

Draft DCP: EDCM for export

Appendix 2 – Import charge methodology changes

1. This appendix accompanies the DCUSA change proposal that aims to introduce the EDCM for export charges into the DCUSA.
2. The main purpose of the DCP is to incorporate a new methodology for export charges. However incorporating the proposed export methodology into the existing import-only document requires several changes to be made to the existing text. We have also identified two inconsistencies in the description of the import charging methodology, and we propose to rectify these at the same time.
3. The changes proposed to the current Schedules 17 and 18 of DCUSA can be categorised as follows:
 - (a) Insertion of new text relating to the calculation of EDCM export charges.
 - (b) Cosmetic changes to the text that do not affect any calculations or results.
 - (c) Changes to the import methodology that have been made as a consequence of incorporating the export methodology as proposed.
 - (d) Changes to the import methodology to correct inconsistencies.
4. The draft legal drafting of Schedules 17 and 18, attached as Appendix 1 to this submission, clearly identifies all changes proposed to the current text. The vast majority of these changes are to insert the proposed methodology for export charges.
5. Several changes of a purely cosmetic nature have also been made to the text. The vast majority of these changes involve using the standardised terminology of “import charges” and “export charges” or similar rather than “demand tariffs” or similar. This is to ensure that the methodology is consistent with the wording in the current distribution licence.
6. The rest of this appendix focuses on items (c) and (d) and provides an explanation for them where required.

Removal of references to LRIC and FCP Charge 2

7. Charge 2 (£/kVA/year) relates to the charge calculated under the FCP or LRIC methodologies to reflect the costs associated with generation-led reinforcement to the DNO’s network.
8. The proposed EDCM for export charges does not include a charge based on Charge 2. Consequently, all references to LRIC or FCP Charge 2 have been removed.

9. Similarly, the sections in Annex 1 of each methodology statement (the implementation guides) that explain the method of calculating the FCP and LRIC charges in detail have been amended to remove the description of the method to calculate Charge 2.

The description of the unit of application of EDCM import and export charges

10. The inclusion of the proposed EDCM for export charges has led us to revisit the original description of the unit of application of EDCM import charges.

11. The words currently in Schedules 17 and 18 of DCUSA are as follows:

“Under the EDCM, a Connectee is defined by reference to a site as determined in the Connection Agreement. However, where a site is a group of connection points that relate to a single Connection Agreement, these connection points are treated as a single Connectee for charging purposes.

The unit of application of EDCM charges is a “tariff”. Each tariff represents an entry in the EDCM model input data sheet, and therefore would have a full set of outputs, i.e. EDCM tariff components.

The EDCM currently recognises only import (demand) tariffs.”

12. We have proposed new words to replace the text quoted above:

“In the EDCM, each set of charges comprises import rates, export rates, or both, as applicable to the Connectee. The DNO Party’s Relevant Charging Statement includes information that enables a Supplier to determine which Designated EHV Property each set of charges applies to.”

13. The main purpose of this change is to allow different types of customers to be charged under the EDCM:

- (a) import-only customers;
- (b) export-only customers; and
- (c) mixed import and export customers.

14. In making this change, we have taken the opportunity to make an improvement to description of a unit of application.

15. The current text requires the DNO to aggregate several connection points and always treat them as a single EDCM charge (for import).

16. However, such treatment may not always be appropriate. For example:

- (a) These connection points might be at different voltage levels, and therefore qualify for different demand customer categories.
- (b) These connection points may be served by different suppliers. In such cases, it would be impractical to aggregate them as a single EDCM charge.

- (c) These connection points could be fed from different points of supply and therefore utilise different distribution assets.
17. Our proposed new words would allow the DNO to take site-specific factors into account in deciding whether or not to aggregate several metering points into a single EDCM charge unit.
18. During the development of the EDCM for export, we received feedback from a supplier representative on Workstream B of the Common Methodology Group that the current text does not allow a supplier to easily identify the unit of application of published EDCM import charges.
19. Given this, for the purposes of export charges we did not think it appropriate to simply mirror the current words for import.
20. Our proposed new words includes the requirement to include sufficient information in the DNO's LC14 charging statement (for import and export) to allow the relevant supplier to work out which site each charge applies would add clarity compared to the current situation.

Associating each tariff with one FCP network group

21. The current text of Schedule 17 (FCP) is missing the following paragraph, due to an oversight:
- “Each tariff in the model is linked to one FCP location or network group. Each FCP network group may be linked to a parent FCP network group and a grandparent FCP network group. Each FCP network group may have a charge 1 in £/kVA/year associated with it.”
22. The missing text is relevant to both import and export charges, and text would need to be included for export charges in any case.
23. Rather than simply inserting it for export charges alone, we propose to correct the original oversight by inserting it such that it relates to both import and export.
24. Schedule 18 (LRIC) does not suffer from this omission, it currently says:
- “Each demand tariff in the model is linked to one LRIC location or point. Each LRIC point may have a local and remote charge 1 in £/kVA/year associated with it.”

Transmission connection (exit) charges for demand

25. The parts of Schedules 17 and 18 that describe the calculation of transmission connection (exit) charges for demand contains a minor mistake (in the units).
26. The formula for the calculation of “Transmission exit charge p/kVA/day” states that the “Transmission exit charging rate” is expressed in £/kW/year, when in fact it is expressed in p/kW/day.

Sole use assets associated with EDCM generation

27. The methodology for import charges under the EDCM relies heavily on network asset values (in MEAV) as allocation drivers for different types of DNO costs. Assets that are deemed to be for the sole use of a customer (sole use assets) are included in the total asset value used in these calculations.
28. In the current methodology, the sole use assets associated with EDCM import customers and “non-CDCM” generators are included.
29. Under the proposed EDCM for export, most “non-CDCM” generators would be included in the EDCM, and therefore the sole use assets associated with them would be included slightly differently.
30. We have now amended all formulas that rely on aggregate sole use assets to refer to “the aggregate sole use asset MEAVs of all EDCM Connectees” rather than separately to “non-CDCM” generators.

The use of forecast generation revenue in the calculation of the EDCM demand revenue target

31. The current method for calculating import charges relies on the calculation of an EDCM “demand revenue target”.
32. This, in turn, relies on an estimate of net forecast revenue that would be raised from the application of use of system charges to generators connected at higher voltages (non-CDCM generators). Please see the formula for calculating “Residual revenue contribution rate (per cent)” in Schedules 17 and 18 for details of how this is done.
33. Under the proposed combined methodology for EDCM import and export charges, this forecast would be generated using the export charges calculated within the EDCM, rather than as an input to the method.

Rounding of final import and export charges

34. In the CDCM, final charges are rounded to specified numbers of decimal places when publishing charges in the DNO’s LC14 charging statements. This is described in Schedule 16 of DCUSA (the CDCM methodology).
35. The EDCM sections of DCUSA (Schedules 17 and 18) currently do not mention rounding. Instead, it states that:

“The tariff application rules for the EDCM are the same as for the CDCM wherever possible.”
36. At the time of incorporating the export charges, we propose to make the rounding more explicit. We therefore propose to add the following sentence to this:

“Each component of each tariff is rounded to the nearest value with no more than three decimal places in the case of unit rates expressed in p/kWh, and with no more than two decimal places in the case of fixed and capacity charges expressed in p/day and p/kVA/day respectively.”

37. In order to avoid any confusion, the formulae in the import methodology that rely on “unrounded” results have been amended to make it clear that unrounded charges are to be used.

Negative FCP super-red rate contributions from individual network groups

38. This change only affects the FCP methodology statement (Schedule 17 only). This relates to the formula for the calculation of the super-red unit rate based on the FCP parent and grandparent location charges.
39. One of the original intentions of the EDCM methodology is that negative FCP or LRIC charges would not be applied to demand. This condition is stated in both Schedule 17 and 18 of the current DCUSA. There is also a separate condition in both Schedules that prohibits negative import super-red unit rates and negative import capacity charges.
40. In the FCP methodology, the super-red unit rate is calculated as the sum of two separate charges, one charge relating to the parent network group, and the other the grandparent network. Under the current wording of the methodology, it is possible that the charges from one of the network groups may be negative, and the overall charge is still positive. This is not consistent with the original intent that negative FCP charges will not be applied to demand.
41. Negative charges from a network group are rare, but they can result under the current formula in the method statement. They can arise in one of two scenarios; when the tariff’s kVar/kVA ratio is negative or the reactive power flow modelled through the relevant parent network group or grandparent network group is positive.
42. The method statement prohibits negative “capped” kVar/kVA ratios, and is silent about the reactive power flow modelled through the relevant network group.
43. The demand-only Excel model (and the new combined model) ignores negative contributions separately from the parent and grandparent network groups, and is therefore more consistent with the original intention of the EDCM development group.
44. To make the method statement consistent with the Excel model, it is necessary to make the following change to the description of the calculation of the FCP super-red unit rate:

To replace:

“Should the restricted kVar divided by kVA be negative, then it is set to zero.”

With:

“Any negative contributions to the [p/kVA/day capacity charge] or the [p/kWh super-red rate] from the parent or the grandparent network groups are set to zero.”

Adjustment to the super-red unit rate for negative demand scaling

45. This change to the methodology statement affects both FCP and LRIC schedules.

46. The current text of Schedules 17 and 18 say:

“If the EDCM import capacity charge (p/kVA/day) calculated above is negative and the Connectee’s average kW/kVA is not equal to zero, the final EDCM super-red unit rate is adjusted as follows:

Adjusted FCP super-red unit rate in p/kWh = [FCP super-red rate in p/kWh] + ([EDCM import capacity charge (p/kVA/day)] * ([Days in the Charging Year] – [Days for which not a customer]) / [Average kW/kVA] / ([hours in the super-red time band] - [Hours in super-red for which not a customer]))”

47. The condition for the application of the adjustment should actually say:

“If the EDCM import capacity charge (p/kVA/day) calculated above is negative and the Connectee’s average kW/kVA (adjusted for part year) is not equal to zero, the final EDCM super-red unit rate is adjusted as follows:

Adjusted FCP super-red unit rate in p/kWh = [FCP super-red rate in p/kWh] + ([EDCM import capacity charge (p/kVA/day)] * ([Days in the Charging Year] – [Days for which not a customer]) / [Average kW/kVA] / ([hours in the super-red time band] - [Hours in super-red for which not a customer]))”

48. This is an unintended omission from the text of the methodology.

49. However, it only makes a difference to the FCP super-red unit rate only for part-year connected customers, and then when the DNO’s allowed revenue is so low that demand scaling is negative. This would be highly unusual.