



## **DCUSA Consultation**

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DCP 167 – Common Connection Charging Methodology: Additional Examples to Illustrate 'Remote Reinforcement' and 'Network Reconfiguration'

## **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 and the Authority in accordance with Clause 11.14 of the DCUSA seeking industry views on DCP 167 'Additional Example(s) for the Common Connection Charging Methodology to Illustrate 'Remote Reinforcement' and 'Network Reconfiguration'. The consultation is also issued to customer representatives, inviting their comments.
- 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](mailto:DCUSA@electralink.co.uk) by **Wednesday, 02 October 2013**.

## **2 DCP 167 - Additional example(s) for the Common Connection Charging Methodology to illustrate 'remote reinforcement' and 'network reconfiguration'**

- 2.1 DCP 167 has been raised by UK Power Networks, following on from the work of the COG Connections Sub Group and the Connection Charging Methodologies Forum.
- 2.2 The Change Proposal (CP) seeks to provide increased clarity within the Common Connection Charging Methodology (CCCM) for the calculation of connection charges where it is proposed to carry out 'remote reinforcement' or 'network reconfiguration'.
- 2.3 The Change Proposal (CP) seeks to confirm how the charging methodology is to be applied where in order to provide for a new or modified connection it is proposed to reinforce a remote part of the Distribution System or reconfigure part of the Distribution System to facilitate a transfer of existing demand or

generation, to make capacity available on the local Distribution System for the new or modified connection.

- 2.4 For the purposes of application of the Reinforcement Cost Apportionment factor the existing methodology includes within the definition of Relevant Section of Network: "is that part or parts of the Distribution System that can be used to supply you in both normal and abnormal running arrangements". There is currently no provision for circumstances where a remote part of the Distribution System is to be reinforced i.e. a part of the Distribution System that is not "used to supply you".
- 2.5 Under associated DCP162<sup>1</sup> it is proposed to change the definition of Relevant Section of Network to remove the "used to supply you" condition.
- 2.6 Under DCP 167 it is proposed to include an additional example, 8C, in order to illustrate how the charging methodology is applied in such circumstances.
- 2.7 It is also proposed to include a further example, 8D, to illustrate how the charging methodology is to be applied where no network reinforcement is required, but it is proposed to reconfigure the Distribution System to transfer demand or generation to a remote part of the Distribution System in order to make capacity available for the new connection.
- 2.8 The existing methodology includes at DCUSA Schedule 22 clause 1.13:

*Work required to reconfigure the Distribution System to meet your requirements where no additional Network or Fault Level Capacity is made available shall be charged in full to you.*

It is not proposed to change this part of the methodology, only to provide a worked example for the purposes of increased clarity.

- 2.9 The existing methodology includes at DCUSA Schedule 22 clause 1.16:

*Reinforcement is defined as assets installed that add capacity (network or fault level) to the existing shared use Distribution System.*

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<sup>1</sup> Non-Secure Connections in the Common Connections Charging Methodology

It is not proposed to change this part of the methodology.

### **3 WORKING GROUP ASSESSMENT**

- 3.1 The DCUSA Panel has established a DCP 167 Working Group which consists of Customer, DNO and Ofgem representatives.
- 3.2 The Working Group considered the Change Proposal and reviewed the proposed examples 8C and 8D.

#### **Example 8C**

- 3.3 A Customer applies for a connection to the network for 900 housing plots requiring 2MVA. In this scenario the existing load on the circuit is 7.6MVA and cannot support the housing development connection. The example proposes for the adjacent network to be reinforced to allow for the transfer of a section of the existing network. This transfer will provide sufficient capacity for the connection to take place.
- 3.4 The Working Group considered that example 8C added further clarity to the CCCM for those connections which require the reinforcement of an adjacent network to provide sufficient capacity on a neighbouring network for a connection to take place. For further information please see the proposed example 8C in Attachment C to this consultation.

#### **Example 8D**

- 3.5 This example illustrates an arrangement where a section of the existing network is transferred to an adjacent network in order to release capacity for the new connection to be made. In example D demand is transferred from Primary Substation A to Primary Substation B. For further information please see the proposed example 8D in Attachment C to this consultation. The Working Group has concluded that a difference in views exists between DNO and customer Working Group members regarding the charging principles illustrated in proposed example 8D.
- 3.6 DNO representatives support the use of proposed new example 8D as written. It is noted that example 8D seeks to provide clarity to the existing methodology rather than proposing any material change to the methodology.

- 3.7 Customer representatives have raised concerns about proposed example 8D. These members consider that example 8D represents a type of reinforcement and the Cost Apportionment Factor should apply. The Customer representatives recognise that the example does not add capacity to the network. However, by transferring the load and reconfiguring the Distribution System and releases capacity to that part of the Distribution System where the connection is required to be made. Customer representatives have coined this type of reinforcement as load transfer reinforcement.
- 3.8 Under example 8D as interpreted by DNO representatives the customer would be required to pay the full cost of the works required to transfer capacity from one network to another as no new capacity is being added to the network for the work to be considered reinforcement.
- 3.9 Under the Customer representatives interpretation the Cost Apportionment Factor would be applied at a suggested 2/7.7 of the reinforcement costs. A customer representative letter including a counter proposal is included as Appendix A to this document.
- 3.10 Customer representatives have also proposed that the methodology should define two types of Reinforcement: `
- conventional reinforcement`; and `
  - load transfer reinforcement`.
- 3.11 DNO representatives believe the current methodology to be more appropriate than introducing any new definition for `reinforcement`. They believe that any new definitions would need careful consideration in order to avoid risk of unintended consequences and across the full range of connection scenarios. They believe that it may be inappropriate to consider any fundamental changes to definitions at this stage part way through a price control period.
- 3.12 DNO representatives believe that proposed example 8D illustrates a low cost measure to make existing capacity available to the new connection customer without the need for more costly Reinforcement being required. They believe that the approach demonstrates the `Minimum Scheme` requirements for the connection in consideration of section 1.1 of the methodology i.e. including:

*.....and shall be consistent with our statutory and licence obligations including the requirement to develop, maintain and operate an efficient, co-ordinated and economical electricity Distribution System.*

For further information please see proposed example 8D in Attachment C to this consultation.

#### **4 ASSESSMENT AGAINST THE DCUSA OBJECTIVES**

- 4.1 DNO representatives have reviewed the CP against the DCUSA Objectives and are in agreement with the proposer that DCP 167 better facilitates DCUSA General Objectives 1<sup>2</sup> and 3<sup>3</sup>, and DCUSA Charging Objective 1<sup>4</sup> by improving clarity within the methodology.

#### **5 LEGAL DRAFTING**

- 5.1 It is proposed that new examples 8C and 8D be added to the Common Connection Charging Methodology. These are as appended to this document.
- 5.2 Following discussions at the Connection Charging Methodologies forum it is proposed for the purpose of increasing clarity to make amendments to the text immediately preceding the methodology worked examples. The suggested legal drafting for this section of text is shown below in red italics with underlining used here (only) to indicate the additional sections:

***Worked Examples Illustrating the Application of the Connection Charging Methodology***

*The following Examples are to illustrate the application of the Connection Charging Methodology and are not intended to provide an accurate estimate of the charges which a person would become liable in respect of the provision of a connection. The Examples do not*

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<sup>2</sup> DCUSA General Objective 1: The development, maintenance and operation by each of the DNO Parties and IDNO Parties of an efficient, co-ordinated, and economical Distribution System.

<sup>3</sup> DCUSA General Objective 3: The efficient discharge by each of the DNO Parties and IDNO Parties of the obligations imposed upon them by their Distribution Licences.

<sup>4</sup> DCUSA Charging Objective 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.

*necessarily represent the Minimum Scheme for a specific connection application.*

*The figures quoted in the Examples are illustrative. Section 7 of this statement provides our charges and indicative costs to undertake various activities.*

*The Examples illustrate where we undertake both the Contestable and Non- Contestable Work. These costs will include the determination of the POC and assessment and design costs, though these may not be explicitly identified in the Examples.*

*Where Contestable Work is undertaken by an ICP, we will apply CIC Charges for services associated with the Contestable Works which would cover activities including design approval, inspection and monitoring. The CIC Charges shown in the Examples are for illustration only. For the avoidance of doubt, in each Example, where an ICP undertakes the Contestable Work, our Connection Charge will include the cost of the Non-Contestable Work and the CIC Charges but exclude the cost of Contestable Work.*

*The Examples are generic and standard for all LDNOs, they do not represent the network analysis and subsequent design solutions that would be completed for a connection scheme. The actual designs are subject to our design polices.*

*All the examples are to be considered separately as the 'minimum scheme' for the connection requested. Where more than one example is provided against a single numerical reference (e.g. Example 2A and Example 2B) each example represents the 'minimum scheme' for the connection requested.*

## **6 IMPLEMENTATION**

- 6.1 The proposed implementation date for DCP 167 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 DCP 167?
2. Are you supportive of the principles of DCP 167?
3. Do you have any comments on the proposed legal text?

4. Do you agree with proposed example 8C as set out in this CP? (Please see 3.2 to 3.4 of this consultation) Do you have any comments on proposed example 8C? (Please refer to 3.3 to 3.4 of this consultation)
5. Do you agree with proposed example 8D as set out in this CP? (Please see 3.5 to 3.12 of this consultation)
6. Do you have any comments on proposed example 8D? (Please see 3.5 to 3.12 of this consultation)
7. Do you believe it would be more appropriate for example 8D to be considered to illustrate 'Reinforcement' such that the Cost Apportionment Factor may be considered to apply? (Please see 3.5 to 3.12 of this consultation)
8. In example 8D do you believe that capacity has been created or transferred? (Please see 3.5 to 3.12 of this consultation)
9. Do you consider that two types of Reinforcement ('conventional reinforcement' and 'load transfer reinforcement') should be defined in the DCUSA? (Please see 3.5 to 3.12 of this consultation) Do you believe that DCUSA Schedule 22 clause 1.13 of the Common Connections Charging methodology is appropriate or does it require to be changed (Please see 2.8 of this consultation)?

DCUSA Schedule 22 Clause 1.13

*"Work required to reconfigure the Distribution System to meet your requirements where no additional Network or Fault Level Capacity is made available shall be charged in full to you. See Example 8B".*

10. Where capacity is transferred as described in example 8D are there any circumstances where you believe that the costs should or should not be apportioned? Please describe.
11. Do you believe that any other parts of the methodology need to be revised in relation to this issue of transferring capacity – e.g. 1.16 ( Please see 2.9 of this consultation)?

## DCUSA Clause 1.16

*"Reinforcement is defined as assets installed that add capacity (network or fault level) to the existing shared use Distribution System. The costs of Reinforcement shall be apportioned between you and us. The methods used to apportion the costs of Reinforcement are set out in paragraphs 1.23- 1.28. There are five exceptions to this rule. Where an exception applies Reinforcement will be treated as Extension Assets and costs will not be apportioned. These exceptions are described below and the application of exceptions 1, 2, 4, and 5 is demonstrated in the Examples".*

12. 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.
13. 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.
14. Are you aware of any wider industry developments that may impact upon or be impacted by this CP? If so, please give details, and comment on whether the benefit of the change may outweigh the potential impact and whether the duration of the change is likely to be limited.
15. Are you supportive of the proposed implementation date of the next DCUSA release following Authority consent?
16. Are there any alternative solutions or matters that should be considered by the Working Group?

- 7.2 Responses should be submitted using Attachment A to [DCUSA@electralink.co.uk](mailto: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 Following the end of the consultation period the responses will be reviewed by the Working Group. The Working Group will finalise the drafting of the CP and submit its final report to the Panel. Following Panel approval, the Change Proposal will be issued to all DCUSA Parties for voting and, following the vote, issued to Ofgem for final determination.
- 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](mailto:DCUSA@electralink.co.uk) or telephone 020 7432 2842.

## **9 ATTACHMENTS**

Attachment A – Response form

Attachment B – DCP 167 Change Proposal

Attachment C - Examples

## **10 APPENDICES**

Appendix A – Working group customer representative letter dated 10.12.12 (redacted)

**APPENDIX A - WORKING GROUP CUSTOMER REPRESENTATIVE LETTER****DATED: 12 DECEMBER 2012(REDACTED)****DNO/CCCF Working Group****Required Up-date to the DNO Charging Methodology Statements****With particular reference to Reinforcement and proposed Example 8d**

Following the debate on Tuesday I forward my thoughts on the paper.

**GENERAL REINFORCEMENT PHYLOSOPHY**

Suggested new definitions:

*Conventional Reinforcement* – Reinforcement that adds capacity (Load or Distributed Generation) to an existing network.

*Load Transfer* – Reinforcement that does not add capacity to an existing network but does, by virtue of the work undertaken, allow the connection of new capacity (Load or Distributed Generation) to the network that otherwise would not be acceptable.

My view on reinforcement is as follows:

1. Reinforcement will be required on occasions where there is an existing DNO asset that would otherwise be available for the provision of a new or up-rated connection excepting that the DNO has identified some technical deficiency (could be capacity, voltage rise/drop or an issue with harmonic content) that otherwise restricts what would otherwise be a 'simple and straightforward ' connection.
2. It is generally accepted that the DNO will be solely responsible for any reinforcement and associated costs occasioned whereby the requirement for the reinforcement is from general load growth, circuit reconfiguration and / or other situation that is not immediately identifiable to the DNO.
3. On the basis that a single or group of customers have instigated a request for a new or up-rated connection request – then any requirement for reinforcement to an existing asset is, in general, a shared responsibility and

- cost between the DNO and the applicant. The costs would be apportioned based on the existing CAF Rules.
4. The work undertaken to connect the new customers, load (or generation), to the existing DNO's asset in order to provide the new connection will be a sole use asset and the work will be wholly attributable to the customer and wholly funded by the customer.
  5. Whether the reinforcement is actually accomplished through load transfer or the introduction of additional circuits (conventional reinforcement) the fact remains that (effective) capacity becomes available for the connection of the new load.
  6. The point raised in the discussion paper is that no additional capacity is created through load transfer. Whilst this is an established fact - it should also be recognised that effective additional capacity is created since the new load is available for connection -whereas this was not the case prior to load transfer taking place.

### **Load Transfer to accomplish Reinforcement**

- The requirements for reinforcement are discussed above.
- Load transfer to accomplish reinforcement achieves the same end product in that the act of transferring load will 'free up' capacity in the network under consideration in order to connect the requested new load.
- Quite simply the act of transferring load makes available (effective) capacity in that part of the network that was not available in the first instance.
- By transferring load the network firm capacity cannot possibly exceed the original network firm capacity since this is limited by the original network constraints... cable, switchgear or transformation capacity.
- The load being transferred can be - more than, equal to or less than the capacity required for the new connection depending upon the shortfall requirements in the existing network.

### **Conventional Reinforcement**

- By conventionally reinforcing part of a network the capacity will be raised to the rating of the lowest component within the ring. (see Example 4)
- By providing conventional reinforcement via interconnection the network firm capacity will increase to the extent of  $(n - 1)$ .
- By providing conventional reinforcement the customer does not bare all of the costs for the reinforcement works.

### **Other considerations**

- The cost of accomplishing a load transfer could, depending on the locations of adjacent networks, be excessive.
- Likewise, the cost of conventional reinforcement can also be excessive BUT in recognition the costs are apportioned based on the CAF Rules such that the customer does not bare the whole of the cost.
- Load transfers and reinforcement both achieve the same ends for the customer in that both methodologies will allow connection of the project. However the basis for the charging methodologies should also be aligned such that the customer only pays for the proportion of the (reinforcement or transfer) cost that they actually occasion based on the existing network parameters and constraints.

As an example, and with regard to Example 8D.

- 1) Rather than transferring the exact 2MVA of capacity off the network under consideration to accommodate 2MVA of new load the DNO actually transfers 3MVA of load off the network and thus frees up and additional 1 MVA over and above the requirements of the new project. [This is never-the- less the minimum cost scheme, noting granularity.] In this instance that 'spare' 1MVA is available to the DNO for future load growth or future new connections. Is it then acceptable that the customer should fund the complete load transfer; I would suggest not!
- 2) I would again refer you to example 4 within the current Charging Methodology whereby the capacity following reinforcement is limited to the effective capacity following reinforcement.

### **CAF Apportionment**

### Options Available

- 1) Consider that the arrangement within Example 8D does not add any additional capacity to the network in which case the full cost of the reinforcement would be attributable to the customer [ In my view not a consistent or acceptable approach]
- 2) Consider that the arrangement does not add capacity but does maintain the capacity that was originally present whilst allowing the connection of new load. In this instance the CAF Rules would be based on 2/7.7 of the total costs. [in my view this provides a consistent and acceptable solution]
- 3) Consider that a new conventional reinforcement could be undertaken for the same cost... (hypothetical case). Then the reinforcement would be apportioned under the CAF Rules at 2/15.2ths of the total costs.

### **Suggested way forward**

As a way forward with Example 8D may I suggest that the charging for the load transfer / reinforcement element be subject to CAF Apportionment and in line with present and current methodology. Therefore the denominator would remain (effective) capacity following reinforcement (i.e. 7.7MVA) and would be covered by (2) above.

The above suggestions are open for further debate but please do not hesitate to contact me should you consider that I can provide further clarification.

Yours faithfully,