

## Part A: Generic

DCUSA Change Proposal (DCP)		At what stage is this document in the process?
<h1>DCP 283</h1> <p><b>DCP Title: The calculation of generation credits in the CDCM</b></p> <p>Date Raised: 12 October 2016</p> <p>Proposers Name: Johannes Nowak</p> <p>Company Name: MVV Environment Services Limited</p> <p>Company Category: Supplier</p>		<p><b>01 – Change Proposal</b></p> <p>02 – Consultation</p> <p>03 – Change Report</p> <p>04 – Change Declaration</p>
<p><b>Purpose of Change Proposal:</b></p> <p>The intent of this change proposal is to amend the calculation of credits for embedded generation to more closely reflect the benefits they bring to Distribution Network Operators.</p>		
	<p>Governance:</p> <p>The Proposer recommends that this Change Proposal should be:</p> <ul style="list-style-type: none"> <li>Part 1</li> <li>Treated as a Standard Change</li> <li>Proceed to Working Group</li> </ul> <p>The Panel will consider the proposer’s recommendation and determine the appropriate route.</p>	
	<p>Impacted Parties: <b>Distributors, Suppliers, Distributed Generation</b></p>	
	<p>Impacted Clauses: <b>Schedule 16 (CDCM)</b></p>	

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 Any questions?

2 Contact: **DCUSA**  
3 **Code Administrator**

3  email address;  
5 DCUSA  
6 [DCUSA@electralink.co.uk](mailto:DCUSA@electralink.co.uk)

6  telephone:  
8 0207 432 3008

9 Proposer:  
9 **Johannes Nowak**

 email address:  
**Johannes Nowak**  
[johannes.nowak@mvv.de](mailto:johannes.nowak@mvv.de)

 telephone

Other:  
**Insert name**

 email address.

 telephone

Other:  
**Insert name**

 email address.

 telephone

Other:  
**Insert name**

 email address.

 telephone

## Indicative Timeline

**The Secretariat recommends the following timetable:**

Initial Assessment Report	19 October 2016
Consultation Issued to Industry Participants	TBC
Change Report Approved by Panel	15 February 2017
Change Report issued for Voting	17 February 2017
Party Voting Closes	10 March 2017
Change Declaration Issued to Parties	14 March 2017
[Change Declaration Issued to Authority]	14 March 2017
[Authority Decision]	10 April 2017
Implementation	1 April 2019

## 1 Summary

This change proposal address two issues with the calculation of credits within the CDCM:

- the principle of applying credits at the voltage of connection; and
- the discounting of credits to take account of customer contributions for demand customers.

## Why

This change proposal suggests two changes that could improve the cost reflectivity of generation credits for embedded generators. More cost reflective credits for generators will place incentives on embedded generation that reflect the benefits they bring to network operators.

## How

The proposed solution is:

- to award credits at the voltage of connection for LVS connected embedded generators;
- to award [75%] of credits at the voltage of connection for LV connected embedded generators; and
- to exclude the customer contributions discount in the assessment of credits for embedded generators in the CDCM.

## 2 Governance

### Justification for Part 1 and Part 2 Matter

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

This Change Proposal should:

- Be treated as a Part 1 Matter
- Be treated as a Standard
- Proceed to Working Group

## 3 Why Change?

This change proposal address two issues with the calculation of credits within the CDCM; the principle of applying credits at the voltage of connection and the discounting of credits to take account of customer contributions for demand customers. These issues are considered separately below:

### Credits at the voltage of connection

The principle applied within the CDCM is that credits are applied for voltage levels above the voltage level of connection. For demand, costs are taken into account down to the voltage of connection. The rationale for applying credits above the voltage level of connection was set down when the CDCM was developed and was justified as the benefit of reduced reinforcement was perceived to be higher up the network. The requirement was set out in an Ofgem decision document in 2008<sup>1</sup> within Appendix 2 which outlines the principles and assumptions to be used when setting out the common distribution charging methodology. The relevant assumption is set out in 1.51 which states:

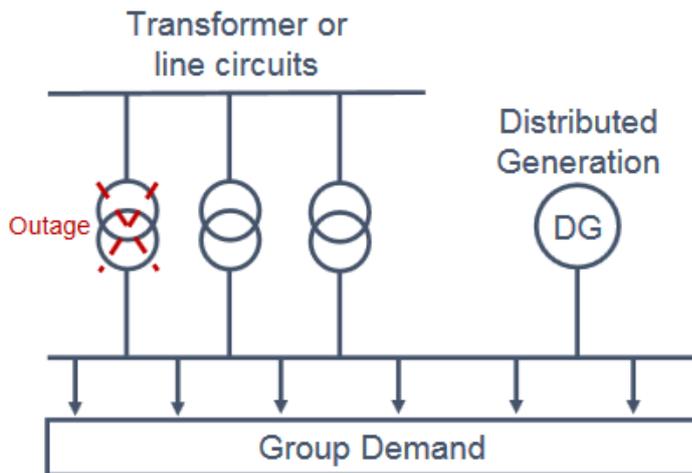
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<sup>1</sup> [Ofgem decision document - Delivering the electricity distribution structure of charges](#)

“1.51. The network is assumed to be demand dominated. Credit will be provided for offsetting demand on the distribution network above the voltage of connection.”

The Ofgem decision is based on Engineering Recommendation P2/6 as supported by ETR 130 Application Guide for Assessing the Capacity of Networks Containing Distributed Generation and applies to both intermittent and non-intermittent generation.

The basic principle of P2/6 and ETR130 is that embedded generation can offset the need for network capacity depending on the reliability of the generator and its setup. A simple example where an embedded generator offsets the need for a transformer is shown in the diagram below:



The more reliable the generator is the more the DNO can rely on it for network planning purposes. P2/6 sets out the reliability factors (labelled “f” factors) for different types of generation. Where a generator is intermittent, an additional persistence factor is also taken into account.

When assessing the ability of an embedded generator to offset network capacity, P2/6 refers to a demand group. The demand group is not specified as a network level and the assumption within the CDCM is that the benefit will be realised at the next voltage level up (eg for a LV circuit the benefit will be realised at the LVS transformer).

### High Voltage

At high voltage, DNOs typically exclude HV connected generators when considering the network required to meet the demand for a new customer. However, at the substation, they take account of any embedded generation and consequently less capacity may be required at the substation and voltage levels above. This principle suggests that the current principle within the CDCM of applying credits to the voltage levels above the voltage of connection is correct as the benefit to the DNO is only realised at higher voltage levels. We do not propose to amend the methodology for credits for HV generators.

### Low Voltage Substation (LVS)

Embedded generators who connect directly at LVS do not currently get a credit for avoiding the use of the LV substation. However, the principle that the benefit is realised at the substation where the capacity can be reduced holds true even though the generator is connected directly to a LVS and it is therefore appropriate that LVS generators should receive the benefit at the voltage of connection. However, as the generator will only benefit the DNO if it can be relied on, we propose to extend the credits to the voltage of connection for non-intermittent generation only.

### Low Voltage

Embedded generation connected to the low voltage network are not particularly visible to DNOs. When a DNO is planning the LV network, they are more likely to assess the maximum demand at the local substation with some consideration of any large generation that may be connected. At the LV network the presence of generation will be more diverse and therefore some of the benefits will be realised at the level of connection in addition to the higher voltage levels. We propose to take account of generation credits at the voltage of connection for LV connected generation by allocating a proportion of the demand costs at the voltage of connection as a credit to non-intermittent embedded generation at LV. We suggest a 75% sharing factor for the proportion of the LV demand charge that should be allocated to LV connected generation, but suggest that this value would need further consideration by the working group.

### Treatment of customer contributions

Within the CDCM, demand charges are reduced by the customer contribution to take account of the amount paid up front when a customer connected. This customer contribution for demand is also applied to the calculation of generation credits. The impact of the application of customer contributions is to reduce the level of credits.

When a generator connects to the network, one of the benefits that is realised by the DNO is a reduced flow on the local network. This allows further demand customers to connect without the need for reinforcement and therefore they will need to make less or no customer contribution when they connect. Consequently, applying the customer contributions to generation credits, reduces the cost reflectiveness of the credit that is provided to embedded generation under the CDCM.

## 4 Solution and Legal Text

### 1. Credits at the voltage of connection

We propose to amend the CDCM methodology to include 100% for generation by changing clause 62 and 71 in Schedule 16 as follows:

62. For the purposes of this calculation, a generation user is taken to make ~~a zero contribution to load at the network level corresponding to circuits at its Entry Point, and~~ a full negative contribution to load at all network levels above its Entry Point. **At the network level corresponding to circuits a generator's entry point, the following negative contribution to load is taken into account:**

- a) For all HV connected generation, the contribution is deemed to be zero
- b) For all LVS intermittent connected generation, the contribution is deemed to be zero and for all LVS non-intermittent connected generation, the contribution is deemed to be 100%
- c) For all LV intermittent connected generation, the contribution is deemed to be zero and for all LV non-intermittent connected generation, the contribution is deemed to be 75%

For demand users, account is taken of differences between the diversity allowance in the network model and the diversity of each customer group in order to ensure that the estimated load matches the volumes subject to charges in respect of each network level.

71. For generation users and portfolio tariffs for generation users, ~~no contribution to the unit rate is calculated in respect of the network level corresponding to circuits at the Entry Point, and~~ a negative contribution to the unit rate (i.e. a credit) comes from each network level above the Entry Point. **At the**

network level corresponding to circuits a generator’s entry point, the following negative contribution to load is taken into account:

- a) For all HV connected generation, the contribution is deemed to be zero
- b) For all LVS intermittent connected generation, the contribution is deemed to be zero and for all LVS non-intermittent connected generation, the contribution is deemed to be 100%
- c) For all LV intermittent connected generation, the contribution is deemed to be zero and for all LV non-intermittent connected generation, the contribution is deemed to be 75%

That contribution is calculated as follows:

$$[\text{p/kWh from network model assets}] = -100 * [\text{network level } \text{£/kW/year}] * [\text{user loss factor}] / [\text{network level loss factor}] * (1 - [\text{contribution proportion}]) / [\text{days in year}] / 24$$

$$[\text{p/kWh from operations}] = -100 * [\text{transmission exit or other expenditure } \text{£/kW/year}] * [\text{user loss factor}] / [\text{network level loss factor}] / [\text{days in year}] / 24$$

## 2. Customer contributions

We propose to amend the CDCM methodology to set customer contributions to 100% for generation by changing clause 31 in Schedule 16 as follows:

31. In the case of generators, the proportions relate to the notional assets whose construction or expansion might be avoided due to the generator’s offsetting of demand on the network ~~is set at 0%, and takes the same values as for a demand user at the same network level of supply.~~ **is set at 0%.**

# 5 Code Specific Matters

## Reference Documents

N/A

# 6 Relevant Objectives

DCUSA Charging Objectives	Identified impact
Please tick the relevant boxes. <a href="#">[See Guidance Note 10]</a>	
<input type="checkbox"/> 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	None

<input checked="" type="checkbox"/> 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)  <input checked="" type="checkbox"/> 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	Positive
<input type="checkbox"/> 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	None
<input type="checkbox"/> 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.	None
<p>This change proposal better meets charging objective two as the more cost reflective tariffs will provide a more accurate price signal which will result in a more efficient dispatch of plant and the siting of plant within the distribution network. Both of these will result in the promotion of effective competition in generation.</p> <p>This change proposal better meets charging objective three as it increases the cost reflectivity of tariffs within the CDCM by awarding credits to embedded generators that more closely reflect the benefits they bring to DNOs and thereby encourages the development of efficient, co-ordinated and economical distribution networks.</p> <p><a href="#">[See Guidance Note 11]</a></p>	
<p><b>DCUSA General Objectives</b></p> <p>Please tick the relevant boxes. <a href="#">(See Guidance Note 9)</a></p>	<b>Identified impact</b>
<input type="checkbox"/> 1 The development, maintenance and operation by the DNO Parties and IDNO Parties of efficient, co-ordinated, and economical Distribution Networks	Positive
<input type="checkbox"/> 2 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	Positive

<input type="checkbox"/> 3 The efficient discharge by the DNO Parties and IDNO Parties of obligations imposed upon them in their Distribution Licences	None
<input type="checkbox"/> 4 The promotion of efficiency in the implementation and administration of the DCUSA	None
<input type="checkbox"/> 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.	None
<a href="#">[See Guidance Note 10]</a>	

## 7 Impacts & Other Considerations

There will be no cross-code impact.

This change will potentially increase the level of credits to embedded generators which will result in a small increased cost to consumers. The increased level of credit will impact renewable generation which will potentially encourage the take up of renewable power and therefore lead to environmental benefits.

### Does this Change Proposal impact a Significant Code Review (SCR) or other significant industry change projects, if so, how?

N/A

### Does this Change Proposal Impact Other Codes?

Please tick the relevant boxes and provide any supporting information. [\[See Guidance Note 6\]](#)

- BSC
- CUSC
- Grid Code
- MRA
- SEC
- Other
- None

### Consideration of Wider Industry Impacts

This change proposal was discussed at the October Methodologies Issues Group (MIG) where some participants suggested that the change should be incorporated into the CDCM review. The proposer wishes to proceed with this as a standalone change proposal to ensure it is progressed in a timely manner.

### Confidentiality

This change proposal is not confidential

## 8 Implementation

This change proposal should be implemented in April 2019, which should provide sufficient time for the working group to assess the change.

### Proposed Implementation Date

April 2019

## 9 Recommendations

*The Code Administrator will provide a summary of any recommendations/determinations provided by the Panel in considering the initial Change Proposal. This will form part of a Final Change Report.*

### Part C: Guidance Notes for Completing the Form

Ref	Section	Guidance
<b>1</b>	<b>Attachments</b>	Append any proposed legal text or supporting documentation in order to better support / explain the CP.
<b>2</b>	<b>Governance</b>	<p>A CP must be categorised as a Part 1 or Part 2 matter in accordance with Clause 10.4.7 of the DCUSA. All Part 1 matters require Authority Consent.</p> <p>Part 1 Matter</p> <p>A change Proposal is considered a Part 1 Matter if it satisfies one or more of the following criteria:</p> <p>a) it is likely to have a significant impact on the interests of electricity consumers;</p> <p>b) it is likely to have a significant impact on competition in one or more of:</p> <ul style="list-style-type: none"> <li>i. the generation of electricity;</li> <li>ii. the distribution of electricity;</li> <li>iii. the supply of electricity; and</li> <li>iv. any commercial activities connected with the generation, distribution or supply of electricity;</li> </ul> <p>c) it is likely to discriminate in its effects between one Party (or class of Parties) and another Party (or class of Parties);</p> <ul style="list-style-type: none"> <li>i. it is directly related to the safety or security of the Distribution Network; and</li> <li>ii. it concerns the governance or the change control arrangements applying to the DCUSA; and</li> </ul>

		<p>iii. it has been raised by the Authority or a DNO/IDNO Party pursuant to Clause 10.2.5, and/or the Authority has made one or more directions in relation to it in accordance with Clause 11.9A.</p> <p>Part 2 Matter</p> <p>A CP is considered a Part 2 Matter if it is proposing to change any actual or potential provisions of the DCUSA which does not satisfy one or more of the criteria set out above.</p>
3	<b>Related Change Proposals</b>	Indicate if the CP is related to or impacts any CP already in the DCUSA or other industry change process.
4	<b>Proposed Solution and Draft Legal Text</b>	<p>Outline the proposed solution for addressing the stated intent of the CP. The Change Proposal Intent will take precedence in the event of any inconsistency. A DCUSA Working Group may develop alternative solutions.</p> <p>The plain English description of the proposed solution should include the changes or additions to existing DCUSA Clauses (including Clause numbers).</p> <p>Insert proposed legal drafting (change marked against any existing DCUSA drafting) which enacts the intent of the solution. The legal text will be reviewed by the Working Group (if convened) and is likely to be subject to legal review as part of its progress through the DCUSA change process.</p>
5	<b>Proposed Implementation Date</b>	<p>The Change can be implemented in February, June, and November of each year or as an extraordinary release. For Charging Methodology CPs, select an implementation date which takes into consideration the minimum notice periods for publishing tariffs. These are:</p> <ul style="list-style-type: none"> <li>• 15 months, for DNOs acting within their Distribution Services Areas; or</li> <li>• 14 months, for IDNOs and DNOs acting outside their Distribution Services Area.</li> </ul> <p>Please select an implementation date that provides sufficient time for the Change to be incorporated into the appropriate charging model and the DCUSA in order to be reflected in future tariffs.</p> <p>Contact the DCUSA helpdesk for any further information on the releases <a href="mailto:dcusa@electralink.co.uk">dcusa@electralink.co.uk</a>.</p>
6	<b>Impacts &amp; Other Considerations</b>	Indicate whether this Change Proposal will be impacted by or have an impact upon wider industry developments. If an impact is identified, explain why the benefit of the Change Proposal may outweigh the potential impact and indicate the likely duration of the Change.
7	<b>Environmental Impact</b>	Indicate whether it is likely that there would be a material impact on greenhouse gas emissions as a result of the proposed variation being made. Please see <a href="#">Ofgem Guidance</a> .

8	<b>Confidentiality</b>	Clearly indicate if any parts of this Change Proposal Form are to remain confidential to DCUSA Panel (and any subsequent DCUSA Working Group) and Ofgem
9	<b>DCUSA General Objectives</b>	Indicate which of the DCUSA Objectives will be better facilitated by the Change Proposal.
10	<b>Detailed Rationale for DCUSA Objectives</b>	Provide detailed supporting reasons and information (including any initial analysis that supports your views) to demonstrate why the CP will better facilitate each of the DCUSA Objectives identified.
11	<b>DCUSA Charging Objectives</b>	Indicate which of the DCUSA Charging Objectives will be better facilitated by the Change Proposal. Please note that a CDCM or EDCM change may also facilitate the DCUSA General objectives.
12	<b>Defining ‘Material’ for Charging Methodology Changes</b>	In respect of proposals to vary one or more of the Charging Methodologies, such proposals shall be deemed to be “material” if they might reasonably be expected to have a significant impact on the tariffs calculated under one or more of the methodologies.