




Part A: Generic

DCUSA Change Proposal (DCP)		At what stage is this document in the process?
<h1>DCP xxx:</h1> <p>Generation credits in the EDCM</p> <p>11 November 2016</p> <p>Johannes Nowak</p> <p>MVV Environment Services Limited</p> <p>Supplier</p>		<div>01 – Change Proposal</div> <div>02 – Consultation</div> <div>03 – Change Report</div> <div>04 – Change Declaration</div>
<p>Purpose of Change Proposal:</p> <p>The intent of this change proposal is to amend the calculation of credits for embedded generation in the EDCM to take account of potential cost savings for DNOs that can be attributed to embedded generation in the areas of transmission exit charges, direct costs, indirect costs and network rates.</p>		
	<p>Governance:</p> <p>The Proposer recommends that this Change Proposal should be:</p> <ul style="list-style-type: none"> Part 1 Treated as a Standard Proceed to Working Group <p>The Panel will consider the proposer's recommendation and determine the appropriate route.</p>	
	<p>Impacted Parties: Distributed Generation/ Suppliers</p>	
	<p>Impacted Clauses: Schedule 17 and 18 (EDCM)</p>	

Contents		?	Any questions?
1	Summary	2	Contact:
2	Governance	3	Code Administrator
3	Why Change?	3	email address
4	Solution and Legal Text	3	telephone
5	Code Specific Matters	6	Proposer:
6	Relevant Objectives	6	Insert name
7	Impacts & Other Considerations	7	email address
8	Implementation	8	telephone
9	Recommendations	8	Other:
			Insert name
Indicative Timeline			email address.
Please provide the proposers contacts (to the right). The indicative timeline will be updated by the Code Administrator.			telephone
The Secretariat recommends the following timetable:			Other:
Initial Assessment Report	dd month year		Insert name
Consultation Issued to Industry Participants	dd month year		email address.
Change Report Approved by Panel	dd month year		telephone
Change Report issued for Voting	dd month year		Other:
Party Voting Closes	dd month year		Insert name
Change Declaration Issued to Parties	dd month year		email address.
[Change Declaration Issued to Authority]	dd month year		telephone
[Authority Decision]	dd month year		Other:
			Insert name
			email address.
			telephone

1 Summary

This change proposal address the issue of whether the calculation of credits for embedded generation in the EDCM should include credits for the avoidance of costs on behalf of the DNO relating to transmission exit charges, direct costs, indirect costs and network rates.

Why

The level of credits for embedded generation within the EDCM is determined from the charge 1 that results from a powerflow analysis of the DNOs network. Although this captures future reinforcement costs, it does not necessarily reflect the full costs savings that can be attributed to embedded generation.

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 apply credits to eligible EDCM embedded generators in the areas of:

- Transmission exit charges
- Direct costs
- Indirect costs
- Network rates

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?

Transmission Exit Charges

The review of embedded benefits undertaken by National Grid in 2013 (charging methodology paper GB ECM-23 [Transmission Arrangements for Embedded Generation](#)) determined a value for the avoided cost of embedded generation on the transmission network and excluded the cost of the supergrid transformer as it tends to be fully contributed (ie paid for by the DNO) and is recovered from DNOs via transmission exit charges.

Under the EDCM, an award for Transmission exit credits is only paid to qualifying generators that have an agreement with the DNO, the terms of which require the generator, for the purposes of P2/6 compliance, to export power during supergrid transformer (SGT) outage conditions. As most EHV generators do not have this agreement, very few generators receive a credit in this respect.

Transmission exit charges recover the capital cost of GSPs on behalf of transmission companies from DNOs. Embedded generation offsets demand at the GSP level and therefore reduces the need for future reinforcement at the GSP. It also increase the amount of spare capacity at the GSP which enables more demand to connect without triggering reinforcement. This principle is accepted within the CDCM where generation receive a credit for offsetting transmission exit charges but not within the EDCM. In addition, the costs of future reinforcement of GSPs is not included in the locational element of the charge (charge 1) as it classified as a zero cost branch due to the ownership lying with the transmission company.

Direct and Indirect Costs

Within the CDCM, embedded generators receive a credit for reducing direct operating costs at voltage levels above the level of connection. This is because they reduce the demand and therefore the level of infrastructure required at higher voltage levels. This results in less reinforcement and also a saving in direct and to a certain extent indirect costs.

The level of indirect costs is relatively stable, so the CDCM makes an assumption about the degree to which indirect costs contribute to demand costs or generation credits on a forward looking basis via an operating intensity ratio which is set at 60% within the methodology. Within the EDCM an operating intensity 68% is applied to both direct and indirect costs for the derivation of demand charges.

Annex 1 of schedule 17, s8.3 (d) and schedule 18, s7.4 (d) set out the costs to be included when deriving the future reinforcement costs under LRIC and FCP approaches as follows

(d) The typical unit costs used to derive the cost of reinforcement for a Branch shall:

- (i) reflect the modern equivalent asset value of reinforcing the particular asset;
- (ii) include overheads directly related to the construction activity;
- (iii) include building and civil engineering works, in unmade ground.

The costs outlined above therefore do not reflect the savings that result from lower direct costs that are realised by the DNO due to the reduction in size of the infrastructure that needs to be maintained by the DNO. In addition, any closely related indirects that may vary with the amount of infrastructure in situ will also decrease. This is reflected in the CDCM, but not in the EDCM.

Network Rates

Network rates follow a similar principle. Where less assets are required by the DNO the amount of network rates expenditure by the DNO is reduced. As embedded generation is contributing to the reduced level of costs, it should be rewarded appropriately.

4 Solution and Legal Text

This change proposes to address the issues identified by amending the calculation of credits for EDCM generators to include the cost avoided in relation to exit charges, direct costs, indirect costs and network rates.

The proposed solution is that the credits should be calculated in the same way as the equivalent demand costs are derived, but applied as a credit to eligible embedded generators.

The charge elements identified are all derived for demand as capacity based charges, but it would seem appropriate for embedded generation for these charges to be applied as a unit based credit to provide an incentive for the generator to export when the system is under most stress and therefore provide the most benefit.

The legal text should be derived by the working group based on the solution agreed, but we have set out below the relevant sections for the application of the demand costs:

Schedule 17 and 18:

9.2 A single charging rate, in p/kW/day is calculated as follows:

$$\text{Transmission exit charging rate p/kW/day} = 100 / \text{DC} * \text{NGET charge} / (\text{CDCM system maximum load} + \text{total EDCM peak time consumption})$$

Where:

DC is the number of days in the Charging Year.

NGET charge is the DNO Party's forecast annual expenditure on transmission connection point charges in £.

CDCM system maximum load is the forecast system simultaneous maximum load from CDCM Connectees (in kW) from CDCM table 2506.

Total EDCM peak time consumption (in kW) calculated by multiplying the Maximum Import Capacity of each Connectee by the forecast peak-time kW divided by forecast maximum kVA of that Connectee (adjusted for losses to transmission and, if necessary, for Connectees connected for part of the Charging Year) and aggregating across all EDCM Customer demand.

9.3 The single p/kW/day charging rate is converted into a p/kVA/day import capacity based charge for each EDCM Connectees as follows:

$$\text{Transmission exit charge p/kVA/day} = [\text{Transmission exit charging rate in p/kW/day}] * [\text{Forecast peak-time kW divided by kVA of that Connectee, adjusted for transmission losses and, if necessary for Connectees connected part of the year}]$$

16.7 The contribution rates for network rates, direct costs, indirect costs and residual revenue is converted into a £/year import capacity based contribution and a demand sole use asset MEAV based contribution for each EDCM Connectee.

Import capacity based network rates contribution for each Connectee = TNA * NR rate * import capacity

Import capacity based direct operating costs contribution for each Connectee = TNA * DOC rate * import capacity

Import capacity based indirect costs contribution for each Connectee = TNA * INDOC rate * import capacity

Import capacity based residual revenue contribution for each Connectee = TNA * residual revenue rate * import capacity

Where:

TNA is the total site-specific assets (£/kVA) for that EDCM Connectee.

NR rate is the network rates contribution rate in per cent.

DOC rate is the direct operating costs contribution rate in per cent.

INDOC rate is the indirect costs contribution rate in per cent.

Residual revenue rate is the residual revenue contribution rate in per cent.

Import capacity is the Maximum Import Capacity (adjusted, if necessary, if the Connectee is connected for part of the Charging Year) in kVA for that EDCM Connectee.

5 Code Specific Matters

Reference Documents

N/a

6 Relevant Objectives

DCUSA Charging Objectives	Identified impact
Please tick the relevant boxes. [See Guidance Note 10]	
<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)	Positive
<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	
<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 tariffs will be more cost reflective and therefore 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 EDCM 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>DCUSA General Objectives</p> <p>Please tick the relevant boxes. (See Guidance Note 9)</p>	<p>Identified impact</p>
<p><input type="checkbox"/> 1 The development, maintenance and operation by the DNO Parties and IDNO Parties of efficient, co-ordinated, and economical Distribution Networks</p>	
<p><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</p>	
<p><input type="checkbox"/> 3 The efficient discharge by the DNO Parties and IDNO Parties of obligations imposed upon them in their Distribution Licences</p>	
<p><input type="checkbox"/> 4 The promotion of efficiency in the implementation and administration of the DCUSA</p>	
<p><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.</p>	

7 Impacts & Other Considerations

There will be no cross-code impact.

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 | <input type="checkbox"/> |
| CUSC | <input type="checkbox"/> |
| Grid Code | <input type="checkbox"/> |
| MRA | <input type="checkbox"/> |
| SEC | <input type="checkbox"/> |
| Other | <input type="checkbox"/> |
| None | <input checked="" type="checkbox"/> |

Consideration of Wider Industry Impacts

N/A

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
1	Attachments	Append any proposed legal text or supporting documentation in order to better support / explain the CP.

2	Governance	<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> <ul style="list-style-type: none"> a) it is likely to have a significant impact on the interests of electricity consumers; b) it is likely to have a significant impact on competition in one or more of: <ul style="list-style-type: none"> i. the generation of electricity; ii. the distribution of electricity; iii. the supply of electricity; and iv. any commercial activities connected with the generation, distribution or supply of electricity; c) it is likely to discriminate in its effects between one Party (or class of Parties) and another Party (or class of Parties); <ul style="list-style-type: none"> i. it is directly related to the safety or security of the Distribution Network; and ii. it concerns the governance or the change control arrangements applying to the DCUSA; and 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>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	Related Change Proposals	<p>Indicate if the CP is related to or impacts any CP already in the DCUSA or other industry change process.</p>

4	Proposed Solution and Draft Legal Text	<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	Proposed Implementation Date	<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"> • 15 months, for DNOs acting within their Distribution Services Areas; or • 14 months, for IDNOs and DNOs acting outside their Distribution Services Area. <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 dcusa@electralink.co.uk.</p>
6	Impacts & Other Considerations	<p>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.</p>
7	Environmental Impact	<p>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 Ofgem Guidance.</p>
8	Confidentiality	<p>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</p>
9	DCUSA General Objectives	<p>Indicate which of the DCUSA Objectives will be better facilitated by the Change Proposal.</p>
10	Detailed Rationale for DCUSA Objectives	<p>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.</p>

11	DCUSA Charging Objectives	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	Defining 'Material' for Charging Methodology Changes	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.