









DCUSA Consultation		At what stage is this document in the process?
<h1>DCP 274</h1> <h2>The Application of Export Capacity Charges in the EDCM</h2> <p><i>Raised on the 10 June 2016 as a Standard Change</i></p>		01 – Change Proposal
		02 – Consultation
		03 – Change Report
		04 – Change Declaration
<p>Purpose of Change Proposal:</p> <p>DCP 274 is an electricity industry Change Proposal under the governance of the Distribution Connection and Use of System Agreement (DCUSA) that seeks to amend the Extra High Voltage Distribution Charging Methodologies (EDCM) so distributed generation and storage sites do not pay distribution Use of System (UoS) charges twice for the import and export from a site where the same assets are used.</p> <p>This document is a Consultation issued to DCUSA Parties and any other interested Parties in accordance with Clause 11.14 of the DCUSA seeking industry views on DCP 274.</p>		
	<p>The Workgroup recommends that this Change Proposal should:</p> <ul style="list-style-type: none"> • proceed to Consultation 	
	<p>Parties are invited to consider the questions set in section 10 and submit comments using the form attached as Attachment 1 to dcusa@electralink.co.uk by xx xxxx 2017.</p>	
	<p>DCP 274 has been designated as a Part 1 Matter.</p>	
	<p>The Working Group will consider the consultation responses and determine the appropriate next steps for the progression of the Change Proposal (CP).</p>	
	<p>Impacted Parties: Distributors and Distributed Generation</p>	
	<p>Impacted Clauses: Schedule 17 EHV Charging Methodology (FCP Model) and Schedule 18 EHV Charging Methodology (LRIC Model)</p>	

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Timetable		
The timetable for the progression of the CP is as follows:		
Change Proposal timetable		
Change Proposal timetable:		
Activity	Date	
Initial Assessment Report Approved by Panel	15 June 2016	
Consultation 1 issued to Parties	20 January 2017	
Consultation 2 issued to Parties		
Change Report issued to Panel		
Change Report issued for Voting		
Party Voting Ends		
Change Declaration Issued to Parties		
Change Declaration issued to Authority		
Authority Decision		

1. Summary

What?

- 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.

Why?

- 1.2 DCP 274 has been raised by Neas Energy Limited and seeks to amend the Extra High Voltage (EHV) Distribution Charging Methodology (EDCM) to ensure that distributed generation and storage sites do not pay the Operational and Maintenance (O&M) element of Distribution Use of System (DUoS) charges twice for the import and export from a site where the same assets are used.

How?

- 1.3 DCP 274 states that when importing and exporting, distributed generation sites generally use the same distribution assets subject to network conditions at times of import compared to times of export. It is the proposer's view that applying an export capacity charge to the Maximum Export Capacity (MEC) and an import capacity charge to the Maximum Import Capacity (MIC) effectively applies the same charge twice where the MIC and MEC overlap to the degree that the same assets are used.
- 1.4 The first DCP 274 consultation sought views from Parties on the principles of the change proposal and two proposed solutions as follows:
- The proposed solution seeks to apply the export capacity charge to the difference between the MEC and the MIC.
 - The alternative solution, suggested by a member of the working group, is to allocate costs at the voltage of connection for a mixed site with export predominance based on peak time consumption rather than capacity.
- 1.5 Following the completion of the first consultation, the Working Group agreed that the alternative solution should be progressed.
- 1.6 This second consultation seeks industry views on whether industry parties agree with the intent of the change and whether there is evidence to support the Proposer's view that double charging for the use of assets occurs for generation and storage sites upon importing and exporting, and whether these costs are already covered in the £0.2 per kilowatt hour costs for network reinforcement as included in the O&M charges.

2 Governance

Justification for Part 1 Or Part 2 Matter

- 2.1 DCP 274 is classified as a Part 1 matter and therefore will go to the Authority for determination after the voting process has completed.
- 2.2 This issue is considered a part 1 matter as it affects the level of charges for embedded generation and therefore impacts on competition for embedded generation as specified under 9.4.2 (A).

Requested Next Steps

Following a review of the Consultation responses, the Working Group will ascertain whether this proposal requires progression and whether, if required, the proposed solution addresses the intent of the change.

3 Why Change?

Background of DCP 274

- 3.1 The current EDCM applies an import capacity charge and an export capacity charge to distributed generation sites. The export capacity charge consists of an O&M element which is defined within the EDCM as £0.2/kW. This value was derived and approved prior to implementation in 2013 and is factored into the capacity charge of the export tariffs. It is fixed within the methodology and has not changed since 2013. The import capacity charge also includes an element of O&M charges.
- 3.2 When importing and exporting, distributed generation sites generally use the same distribution assets subject to network conditions at times of import compared to times of export. Applying an export capacity charge to the MEC and an import capacity charge to the MIC effectively applies the same charge where the MIC and MEC overlap, such as in the case of distributed generation sites.
- 3.3 This CP has been raised to amend the EDCM to remove the perceived double charging of O&M where the MIC and MEC overlap.

4 Code Specific Matters

Reference Documents

n/a

5 Working Group Assessment

DCP 274 Working Group Assessment

- 5.1 The DCUSA Panel established a DCP 274 Working Group which consists of Distributed Generation (DG), Supplier, DNO, National Grid and Ofgem representatives. Under DCUSA there is a continuous open invitation to any experts in the relevant subject matter who wish to join this Working Group.
- 5.2 The Working Group developed this consultation document to gather information and feedback from market participants.
- 5.3 The current EDCM derives export tariffs for eligible generation which consists of a unit based credit (which may be zero in some cases), a fixed charge and an export capacity based charge. The export capacity charge reflects a proxy for O&M, and previously included revenue derived from a previous price control incentive mechanism, known as GP and GL. The approval of DCP 232 set the GP and GL components to zero.
- 5.4 The O&M element of the export charges in the EDCM is set at £0.2/kW. This value was determined based on data submitted in DNOs' Forward Business Plan Questionnaire (FBPQ) submissions to Ofgem. The methodology used to determine the O&M value is replicated below for information:

“For the purpose of estimating O&M costs the DNOs have relied on information contained within each DNO's Forward Business Plan Questionnaire (FBPQ) submissions to Ofgem. The most recent FBPQ submissions were prepared by the DNOs and sent to Ofgem as part of the fifth distribution price control review (DPCR5, April 2010 to March 2015) in a common format. Sheet LR2 of these submissions contains each DNO's forecasts of new generation capacity and the qualifying capital expenditure that would need to be incurred to connect these.

An analysis of these FBPQ submissions suggests that the average forecast capital expenditure (excluding sole use assets) per unit of new generation capacity (in £/kW) in each DNO area over the DPCR5 period ranges from 0 to £67/kW. The simple average of these numbers is £20.02/kW and a weighted average (weighted by new capacity) is £19.74/kW. The median is £15.66/kW.

DNOs believe that an O&M rate of 1 per cent of the forecast capital expenditure is reasonable, and when applied to these estimates would suggest an O&M contribution of approximately £0.20/kW. The O&M rate of 1 per cent is consistent with rates previously used for the DG incentive revenue calculations.”¹

- 5.5 The Working Group considered previous discussions at the Distribution Charging Methodology Forum (DCMF) Methodology Issues Group (MIG) prior to the raising of this issue as a formal change under DCUSA. The question was raised as to whether the approach set out in the EDCM was fair if the customer was using the same assets for the import and export of electricity on-site.

¹ Source: EDCM Consultation on the methodology for export charges (March 2012)

- 5.6 The Working Group noted that an import/export connection would generally utilise the same assets for importing and exporting electricity from the site but that in some cases for technical reasons there may be the need for some additional assets. Network conditions may be different at times when energy is flowing into the site compared to when it is flowing out of the site causing different assets to be used at times of import compared to times of export. This would all be considered when the connection offer is issued.
- 5.7 The EDCM only takes account of individual assets when looking at those which are sole use assets (SUA). The assessment of shared use assets is taken account in the calculation of the NUFs which are grouped by voltage level. It should be noted that the import and export methodologies are very different and it may therefore not be appropriate to compare the two. The import methodology takes account of assets by voltage level and utilises NUFs, and O&M is therefore recovered on the SUA and the shared assets. However, the export methodology uses the £0.2/kW charging rate as a proxy for O&M on the additional shared use assets required to connect generation. The resultant charging rates are therefore also very different.
- 5.8 The use of the NUFs is also different for mixed sites that have both import and export capability. Where a site is deemed to be generation dominated then the NUFs are capped. The DNO determines whether the site is generation dominated based on the following criteria as set out in DCUSA:
- “The choice of model is based on whether the Connectee’s dominant operating mode is that of a demand Connectee or a generation Connectee (determined by examination of the Connectee’s Maximum Import Capacity and Maximum Export Capacity or kWh consumptions as appropriate).”*
- 5.9 Where a site is deemed to be generation dominant this information is used when modelling a site in the powerflow analysis to determine the locational element of the UoS price that is applied to each site. In addition, the powerflow is also used to determine the NUFs that apply to each site. For an import site the NUFs are used to determine an allocation of:
- direct costs
 - network rates; and
 - the variable element of demand scaling² (asset based scaling).
- 5.10 The elements of the import tariff that relate to O&M are the allocation of direct costs and network rates. It is these elements that are also applied to the export tariff, albeit in a different format.
- 5.11 Members questioned that if the same assets are utilised, is it reasonable to request a customer to pay for using the same assets twice. Other members queried whether the double charge referred to in the CP was in fact the cost recovery mechanism for two different assets, or for two different

² Scaling reconciles the difference between the costs recovered in the charging model and the revenues of the DNO.

costs on the same assets. The Working Group noted that there will be some overlap between the assets used for import and export. As the import capacity increases relative to the export capacity, the degree of overlap is likely to reduce. A Working Group member has put forward an alternate solution to overcome this issue by allocating costs based on peak time consumption. The Working Group seeks your views on this discussion at question 3, 4 and 5 of this consultation.

- 5.12 This CP proposes to amend the EDCM to ensure that distributed generation and storage sites do not pay DUoS charges twice for the import and export from a site where the same assets are used. The solution put forward with the change proposal proposes to levy the import charge up to the full level of the MIC and levy the export charge on the difference between the MEC and the MIC. For example, a site with a MIC of 4MW and a MEC of 1MW would be charged the import capacity charge for 4MW and no export capacity charge; whereas a site with a MIC of 4MW and a MEC of 7MW would be charged the import capacity charge for 4MW and the export capacity charge for 3MW.
- 5.13 The Working Group also considered the Energy Network Association (ENA) '*EDCM Report on Condition 3*' paper which contains a section on capped NUFs for generation dominated sites (Attachment 3).

Original Solution

- 5.14 The proposed solution would apply the export capacity charge to only the difference between the MEC and MIC, for sites which have a larger MIC than MEC. To illustrate the customer impact of this, four customer types have been considered:
- An import only customer (e.g. a manufacturing site with no onsite generation) with a MIC of 20,000kVA – no change; the import capacity charge would be applied to the full MIC of 20,000kVA;
 - An import/export customer with dominant export (e.g. a wind farm) with a MIC of 200kVA and MEC of 10,000kVA – small change; the import capacity charge would be applied to the full MIC of 200kVA whilst the export capacity charge would only be applied to the difference between MEC and MIC i.e. to 9,800kVA.
 - An import/export customer with identical MIC and MEC (e.g. a battery storage facility) with a MIC and MEC of 10,000kVA – significant change; the import capacity charge would be applied to the full MIC of 10,000kVA whilst the export capacity charge would not be applied at all as the MIC and MEC are the same.
 - An import/export customer with dominant import (e.g. a manufacturing site with onsite generation) with a MIC of 20,000kVA and MEC of 10,000kVA – significant change; the import capacity charge would be applied to the full MIC of 20,000kVA whilst the export capacity charge would not be applied at all as the MIC exceeds the MEC.

Alternative Solution

- 5.15 An alternative solution proposed by a member of the Working Group is to amend the calculation of the import charges for a mixed site with export predominance. At present, the way in which the

costs that are allocated via NUFs are applied is determined by the Point of Common Coupling (POCC) for each EDCM customer. The POCC is defined as ‘the point on the network where the power flow associated with the single Connectee under consideration, may under some (or all) possible arrangements interact with the power flows associated with other Connectees, taking into account all possible credible running arrangements’. The application of costs allocated via the NUFs is detailed by POCC in the methodology, but in simple terms costs are recovered as follows:

- Based on the customer’s MIC for costs at the voltage of the POCC; and
- Based on the customer’s peak time consumption for costs at voltage levels above the voltage of the POCC.

5.16 The allocation of costs using the above principle is because EHV sites tend to be large and therefore at the voltage of the POCC, the peak demand of the customer will tend to use the majority of the local assets. As the EHV customer is therefore likely to set the local peak demand the costs at the voltage of the POCC are allocated on the capacity of the customer rather than peak demand. Conversely at higher voltage levels, the demand of the individual EHV customer is shared with that of other customers, and therefore peak time consumption is expected to be a greater driver of cost, rather than capacity.

5.17 The principle set out above is reasonable for a demand customer or a mixed site with import predominance. However, where a site is defined as having export predominance, the proposer of the alternative solution asserts that this principle is not valid because:

- The local assets are generally sized for the export; and
- The same local assets are likely to be used for both import to and export from the site.

5.18 The alternative proposal is that for a mixed site with export predominance, the allocation of costs via NUFs should be applied based on peak time consumption at the voltage of the POCC.

5.19 The benefit of the alternative proposal is as follows:

- The O&M costs that are allocated to the import side of the mixed site would be based on peak time consumption at the voltage of connection rather than the full capacity. As the local assets that are used by both the export and import are likely to be the same, the import side would be charged based on the extent to which they consume at the time of peak, whereas the export would be charged based on the export capacity.
- An improvement in cost reflectivity, as mixed sites would receive a reduced charge if their consumption was not coincident with peak.
- A larger incentive for mixed sites with export predominance to not import at time of peak.

5.20 The Working Group agreed that this approach could have a more significant impact as DNOs would still have to recover the same allowed revenue, for the charging year, so other customers

would have to pick up any shortfall in revenue. The Working Group seeks your views at questions 7 and 8.

5.21 The Working Group questioned which Parties would be impacted by this DCP. Some members did not believe there to be a large number of Parties that would be susceptible to this perceived double charging as described. It is thought that the impacted Parties would be distributed generation sites which also have significant import capacity (e.g. industrial sites with on-site intermittent generation).

5.22 Most embedded generators will have both a MIC and a MEC which may both be chargeable. To illustrate the customer impact of the alternative proposal, four customer types have been considered:

- An import only customer (e.g. a manufacturing site with no onsite generation) with a MIC of 20,000kVA – no change; the import capacity charge would be applied to the full MIC of 20,000kVA;
- An import/export customer with dominant export (e.g. a wind farm) with a MIC of 200KVA and MEC of 10,000kVA – small change; the import capacity charge would be determined at the voltage of the POCC based on peak time consumption. As the peak time consumption is likely to be small, this is likely to result in a reduction in the import capacity charge.
- An import/export customer with identical MIC and MEC (e.g. a battery storage facility) with a MIC and MEC of 10,000kVA – potentially a significant change; the import capacity charge would be determined at the voltage of the POCC based on peak time consumption. If the site does not import over the peak this will result in a large reduction in the import capacity charge. If the site imports over the peak the site will incur the same charge as under current arrangements.
- An import/export customer with dominant import (e.g. a manufacturing site with onsite generation) with a MIC of 20,000kVA and MEC of 10,000kVA – no change; as the site is not defined as having an export predominance, the use of system charge would be derived as per the current arrangements.

5.23 The first DCP 274 consultation sought views from Parties on the principles of the change proposal and two proposed solutions as follows:

- The proposed solution seeks to apply the export capacity charge to the difference between the MEC and the MIC.
- The alternative solution, suggested by a member of the working group, is to allocate costs at the voltage of connection for a mixed site with export predominance based on peak time consumption rather than capacity.

5.24 Following the conclusion of the first consultation and a review of the consultation responses, the Working Group agreed that the alternate solution should be supported based on the evidence that was provided by the DNO submissions to Ofgem, and Ofgem decision document that was consulted on at the time that the EDCM was being developed. This evidence indicated that the £0.2 per Kilowatt Hour included in the O&M Charges was an incremental cost for network reinforcement, and that the alternate solution considers the diversity at peak and thus is considered a more cost reflective option.

Provided Examples of Double Charging

The proposer of the change provided a paper detailing example scenarios where double charging could take place. This paper has been included as Attachment x.

5.25 The Working Group reviewed a paper provided by the proposer of the change which highlights a number of examples where double charging could take place....

5.26 ...

5.27 ...

6 Impacts & Other Considerations

6.1 This change proposal will mainly impact on mixed sites with an export predominance. The previous section has shown an illustration of the impact of the original and alternative proposal on a range of customers. There will be a small impact on all other customers as any shortfall/ surplus in revenue will need to be recovered from these customers.

Request for Information

6.2 The Working Group issued a Request for Information (RFI) to DNOs to determine how many sites would be directly affected by this change in order to gain an understanding of the scale of this issue. A summary of the responses is set out below.

6.3 The table below acts as a summary to the question “*Please provide the count of customers and aggregate MIC and MEC split into the bands detailed in the table below, based on the 2017/18 charges (where the dominance is seen to be generation)*”. The table shows the number of customers where the import capacity relative to the export capacity falls into the percentage bandings. For example, a site with a MIC of 1 kVA and a MEC of 10 kVA would have a MIC to MEC ratio of 10%. The Working Group has noted that a low number of customers will be materially impacted by this change.

Bands (MIC / MEC)	Aggregate MIC (kVA)	Aggregate MEC (kVA)	Number of customers
0-20%	533,670	22,955,865	1,421
21-40%	74,070	260,334	28
41-60%	109,420	105,759	17
61-80%	45,000	52,000	14
81-100%	17,500	22,800	12

6.4 The Working Group noted that the proposed solution would require the development of a revised model and an impact assessment to be undertaken.

Consumer Impacts

- 6.5 The Working Group noted that there will be a shortfall in revenue which would be picked up by all UoS customers, however it was noted that the impact of this revenue recovery adjustment would be minimal.

Environmental Impacts

- 6.6 In accordance with DCUSA Clause 11.14.6, the Working Group assessed whether there would be a material impact on greenhouse gas emissions if DCP 274 were implemented. The Working Group did not identify any material impact on greenhouse gas emissions from the implementation of this CP.

Engagement with the Authority

- 6.7 Ofgem has been fully engaged throughout the development of DCP 274 as an observer of the Working Group.

7 Legal Text

- 7.1 The Working Group will develop the legal text for the proposed solution in due course, taking into account the consultation responses.

8 Relevant Objectives

Assessment Against the DCUSA Objectives

- 8.1 Changes to the DCUSA charging methodologies must better facilitate the DCUSA Charging Objectives. The Working Group is interested in parties views on which of the following DCUSA Charging Objectives are better facilitated by this change and its alternate and why.
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.

9 Implementation

- 9.1 The proposed implementation date for DCP 274 is the 01 April 2019. DCP 178 introduced a 15-month notification period for changes to UoS charges from April 2017. As a result, for this change to be implemented on the 01 April 2019, it will need to be approved prior to tariff setting in December 2017.

10 Consultation Questions

- 10.1 The Working Group is seeking industry views on the following consultation questions:

Number	Questions
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

10.2 Responses should be submitted using Attachment 1 to dcusa@electralink.co.uk no later than **xx xxxx 2017**.

10.3 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.

Attachments

- Attachment 1 - DCP 274 Consultation Response Form
- Attachment 2 -
- Attachment 3 -