










DCUSA Consultation	At what stage is this document in the process?
<h1 data-bbox="124 376 552 465">DCP 313</h1> <h2 data-bbox="124 501 893 640">Eligibility Criteria for EDCM Generation Credits</h2> <p data-bbox="124 667 900 703"><i>Raised on the 10 October 2017 as a Standard Change</i></p>	01 – Change Proposal
	02 – Consultation
	03 – Change Report
	04 – Change Declaration
<p><b>Purpose of Change Proposal:</b></p> <p>The intent of this Change Proposal is to improve transparency of the eligibility criteria for EDCM generators to receive super red credits, and to improve consistency in the application thereof.</p>	
 	<p>The Workgroup recommends that this Change Proposal should: proceed to Consultation</p> <p>Parties are invited to consider the questions set in section 9 and submit comments using the form attached as Attachment 1 to <a href="mailto:dcusa@electralink.co.uk">dcusa@electralink.co.uk</a> by <b>11 January 2019</b></p> <p>DCP 313 has been designated as a Part 1 Matter and a standard change.</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: DNOs, Generators and Suppliers</p>
	<p>Impacted Clauses:</p> <p>Schedule 17 – EHV Charging Methodology (FCP Model); and</p> <p>Schedule 18 - EHV Charging Methodology (LRIC Model).</p>

Contents		 Any questions?
1. Summary	3	Contact: Code Administrator
2 Governance	4	 DCUSA@electralink.co.uk
3 Why Change?	4	 02074323000
4 Working Group Assessment	6	Proposer: Andrew Enzor
5 Legal Text	17	 andrew.enzor@northernpowergrid.com
6 Relevant Objectives	18	 07834 618994
7 Impacts & Other Considerations	19	
8 Implementation	22	
9 Consultation Questions	22	
Timetable		
The timetable for the progression of the CP is as follows:		
<b>Change Proposal timetable</b>		
<b>Change Proposal timetable:</b>		
Activity	Date	
Initial Assessment Report Approved by Panel	11 October 2017	
First Consultation issued to Parties	23 February 2018	
Second Consultation issued to Parties	07 December 2018	
Change Report issued to Panel	13 March 2019	
Change Report issued for Voting	22 March 2019	
Party Voting Ends	12 April 2019	
Change Declaration Issued to Parties	16 April 2019	
Authority Decision	24 May 2019	
Implementation	01 April 2021	

## 1. Summary

### What?

- 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 The DCUSA currently requires Distribution Network Operators (DNOs) to determine an F Factor for each Extra High Voltage (EHV) Distribution Charging Methodology (EDCM) embedded generator based on the criteria set down in Engineering Recommendation P2/6 – ‘Security of Supply’ (ER P2/6) and Engineering Technical Report 130 – ‘Application Guide for Assessing the Capacity of Networks Containing Distribution Generation’ (ETR130)<sup>1</sup>. The F Factor is determined based on a site-specific assessment of the contribution to network security of each EDCM embedded generator, taking into account availability and the operating regime, alongside intermittency.
- 1.3 EDCM embedded generators are deemed to be eligible to receive charge one credits (unit rate credits applicable in the DNO’s peak ‘super-red’ period, calculated based on a power flow analysis of the DNO’s network) if they have a non-zero F Factor, and are deemed not eligible to receive charge one credits if they have a zero F Factor.
- 1.4 This change seeks to improve the transparency around the determination of the eligibility of EDCM embedded generators to receive charge one credits and to ensure consistency in their application.

### Why?

- 1.5 This CP has been raised following a concern raised by embedded generators that there is a lack of transparency and potential lack of commonality in the method by which DNOs determine the F Factor, and consequently whether prospective sites will be eligible for charge one credits.

### How?

- 1.6 The Working Group reviewed the responses to the first consultation associated with Option 1 and Option 2 (as detailed in that consultation document), in February 2018 and has further developed these into the following three potential solutions:
  - Option 1 – DNOs to set the ‘proportion eligible for charge one credits’ to one for all non-intermittent generators, and according to the status quo for intermittent generators (i.e. set to one if a non-zero F Factor has been assigned and set to zero otherwise). The criteria for sites with a mixture of intermittent and non-intermittent generation technologies (hereafter ‘mixed

---

<sup>1</sup> <http://www.dcode.org.uk/annexes.html>

sites') would be to set the 'proportion eligible for charge one credits' to one if the installed capacity of non-intermittent generation is greater than or equal to 50% of the Maximum Export Capacity, and set to zero otherwise;

- Option 1A – DNOs to set the 'proportion eligible for charge one credits' to one for all non-intermittent generators, and according to the status quo for intermittent generators (i.e. set to one if a non-zero F Factor has been assigned and set to zero otherwise). The criteria for mixed sites would be to set the 'proportion eligible for charge one credits' to the installed capacity of non-intermittent generation as a percentage of the Maximum Export Capacity; or
- Option 2B – clarifying the use of F Factors in the power flow modelling to explicitly require that the DNO should determine whether the generator is sufficiently reliable to provide a contribution to security of supply should the need arise, not whether the generator is currently making a contribution. This would involve assigning the F Factor in line with the process laid out in P2/6 and ETR130 without considering the location of the generator.

## 2 Governance

### Justification for Part 1 Matter

- 2.1 This CP is considered a Part 1 Matter as it is likely to have a significant impact on competition in the generation of electricity (DCUSA Clause 9.4.2 (B)).

### Current Next Steps

- 2.2 This Consultation will be issued for a period of five weeks.

## 3 Why Change?

### Background of DCP 313

- 3.1 This CP seeks to address a Distribution Charging Methodology Forum (DCMF) Methodologies Issue Group (MIG) issue raised in November 2016 which identified potential differences in the application of generation credits to EDCM embedded generators across different DNOs.
- 3.2 The concern raised by embedded generators was that there is a lack of transparency and potential lack of commonality in the method by which DNOs determine the F Factor, and consequently whether prospective sites will be eligible for charge one credits.

- 3.3 DCP 291 – ‘Application of Generation Credits to EDCM Customers’<sup>2</sup> was raised to resolve this issue, by making all EDCM embedded generators eligible for charge one credits regardless of the F Factor assigned. The DCP 291 Working Group subsequently agreed that this was not the best available solution to the issues raised, which led to the withdrawal of DCP 291 and the creation of this CP.
- 3.4 Originally, there were two proposed solutions for this change, both of which the Working Group considered would improve the transparency around the eligibility for charge one credits.

**Original Proposal Option 1 – Proportion eligible for credits set according to technology type rather than based on the F Factor assigned for non-intermittent generators**

- 3.5 This option would require an amendment to Schedules 17 and 18 to require DNOs to set the ‘proportion eligible for charge one credits’ field to one for all non-intermittent generators and according to the status quo for intermittent generators (i.e. set to one if a non-zero F Factor has been assigned and set to zero otherwise). This would lead to:
- All intermittent EDCM embedded generators remaining unchanged;
  - Non-intermittent EDCM embedded generators which the DNO has determined do not support the network in line with ETR130 (which have zero F Factor) being eligible for charge one credits where currently they are not; and
  - Non-intermittent EDCM embedded generators which the DNO has determined do support the network in line with ETR130 (which have non-zero F Factor) remaining eligible for charge one credits.
- 3.6 This will provide greater transparency to non-intermittent EDCM embedded generators of the process by which the DNO will determine eligibility for charge one credits, and so enable them to more easily predict the likely charges/credits they will face when deciding where to site plant.
- 3.7 This option will improve transparency in the eligibility for credits by divorcing the eligibility criteria for non-intermittent EDCM embedded generators from the site-specific assessment carried out to determine the F Factor. The assignment of the F Factor will remain unchanged by this option, and so a non-intermittent EDCM embedded generator may still be assigned a zero F Factor if they are deemed by the DNO to not support the network.
- 3.8 As a result, there is a possibility that a non-intermittent EDCM embedded generator which is deemed not to support the network will be awarded credits. This is unlikely, as a generator which does not support the network is likely to be in an area of low demand, and hence charge one is likely to be zero. Nonetheless, it is possible that charge one will be non-zero, and so a generator which does not offset reinforcement costs could be awarded credits under this solution.

---

<sup>2</sup> [DCP 291](#)

## **Original Proposal Option 2 – F Factor assigned based on technology type with no site-specific assessment**

- 3.9 This option would require an amendment to Schedules 17 and 18 to no longer reference P2/6 when assigning the F Factor, but rather to include a modified table 2-1 from P2/6 in the EDCM, and so set the F Factor based only on technology type with no site-specific assessment. This would lead to:
- Intermittent EDCM embedded generators which have zero F Factor remaining unchanged (this would be the majority of intermittent generators);
  - Intermittent EDCM embedded generators with a non-zero F Factor being assigned a zero F factor and so becoming ineligible for charge one credits (this would be a minority of intermittent generators);
  - Non-intermittent EDCM embedded generators which the DNO has determined do not support the network in line with the ETR130 (which have zero F Factor) being reassigned a non-zero F Factor and so becoming eligible for charge one credits; and
  - Non-intermittent EDCM embedded generators which the DNO has determined do support the network in line with ETR130 (which have non-zero F Factor) being assigned the same F Factor and so remaining eligible for charge one credits.
- 3.10 This will provide greater transparency to all EDCM embedded generators (compared to option one which provides greater transparency for non-intermittent EDCM embedded generators only) of the process by which the DNO will determine eligibility for charge one credits, and so enable them to more easily predict the likely charges/credits they will face when deciding where to site plant. This option will also improve transparency in the determination of the F Factor.
- 3.11 The possibility identified in option one that a generator which is deemed not to support the network will be awarded credits remains a risk under option two. As with option one, this is unlikely, as a generator which does not support the network is likely to be in an area of low demand, and hence charge one is likely to be zero. Nonetheless, it is possible that charge one will be non-zero, and so a generator which does not offset reinforcement costs could be awarded credits under this option.

## **4 Working Group Assessment**

### **DCP 313 Working Group Assessment**

- 4.1 The DCUSA Panel established a Working Group to assess DCP 313. This Working Group consists of DNO and supplier representatives, with an Ofgem observer. Meetings were held in open session and the minutes and papers of each meeting are available on the DCUSA website – [www.dcusa.co.uk](http://www.dcusa.co.uk).

## Consultation One

- 4.2 To aid the further development of the solution for this CP, the Working Group issued a consultation to Parties on 23 February 2018. The aim of the first consultation was to ask the industry for views on the principles of the change and which original solution they preferred. There were eight respondents to the first consultation comprising of five DNOs, two generators and one supplier. A copy of the first consultation and the Working Group conclusions can be found as Attachment 4.
- 4.3 The majority of respondents agreed that they understood and agreed with the principles and intent of the change. However, one DNO respondent voiced that they did not agree or support the change. The Working Group discussed the DNOs response and decided that the Party's interpretation of the intent of the change differed from that of the Working Group. This is addressed below in paragraph 4.11.
- 4.4 Respondents to the consultation also noted that the legal text did not refer to how tariffs should be determined when there is a single generation connectee which combines intermittent and non-intermittent generation technology. The Working Group agreed that this was a valid concern, which is addressed below in paragraph 4.13.
- 4.5 One respondent noted that some DNOs are referring to ETR130 and P2/6 more widely to determine the proportion eligible for generation credits. They stated that some DNOs will say that unless the network relies on Distributed Generation (DG) to meet the standard laid down in P2/6 that the credits should be set to zero by setting the F Factor to zero. This means that even when Table 2-1 states a non-zero F Factor, the DNO will set the F Factor to zero as it has concluded that the network does not rely on the DG. So even if charge 1 is non-zero the generation credits are set to zero as the 'proportion eligible for charge one credits' will be zero. In the view of the respondent, this results in the prevention of cost reflective generation credits being signalled to generators and makes it impossible for potential DG to calculate the potential generation credits.
- 4.6 Other responses to the consultation highlighted that inclusion of a table that includes specific technology types would not be sufficient as it would not future-proof potential new technologies with a default value for "Other technologies" available within Option 2 not guaranteeing a level playing field between the listed technologies and those that are not explicitly included in the table.
- 4.7 One Party did not support the introduction of discrimination based on technology type into the EDCM. In their view, technology type is not a driver of network requirements and therefore does not drive costs. For consistency of application the Party favoured the introduction of a forum where F Factor calculations could be discussed amongst peers, and where best practice could be agreed and shared. This group could be a special meeting of the Distribution Charging Methodologies Development Group, perhaps on an annual basis, with the invite extended to network representatives familiar with the F Factor calculations for their network areas. Whilst there was support in the Working Group for such an initiative it was suggested that this could be progressed outside of this change.

- 4.8 One Party stated that within Option 2 it is not necessary to assess the underlying characteristics of the controllable generator as the total revenue available to the generator will be the operating hours multiplied by the credit rate. A generation technology which is either less reliable or unable to maintain its maximum output will receive a lower credit by virtue of its lower output over the peak. However, if contributing at peak the units which it generates are equivalent to those generated by any other plant.
- 4.9 The majority of the responses supported Option 1, with Parties citing that Option 1 is clearer and easier for Customers and Suppliers to understand as it is unambiguous, whereas Option 2 is more complex for Parties to understand the arrangements which would apply to them. Option 2 also received a degree of support. The Working Group by a majority supported the progression of Option 1 in preference to Option 2; however accepted that Option 1 still needed further development to cover mixed sites, and that Option 2 should also be further refined.

### Working Group Conclusions and next steps

- 4.10 The Working Group identified that there were a number of areas of further work having discussed the Parties' responses to the first consultation:
- The intent of the change proposal;
  - Refine the solution to cater for mixed sites; and
  - Consider whether any alternative solutions are required.

### Intent

- 4.11 The Working Group discussed the intent of the CP and agreed that it could be interpreted in one of two ways – being either to improve transparency by simply adding additional text to clarify the existing requirements, or to improve transparency by amending the requirements themselves. The Proposer confirmed that the latter had been the aim when drafting the CP, and hence the Working Group agreed to seek Panel approval to amend the intent to “...amend the eligibility criteria for EDCM generators to receive super red credits, and to improve transparency and consistency in the application thereof”.
- 4.12 A paper<sup>3</sup> was submitted to the DCUSA Panel meeting in April 2018. The Panel, whilst recognising the concern raised by one Party, was comfortable with the original intent and as such it was sufficient when trying to amend the eligibility criteria for EDCM generation credits. The paper was therefore rejected and the original intent stands:

*“The intent of this Change Proposal is to improve transparency of the eligibility criteria for EDCM generators to receive super red credits, and to improve consistency in the application thereof.”*

---

<sup>3</sup> [DCUSA Open Session Panel Paper \(Panel 2018\\_0418\\_06\)](#)



### Mixed sites

- 4.13 The Working Group discussed the issue of mixed sites. It was noted by the Working Group that this issue is unambiguously resolved for Low Voltage (LV) and High Voltage (HV) connections within the DNOs' Licence Condition 14 statements whereby the dominant technology determines whether the site is intermittent or non-intermittent. A similar clause could be added to Option 1 to cover EHV mixed sites, providing greater transparency in this area.
- 4.14 An alternative approach (Option 1A) was suggested that looked at whether the solution should be non-binary and that the 'proportion eligible for charge 1 credits' should be based on the installed capacity of the non-intermittent as a percentage of the Maximum Export Capacity.
- 4.15 It was also noted by the Working Group that this may help future proof the change proposal as DNOs are increasingly seeing connection applications for the co-location of battery storage plant (currently treated as non-intermittent generation in the EDCM – see DNO guidance note<sup>4</sup>) with intermittent generating plant.

### Request for Information

- 4.16 The Working Group agreed to undertake a Request for Information (RFI) to determine the number of mixed sites currently connected and what process DNOs undertake to determine the F Factor.
- 4.17 The Working Group asked for information on the following:
- How many sites currently have intermittent and non-intermittent generation on the same site;
  - What is the DNO process under the EDCM in determining credits for intermittent and non-intermittent generators at the same site;
  - Would the F Factor be reduced on a mixed site resulting in a reduction in the credit provided and if so, is there a similar reduction in the credit provided e.g. If the F Factor was reduced by 50% would it reduce the credit by 50% too; and
  - On sites where there is intermittent and non-intermittent generation and each technology type is fed by a separate MPAN would the DNOs provide a credit associated with each MPAN or would the credit be associated with the site.
- 4.18 The Working Group reviewed the RFI responses received from five of the six DNOs and noted that there are currently only four mixed sites, three of which are actually charged separately so do not meet the Working Group's definition of a mixed site. RFI responses are in Attachment 5.

---

<sup>4</sup>[http://www.energynetworks.org/assets/files/electricity/futures/Distribution%20Guidance%20Note%20for%20Storage\\_Final.docx](http://www.energynetworks.org/assets/files/electricity/futures/Distribution%20Guidance%20Note%20for%20Storage_Final.docx)

- 4.19 In response to Question two on how the calculation of the F Factor would be made, the majority referred to P2/6 and ETR130 together with a site specific assessment. One response went further indicating that they would assess the site and use an average of the generic F Factors based on the proportion of intermittent and non-intermittent generating plant on the site. It was clarified at a Working Group meeting that this response specifically referred to new connections.
- 4.20 There was a mixed response to the question as to whether the F Factor would be reduced on a mixed site resulting in a reduction in the credit provided and whether such a reduction would result in a similar reduction in the credits provided. The expectation was that the F Factor would be reduced but the credit would be subject to the outcome of the load flow analysis. The Working Group agreed that the reduction is not likely to be linear.
- 4.21 On the final question as to whether mixed generation sites having separate MPANs would provide a credit associated with each MPAN or with the site, the response again was mixed. Of the respondents, only one DNO had instances where this would be applicable, and they currently charge each MPAN separately. Of those that currently do not have mixed sites, one DNO indicated that they would provide a credit based on the site rather than on each MPAN, others indicated that it would depend on the connection agreement and the number of connection points stating that in some instances it would be by MPAN and in others by site. As a consequence of this, this CP is catering for mixed sites in order to cover both instances.
- 4.22 The Working Group agreed to progress with two solutions for mixed sites as indicated in paragraph 4.13, 4.14 and 4.15 above and seek industry views.

**Q1: Do you believe that this CP should specifically cater for mixed sites? Please provide your rationale.**

**Q2: Are there any further implications of mixed sites on the solutions of this DCP which the Working Group have not addressed? Please provide your rationale.**

### Alternative options

- 4.23 The Working Group sought additional information from a consultation respondent who felt that DNOs are non-compliant with the DCUSA and the Charging Methodologies, as suggested in their response to question three of the DCP 313 consultation.
- 4.24 The response was:

*“Some DNO’s are referring to ETR130 and P2/6 more widely to determine whether to zero the proportion eligible for generation credits. Engineering recommendation P2/6 is a guidance document on system planning and network capacity requirements and details the minimum standard for the security of supply of a network. Where a network does not meet the requirements of P2/6 without the*

*contribution of DG the DNO may use the value in Table 2-4 to determine how much of the DG's capacity can be taken into account in assessing the adequacy of the network.*

*Certain DNO's are using this to say that unless the network relies on DG to meet the standard laid down in P2/6 that the generation credits should be set to zero by setting the F factor to zero. This means that even when Table 2-4 states a non-zero F factor and the Charge 1 is non-zero (indicating future demand led reinforcement) the generation credits are set to zero as the F factor is overridden and set to zero.*

*It is our view that this is an incorrect application of the requirements of Schedule 17 of DCUSA and results in the prevention of cost reflective generation credits being signalled to generators. It also makes it impossible for potential DG to calculate the potential generation credits as they rely, in certain DNO regions, on a subjective assessment and application of the F factor."*

- 4.25 The Working Group discussed that this respondent believes that F Factors should be assigned based on the characteristics of the generating plant without taking into account whether or not the generator actually makes a contribution to security of supply, i.e. without considering the location of the generator and the demand on the area of network to which it is connected. This would be achieved by the insertion of Table 2-4 from P2/6 into DCUSA (Option 2) as this would result in the F Factor being set entirely based on the generation technology without considering its location.
- 4.26 However, other consultation respondents expressed concern that the hard-coding of values from P2/6 into DCUSA would create a situation where a DCUSA change was needed each time a new generation technology connects to a DNO network. Whilst the Working Group sought to alleviate this in Option 2 by including default values for new technologies which could be used until such a change were progressed, respondents highlighted that these 'default' values are arbitrary and do not necessarily reflect the merits of new generation technology for network support.
- 4.27 There was a further concern that developments to P2/6 (most notably the transition from P2/6 to P2/7 (if approved by the Authority) which would remove the differences between intermittent and non-intermittent generation) would mean that further CPs would be needed to maintain alignment, where the current approach of referencing P2/6 does not require such CPs.
- 4.28 It was suggested that an alternative third option should be developed to strengthen the legal text in an attempt to ensure that F Factors are assigned without taking into account the location of the generator whilst also continuing to reference P2/6 and so not suffer from the defect identified in paragraphs 4.26 and 4.27 above.
- 4.29 The Working Group agreed that the development of Option 2B warranted a further consultation to be issued to Parties as the legal text would be completely different to the first consultation. One Working Group member highlighted that the majority of the respondents to the first consultation were supportive of Option 1 and the new option could change industry views and therefore a consultation should be issued.

## Second Consultation

4.30 The Working Group is now seeking industry feedback on the newly developed Options 1, 1A and 2B and to distinguish whether there would be any detrimental impacts if any of the approaches were implemented. Details of each solution can be found below.

### Option 1

4.31 This solution will require DNOs to populate the 'proportion eligible for charge one credits' field based on technology type rather than on F Factor, i.e. set to one for all non-intermittent EDCM embedded generators and according to the status quo for all intermittent EDCM embedded generators (i.e. set to one if a non-zero F Factor has been assigned and set to zero otherwise). Mixed sites will be classed as non-intermittent if the installed capacity of the non-intermittent generation is greater than or equal to 50% of the Maximum Export Capacity.

4.32 The implementation of Option 1 would lead to the following outcomes for four groups of EDCM generators:

- EDCM embedded generators with only intermittent generation technology installed:
  - No change i.e. set to one if a non-zero F Factor has been assigned and set to zero otherwise;
- EDCM embedded generators with only non-intermittent generation technology installed:
  - If the DNO has determined the site does not support the network in line with ETR130 (and so has a zero F Factor under the status quo) the site will become eligible for charge one credits where currently it is not;
  - If the DNO has determined the site does support the network in line with ETR130 (and so has a non-zero F Factor under the status quo) the site will remain eligible for charge one credits.
- EDCM embedded generators with a combination of intermittent and non-intermittent generation technology installed, where the installed capacity of non-intermittent generation technology is less than 50% of the Maximum Export Capacity:
  - If the DNO has determined the site does not support the network in line with ETR130 (and so has a zero F Factor under the status quo) the site will remain ineligible for charge one credits;
  - If the DNO has determined the site does support the network in line with ETR130 (and so has a non-zero F Factor under the status quo) the site will remain eligible for charge one credits.

- EDCM embedded generators with a combination of intermittent and non-intermittent generation technology installed, where the installed capacity of non-intermittent generation technology is greater than or equal to 50% of the Maximum Export Capacity:
  - If the DNO has determined the site does not support the network in line with ETR130 (and so has a zero F Factor under the status quo) the site will become eligible for charge one credits where currently it is not;
  - If the DNO has determined the site does support the network in line with ETR130 (and so has a non-zero F Factor under the status quo) the site will remain eligible for credits.

### Option 1A

4.33 This solution will require DNOs to populate the 'proportion eligible for charge one credits' field based on the non-intermittent generation installed capacity as a percentage of the Maximum Export Capacity.

4.34 This would result in the process for determining generation credits being non-binary and should provide the industry with a more future-proofed solution.

4.35 The implementation of Option 1A would lead to the following outcomes for four groups of EDCM generators:

- EDCM embedded generators with only intermittent generation technology installed:
  - If the DNO has determined the site does not support the network in line with ETR130 (and so has zero F Factor under the status quo) the site will remain ineligible for charge one credits;
  - If the DNO has determined the site does support the network in line with ETR130 (and so has non-zero F Factor under the status quo) the site will remain eligible for charge one credits.
- EDCM embedded generators with only non-intermittent generation technology installed:
  - If the DNO has determined the site does not support the network in line with ETR130 (and so has zero F Factor under the status quo) the site will become eligible for charge one credits where currently it is not;
  - If the DNO has determined the site does support the network in line with ETR130 (and so has non-zero F Factor under the status quo) the site will remain eligible for charge one credits.
- EDCM embedded generators with a combination of intermittent and non-intermittent generation technology installed:

- If the DNO has determined the site does not support the network in line with ETR130 (and so has zero F Factor under the status quo) the site will become partially eligible for charge one credits where currently it is not;
- If the DNO has determined the site does support the network in line with ETR130 (and so has non-zero F Factor under the status quo) the site will become partially eligible for credits where currently it is fully eligible.

4.36 The table below summarises the eligibility criteria for Option 1 and Option 1A in tabular format.

Site	Has the DNO determined that the site supports the network in line with ETR130 and P2/6	Eligibility under Status Quo	Eligibility Under DCP 313 Option 1	Eligibility Under DCP 313 Option 1A
EDCM embedded generators with only intermittent generation technology installed	Yes	Eligible	Eligible	Eligible
	No	Not Eligible	Not Eligible	Not Eligible
EDCM embedded generators with only non-intermittent generation technology installed	Yes	Eligible	Eligible	Eligible
	No	Not Eligible	Eligible	Eligible
EDCM embedded generators with a combination of intermittent and non-intermittent generation technology installed	Yes	Eligible	<50% non-intermittent generation: Eligible =>50% non-intermittent generation: Eligible	Partly Eligible
	No	Not Eligible	<50% non-intermittent generation: Not Eligible =>50% non-intermittent generation: Eligible	Partly Eligible

## Option 2B

- 4.37 Option 2B would involve clarifying the use of F Factors in the power flow modelling to explicitly require that the DNO should determine whether the generator is sufficiently reliable to provide a contribution to security of supply should the need arise, not whether the generator is currently making a contribution. This would involve assigning the F Factor in line with the process laid out in P2/6 and ETR130 without considering the location of the generator.
- 4.38 This solution aims to strengthen the legal text without including table 2-1 from P2/6.

## Advantages and disadvantages of the options

### Option 1 and Option 1A

- 4.39 Option 1 and Option 1A both have the advantage of simplicity. They represent a relatively minor change from the status quo, with no changes to any of the inputs used for powerflow modelling and a straightforward change to the 'proportion for eligible for charge one credits'. These options ensure commonality in the proportion eligible for charge 1 credits but not for the assignment of F Factors.
- 4.40 Option 1 has the advantage of additional simplicity over Option 1A in that the 'proportion eligible for charge one credits' input would remain binary (i.e. zero or one), but this simplicity comes at the expense of creating a 'cliff-edge' where under Option 1 a mixed site where the non-intermittent installed capacity as a proportion of Maximum Export Capacity is 49% the site is entirely ineligible for credit but where the proportion is 50% the site is entirely eligible for credit. Under Option 1A this would be smoothed by the former having 49% eligible for credit and the latter 50% eligible for credit.
- 4.41 Option 1 and Option 1A both do not resolve the interpretation of P2/6 and ETR130 requirements for assigning F Factors, and so any lack of commonality which exists in the powerflow modelling approach under the current arrangements (as referenced by a consultation respondent in paragraph 4.5) will continue to exist under the new arrangements if either option is implemented.
- 4.42 A Working Group member suggested, in their view, that there is also a risk under Option 1 and Option 1A of a scenario where a non-intermittent EDCM embedded generator would be awarded higher credits if it were deemed not to support the network by the DNO than if it were deemed to support the network by the DNO. This is because in the case where the generator is deemed to support the network, it will have a non-zero F Factor, and so will be assumed to be generating at the time of peak demand (in line with the load flow methodology), and so the time to reinforcement on the local network will be longer and charge one lower. If the same generator were deemed not to support the network, it would be assigned a zero F Factor, and so assumed to not be generating at the time of peak demand (in line with the load flow methodology), and so the time to reinforcement on the network will be shorter and the charge one higher. Under this option, the generator in both scenarios would be eligible for charge one credits (because it is non-intermittent) but charge one would be higher in the case where the generator is deemed not to support the network, and so the credits the generator received would be higher in this scenario.



## Option 2B

- 4.43 Option 2B would result in DNO licensees having a common approach in determining the F Factor to apply for a given generator. EDCM embedded generators would be able to understand in advance the likely range of F Factor which could be assigned to a prospective connection, and so whether it is likely to be eligible for credit or not. Although this Option might help ensuring commonality in the interpretation of the interaction of the EDCM and P2/6, this Option relies on Table 2-1 in the ER P2/6 which lists only a limited number of technologies and relies on constant updates to reflect the technological advancement. Improved cost reflectivity would in this case lead to loss of simplicity and transparency.

## TNEI Impact Assessment

- 4.44 TNEI were commissioned to conduct an impact assessment on each of the scenarios to determine the impact on consumers when changing a generation F Factor in the power flow modelling. Further details regarding the TNEI results can be found in section 7 below which may assist Parties in deciding which option they prefer.

### **Q3: Which solution option do you support and why?**

## Clarification for Demand Dominated Sites

- 4.45 Whilst developing the solutions for this CP, the Working Group identified a further area where greater clarity would be desirable, relating to the treatment of EDCM sites with non-zero Maximum Export Capacity but which are treated as ‘demand dominated’.
- 4.46 For the purposes of load flow modelling, each site is treated as either a demand or generation connectee (not both), based on whether its dominant operating mode is that of a demand site or a generation site. This is typically determined by whether the maximum import capacity or maximum export capacity is higher, or whether the kWh demand or kWh generation over a given period is higher.
- 4.47 F Factors are assigned to generation sites for the purpose of determining their output in the ‘maximum demand scenario’, considered in the load flow modelling. F Factors are not assigned to demand dominated sites as they only relate to generation.
- 4.48 In the existing legal text, the proportion eligible for charge 1 credits is determined based on the ‘F Factor that is assigned to the Connectee’. For demand dominated sites, no F Factor has been assigned so it is not clear what value the proportion eligible for charge 1 credits should take.
- 4.49 The Working Group have resolved this in the proposed legal text for each option by defining the proportion eligible for charge one credits separately for generation dominated sites (based on the F Factor which has been assigned) and for demand dominated sites with on-site generation (based on the F Factor which would have been assigned had the site been treated as generation dominant).



**Q4: Do you agree with the proposed solution for demand dominated sites? If not please provide your rationale.**

## 5 Legal Text

### **DCP 313 Proposed Legal Text**

- 5.1 The proposed changes to Schedules 17 and 18 for Option 1, Option 1A and Option 2B can all be found within Attachment 2.

### **Option 1**

- 5.2 Option 1 involves a simple change to the legal text, to make all non-intermittent EDCM embedded generators eligible for charge one credits regardless of the F Factor assigned. In regards to mixed generation sites, this option would determine all generation associated with that Connectee to be non-intermittent if the installed capacity of the non-intermittent generation is greater than or equal to 50% of the Maximum Export Capacity, otherwise it will be determined to be intermittent.

### **Option 1A**

- 5.3 Option 1A also involves a simple change to the legal text to make all non-intermittent EDCM embedded generators eligible for charge one credits, regardless of the F Factor assigned. However, for cases where there are mixed generation sites the proportion eligible for charge 1 credits is equal to the non-intermittent generation installed capacity as a percentage of the Maximum Export Capacity.

### **Option 2B**

- 5.4 Option 2B changes the legal text so that the F Factor would continue to be assigned on a site-specific basis and would be determined by using P2/6 and ETR 130 to conduct the site-specific assessment.
- 5.5 The DNO Party would need to determine the percentage of the generator's declared net capacity which could be considered to support security of supply in the event that the network alone did not.
- 5.6 The eligibility for charge 1 credits would be decided based not on whether the P2/6 site assessment determined whether the embedded generation sufficiently supported the network or not, but rather on whether the generation was capable of supporting the network should the need arise.
- 5.7 Mixed sites would be catered by the site-specific assessment so do not require any special treatment under this option.

### **Clarification for Demand Dominated Sites**

- 5.8 Additional text has been added to each option clarifying under what circumstances the eligibility for charge one credits is to be applied for both generation dominated sites and demand dominated sites.

**Q5: Do you have any comments on all options of the proposed legal text?**

## 6 Relevant Objectives

### Assessment Against the DCUSA Objectives

- 6.1 For a DCUSA CP to be approved it must be demonstrated that it better meets the DCUSA Charging Objectives.
- 6.2 The Proposer believes that all three proposed solutions will better facilitate Charging Objective two by providing greater transparency to EDCM embedded generators of the process by which the DNO will determine eligibility for charge one credits, and so enable them to more easily predict the likely charges/credits they will face when deciding where to site plant.
- 6.3 Option 2B will achieve this by improving transparency in the assignment of the F Factor alongside the eligibility for credits; whilst Option 1 and Option 1A will improve transparency in the eligibility for credits for non-intermittent EDCM embedded generators by divorcing eligibility from the site-specific assessment carried out to determine the F Factor.
- 6.4 However, all three proposed solutions will have a small detrimental impact against charging objective three, as there is the possibility that EDCM embedded generators which are deemed not to support the network by the DNO could be awarded credits.
- 6.5 Option 1 and Option 1A would have a slightly worse detrimental impact than Option 2B, due to the issue where an EDCM embedded generator which is deemed to support the network could receive lower credits than an equivalent EDCM embedded generator which is deemed to not support the network (as discussed in paragraph 4.42 above).

DCUSA Charging Objectives	Identified impact
<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.	Negative
<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
<input type="checkbox"/> 6 that compliance with the Charging Methodologies promotes efficiency in its own implementation and administration.	None

**Q6: Which of the DCUSA Charging Objective does this CP better facilitate? Please provide supporting comments.**

## 7 Impacts & Other Considerations

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

- 7.1 This CP does not have any impacts on the Target Charging Review (TCR) SCR. However, the Working Group is aware of DCP 287 - 'Generation credits in the EDCM'<sup>5</sup> that may impact this change proposal. It is understood that a solution is still being developed for DCP 287 with modelling updates to follow, and therefore DCP 313 will still progress.
- 7.2 The Working Group are aware of the recent Distribution Code (Dcode) consultation for DCRP/18/03/PC<sup>6</sup> that is looking to replace P2/6 with a proposed P2/7.
- 7.3 The suggested implementation date of the proposed P2/7 was quarter 2 of 2018 dependent on Authority approval and hence the Working Group decided to continue with DCP 313 in its current form. The Working Group noted that at the time of this consultation being released the Authority

<sup>5</sup> [DCP 287](#)

<sup>6</sup> <http://www.dcode.org.uk/consultations/open-consultations/>

decision was still outstanding. The main impact of the move to P2/7 on this CP would be that references to the definitions of intermittent and non-intermittent generations together with various tables are being removed from P2/6. It was noted that those definitions and tables remain present within ETR130. Should P2/6 be replaced with P2/7, there will be a need for a further CP to be raised as P2/6 is referenced in other parts of the DCUSA not relating to this CP. The Working Group felt that a generic review of DCUSA would be more appropriate should P2/7 be approved rather than await the outcome on P2/7 and as such put this change on hold.

- 7.4 On 23 July 2018, Ofgem launched a consultation entitled 'Getting more out of our networks by improving network access and forward-looking charging arrangements'. Ofgem was consulting on the possibility of launching an SCR at some stage which could include a 'comprehensive review of DUoS charges'. Such an SCR is likely to have material crossover with DCP 313. However, at the time of this consultation being released, no such SCR exists and so the Working Group consider it appropriate to continue with DCP 313.

## Consumer Impact

- 7.5 Consultants TNEI were instructed to conduct analysis on all three scenarios and provide a report to the Working Group detailing the impact on consumers when changing a generation F Factor in the powerflow modelling. A copy of the full impact assessment report can be found as attachment 6.

## Overall Impact

- 7.6 A qualitative assessment has been made of the impact changing an embedded generator F Factor may have on customer Charge 1 values and network use factors (NUFs). If the F Factor of a generator is defined based purely on technology type then generators which were deemed not to contribute to network security and were assigned a zero F Factor could be assigned a non-zero F Factor. This would have a similar effect as if these generators were added as new generation into the maximum demand scenario model.
- 7.7 In general, adding a new generator may delay the year in which network branches could require reinforcement. Delaying the year of reinforcement would generally reduce customer Charge 1 values in both LRIC and FCP methodologies.
- 7.8 The amount of any charge reduction would depend on the location of branches, whose reinforcement has been delayed, with respect to customers. For LRIC, this depends on the branches which a nodal demand 'uses', while for FCP it depends on the network group which the nodal demand is in.
- 7.9 In addition to the relative locations of nodal demands, branches and generators, the cost reduction will be influenced by the branch reinforcement cost and reinforcement year. Delaying reinforcement of a more expensive branch or a branch which requires reinforcement in 'early' years will have the greatest impact on costs.

- 7.10 It is possible that adding new generators will have no impact on customer charges. This happens in FCP if the new generators are not large enough to delay branch reinforcement or there are no branches which require reinforcement in the local network area. In LRIC, this happens if the branches with delayed reinforcement are not “used” by the customer.
- 7.11 New generation is more likely to reduce charge 1 values in a demand dominant network than in a generation dominant network.
- 7.12 Adding a new generator does not change the branches ‘used’ by a nodal demand when calculating NUFs. In demand dominant networks the new generator may decrease the maximum contingency flow on those branches which a nodal demand uses, which may generally decrease NUFs. There is a case, however, where the maximum contingency flow on a demand dominant branch may be increased by the addition of a new generator, which would increase NUFs.
- 7.13 In a generation dominant network adding a new generator may increase the maximum contingency flow on branches used by a nodal demand, which may increase NUFs. The base flow on branches used by the nodal demand, however, may either increase or decrease depending on branch/load/generator locations which would either decrease or increase NUF values correspondingly.
- 7.14 When a new generator alters the maximum contingency flow of a branch the magnitude by which the NUF factor is altered would depend on the size of the change in flow in proportion to the branch rating. Whether a branch NUF allocation increases or decreases in a generation dominated asset would further depend on the magnitude of this change combined with the magnitude of change in ‘base flow’ compared to ‘base flow load’. If the change in flow values is small compared to the branch rating (and existing base flow) then the magnitude change to NUF values will also be small.

### Option 1

- 7.15 The Working Group conducted a request for information (RFI) from DNOs to determine the impacts on EDCM tariffs for both options. The outcome from that RFI is in Attachment 5.
- 7.16 The majority of DNO areas provided impacts on their EDCM tariffs for Option 1 and the impact assessment showed that for the majority of DNO areas there would be no impact on EDCM tariffs if Option 1 were accepted. However, one DNO area highlighted that there would be an impact on customers in their area if Option 1 were accepted.
- 7.17 It was noted that in this area, 33 generators would be affected by the changes of Option 1, which would mean a difference of between 0.501p/kWh and 10.452p/kWh on the super-red unit rate export tariffs for the generators affected.

### Option 1A

7.18 The impacts of for Option 1A would be the same as Option 1 since the only difference between the two was the approach taken to mixed sites and the RFI indicated that were no such sites.

### Option 2B

7.19 As the solutions were developed, the Working Group identified a need to conduct a qualitative impact assessment on the powerflow model contained in the EDCM to be able to understand the impacts on their customers if Option 2B was accepted, the results of which are detailed in paragraphs 7.5 to 7.14 and in attachment 6.

## Environmental Impacts

7.20 In accordance with DCUSA Clause 11.14.6, the proposer assessed whether there would be a material impact on greenhouse gas emissions if DCP 313 were implemented. The proposer did not identify any material impact on greenhouse gas emissions from the implementation of this CP.

## Engagement with the Authority

7.21 Ofgem has been fully engaged throughout the development of DCP 313 as an observer on the Working Group.

**Q7: Are you aware of any wider industry developments that may impact upon or be impacted by this CP?**

## 8 Implementation

8.1 The proposed implementation date for DCP 313 is 01 April 2021. Respondents are invited to consider whether they agree with the proposed implementation date.

**Q8: The proposed implementation date for DCP 313 is 01 April 2021. Do you agree with the proposed implementation date?**

## 9 Consultation Questions

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

Number	Questions
--------	-----------

1	Do you believe that this CP should specifically cater for mixed sites? Please provide your rationale.
2	Are there any further implications of mixed sites on the solutions of this DCP which the Working Group have not addressed? Please provide your rationale.
3	Which solution option do you support and why?
4	Do you agree with the proposed solution for demand dominated sites? If not, please provide your rationale
5	Do you have any comments on all options of the proposed legal text?
6	Which of the DCUSA Charging Objective does this CP better facilitate? Please provide supporting comments.
7	Are you aware of any wider industry developments that may impact upon or be impacted by this CP?
8	The proposed implementation date for DCP 313 is 01 April 2021. Do you agree with the proposed implementation date?

9.2 Responses should be submitted using Attachment 1 to [dcusa@electralink.co.uk](mailto:dcusa@electralink.co.uk) no later than, **11 January 2019**.

9.3 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 313 Consultation Response Form
- Attachment 2 – DCP 313 Proposed Legal Text
- Attachment 3 – DCP 313 Change Proposal
- Attachment 4 – DCP 313 Consultation One Responses
- Attachment 5 – DNO RFI and Impact Assessment responses
- Attachment 6 – DCP 313 TNEI Impact Assessment