.
 5. compliance with the Regulation on Cross-Border Exchange in Electricity and any relevant legally binding decisions of the European Commission and/or the Agency for the Co-operation of Energy Regulators.
10. Which DCUSA Charging Objectives does the CP better facilitate? Please provide supporting comments.

1. 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.
 2. that compliance by each DNO Party with the Charging Methodologies facilitates competition in the generation and supply of electricity and will not restrict, distort, or prevent competition in the transmission or distribution of electricity or in participation in the operation of an Interconnector (as defined in the Distribution Licences).
 3. 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. that, so far as is consistent with Clauses 3.2.1 to 3.2.3, the Charging Methodologies, so far as is reasonably practicable, properly take account of developments in each DNO Party's Distribution Business.
 5. that compliance by each DNO Party with the Charging Methodologies facilitates compliance with the Regulation on Cross-Border Exchange in Electricity and any relevant legally binding decisions of the European Commission and/or the Agency for the Co-operation of Energy Regulators.
11. Do you have a preference on the date that DCP166 is implemented into the DCUSA?
- 7.2 Responses should be submitted using Attachment A to DCUSA@electralink.co.uk no later than **Wednesday, 02 October 2013**.

- 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 DCP166 Working Group. The Working Group will then determine the progression route for the CP.
- 8.2 If you have any questions about this paper or the DCUSA Change Process please contact the DCUSA Help Desk by email to DCUSA@electralink.co.uk or telephone 020 7432 2842.

9 ATTACHMENTS

Attachment 1 – Response form

Attachment 2 – Proposed Legal Text

Attachment 3 – DCP 166 Change Proposal

Attachment 4 – Schedule 22 Clauses 1.1 – 1.11

10 APPENDICES

Appendix A – Working group customer representative letter dated 30 November 2012 (redacted)

**Appendix A – WORKING GROUP CUSTOMER REPRESENTATIVE LETTER
DATED 30 NOVEMBER 2012 (redacted)**

DNO/COG Working Group

Required Up-date to the DNO Charging Methodology Statements

With particular reference to Reinforcement from 2 wire to 3 wire

May we respond to the DNO produced paper for the meeting on 3rd December with specific reference to the reinforcement whereby an existing 2 wire line is up-rated to 3 wire.

Where a three phase supply is needed to meet the customer requirements (eg they have three phase equipment) then this would be considered to be in excess of the minimum scheme and fully chargeable to the customer. This only applies where there is existing network capacity to meet the customers 'required capacity' and it is only the requirement for three phases to be provided that is driving the requirement for network reinforcement.

Whilst noting the DNO response that the outcome will be dependant upon the situation this response actually fails to provide any consistency, transparency or clarity to the situation.

Likewise, to state that should the applicant request a 3 phase connection this would be considered to be in excess of the minimum scheme and fully chargeable to the customer is also unhelpful and unsatisfactory.

If we consider water and sewage pumping stations or generation plant or telecoms installations located in rural areas there will probably be a requirement to install 3 phase pumps and equipment that can only be obtained, purchased and rated for 220/400v, 3 phase.

Likewise, from a DNO's perspective, the installation of large single phase loads can have limiting effects on network stability.

Therefore whilst a DNO may well argue that a load of, say 70KVA could be connected via 2 x 50KVA single phase transformers we would suggest that this would not be considered to be a reasonable or satisfactory solution.

We would also suggest that this would leave the DNO open to accusations of 'gaming' over the application of the charging methodology.

We do however recognise that, in similar circumstances, very small 3 phase loads can be expensive to connect and could result in the requirements for expensive reinforcement schemes.

Clearly therefore there is a requirement for a balance to be found between occasioning reinforcement for small capacity projects and projects that (naturally) require a 3 phase connection and for which apportionment of reinforcement costs would be wholly appropriate.

In our view, and to take the DNO assertion that all requests for 3 phase, 3 wire connections would be considered to be in excess of the minimum scheme is totally unjustified.

Redress

In order to rectify the above, to be prescriptive and in order to remove any further doubt or debate on this issue may I request that the COG be requested to suggest amendments to the Common Charging Methodology Statements to the effect that :-
The existing CAF Rules for apportionment are applicable and relevant to 2 wire to 3wire reinforcement projects and should be applied to situations whereby either the load or generation (export) capacity becomes the driver for the work.
For clarity it is considered that this will only be applicable for connections over (say) 49KVA ***.

With regard to the CAF, The New Network Capacity Following Reinforcement would remain as per the agreed definition.

**** The figure used as the lower limit should be chosen to reflect the 'upper' availability of single phase equipment and the 'lower' availability of 3 phase equipment for installations, and in situations, that are readily encountered on a day to day basis for connection to the DNO's networks.

I trust that the above is acceptable but please do not hesitate to contact me should you consider that we can assist further.

Yours faithfully,