

## SCHEDULE 15 – COST INFORMATION TABLE

### 1. DEFINITIONS

1.1 In this Schedule 15, except where the context otherwise requires, the following terms shall have the meanings set opposite them:

<b>CDCM</b>	means the Common Distribution Charging Methodology as set out in Schedule 16.
<b>CDCM Revenue</b>	means the revenue to be recovered from tariffs calculated under the CDCM.
<b>Demand Use of System Charges</b>	has the meaning given to that term in special condition CRC2 of the Company’s Distribution Licence.
<b>EDCM &amp; Certain Interconnector Revenue</b>	means, at any time and in respect of a Regulatory Year, the Company’s reasonable estimate (at that time) of: (a) the revenue to be recovered from tariffs calculated under the Charging Methodology set out in Schedule 17 or 18 (as applicable to the Company); plus (b) to the extent relevant, the revenue to be recovered from the DNO Party-to-DNO Party interconnector charges referred to in paragraph 20.4 of the methodology set out in schedule 17.

<b>Final Collected Revenue Forecast</b>	means, at any time and in respect of a Regulatory Year, the Company's reasonable estimate (at that time) of the final Regulated Combined Distribution Network Revenue for that Regulatory Year.
<b>Generation Use of System Charges</b>	has the meaning given to that term in special condition CRC2 of the Company's Distribution Licence.
<b>Regulated Combined Distribution Network Revenue</b>	has the meaning given to that term in special conditions CRC2 of Company's Distribution Licence.
<b>Regulatory Year</b>	has the meaning given to that term in special condition CRC2 of the Company's Distribution Licence.
<b>Regulatory Year t</b>	means, in respect of any estimate, the then current Regulatory Year at the time the estimate is made. <b>Regulatory Year t-1</b> shall be the previous Regulatory year, and <b>Regulatory Year t+1</b> shall be the following Regulatory Year and so on.
<b>Use of System Charges</b>	means Demand Use Of System Charges and Generation Use Of System Charges.

- 1.2 The estimates made by the Company in completing the table set out in this Schedule (including the illustrative tariffs) shall be based on such information as is reasonably available to the Company at the time of such estimate (it being acknowledged that such estimates may be subject to revision from time to time).
- 1.3 The terms used in the second column of table 1 below are to have the meanings ascribed to them in the special conditions (CRCs) of the Company's Distribution Licence. The Company is to complete the subsequent columns with the corresponding value for such term and each Regulatory Year, as provided by the Company's Licence (or, where no such value is provided, with the Company's best estimate of such value on the basis of stated assumptions to be outlined in the final column of that table).
- 1.4 Words and expressions not otherwise defined in this Agreement or this Schedule shall have the meanings given to them in the special conditions (CRCs) of the Company's Distribution Licence.
- 1.5 The illustrative tariffs to be included by the Company in completing table 3 below shall be determined using the latest Total Allowed Revenue (ARt in table 1) and an updated estimate of Transmission Exit Charges (TBt in table 1) and any other inputs (if appropriate).

**TABLE 1**

The table referred to in Clause 35A.2 is set out below:

**Company Name:**

**[PLEASE ENTER COMPANY NAME]**

**Date:**

**[MMMM YYYY]**

**Title:**

**DCUSA Schedule 15 - Table 1 information**

Description	Licence Term	CRC							Assumptions
			t-1	t	t+1	t+2	t+3	t+4	
Regulatory Year			[YYYY/YY]	[YYYY/YY]	[YYYY/YY]	[YYYY/YY]	[YYYY/YY]	[YYYY/YY]	
Base Demand Revenue before inflation (A1)	PU	CRC2A							
Annual Iteration adjustment before inflation (A2)	MOD	CRC2A							
RPI True-up before inflation (A3)	TRU	CRC2A							
Price index adjustment (A4)	RPIF	CRC2A							
<b>Base demand revenue (A):</b> <b>[A = (A1 + A2 + A3) * A4]</b>	<b>BR</b>	<b>CRC2A</b>	-	-	-	-	-	-	A = (A1 + A2 + A3) * A4
Pass-Through Licence Fees (B1)	LF	CRC2B							
Pass-Through Business Rates (B2)	RB	CRC2B							
Pass-Through Transmission Connection Point Charges (B3)	TB	CRC2B							
Pass-through Smart Meter Communication Licence Costs (B4)	SMC	CRC2B							
Pass-through Smart Meter IT Costs (B5)	SMIT	CRC2B							

Pass-through Ring Fence Costs (B6)	RF	CRC2B							
Pass-through Supplier of Last Resort Adjustment (B7)	SLR	CRC2B							
Pass-through Eligible Bad Debt Adjustment (B8)	EBD	CRC2B							
Pass-through COVID-19 Bad Debt Adjustment (B9)	CBD	CRC2B							
<u>Pass-through Energy Bills Support Scheme Levy Adjustment (B10)</u>	<u>EBSSL</u>	<u>CRC2B</u>							
Pass-Through Others (B1 <del>0</del> )	HB, SEC, UNC	CRC2B							
<b>Allowed Pass-Through Items (B):</b> <b>[B = B1 + B2 + B3 + B4 + B5 + B6 + B7 + B8 + B9 + B10 + <u>B11</u>]</b>	<b>PT</b>	<b>CRC2B</b>	-	-	-	-	-	-	B = B1 + B2 + B3 + B4 + B5 + B6 + B7 + B8 + B9 + B10 + <u>B11</u>
Broad Measure of Customer Service incentive (C1)	BM	CRC2C							
Quality of Service incentive (C2)	IQ	CRC2D							
Connections Engagement incentive (C3)	ICE	CRC2E							
Time to Connect incentive (C4)	TTC	CRC2F							
Losses Discretionary Reward incentive (C5)	LDR	CRC2G							
Network Innovation Allowance (C6)	NIA	CRC2H							
Low Carbon Networks Fund (C7)	LCN1	CRC2J							
	LCN2	CRC2J							

Connection Guaranteed Standards Systems & Processes penalty (C8)	AUM, CGSRA	CRC2K-L							
Residual Losses and Growth incentive (C9)	PPL	CRC2M							
	GTA	CRC2M							
<b>Incentive Revenue and Other Adjustments (C):</b> [C = C1 + C2 + C3 + C4 + C5 + C6 + C7 + C8 + C9]			-	-	-	-	-	-	C = C1 + C2 + C3 + C4 + C5 + C6 + C7 + C8 + C9
Correction Factor (D)	-K	CRC2A							
<b>Total allowed Revenue (E):</b> [E = A + B + C + D]	AR	CRC2A	-	-	-	-	-	-	E = A + B + C + D
Other 1. Excluded services - Top-up, standby, and enhanced system security (F1) (see note 1)	DRS4	CRC5C							
Other 2. Excluded services - Revenue protection services (F2) (see note 1)	DRS5	CRC5C							
Other 3. Excluded services - Miscellaneous (F3) (see note 1)	DRS9	CRC5C							
<i>Other 4. blank or if required please provide description (F4)</i>									
<i>Other 5. blank or if required please provide description (F5)</i>									
<b>Total other revenue recovered by Use of System Charges (F):</b> [F = F1 + F2 + F3 + F4 + F5]			-	-	-	-	-	-	F = F1 + F2 + F3 + F4 + F5
<b>Total Revenue for Use of System Charges (G):</b> [G = E + F]			-	-	-	-	-	-	G = E + F

1. Revenue raised outside CDCM - EDCM and Certain Interconnector Revenue (H1)									
2. Revenue raised outside CDCM - Voluntary under-recovery (H2)									
3. Revenue raised outside CDCM - blank or if required please provide description (H3)									
4. Revenue raised outside CDCM - blank or if required please provide description (H4)									
<b>Total Revenue to be raised outside the CDCM (H):</b> <b>[H = H1 + H2 + H3 + H4]</b>			-	-	-	-	-	-	H = H1 + H2 + H3 + H4
<b>Latest forecast of CDCM Revenue (I):</b> <b>[I = G - H]</b>			-	-	-	-	-	-	I = G - H
<b>CDCM Revenue Used in Charging Model</b>				-	-	-	-	-	
Final Collected Revenue Forecast (J)									
Forecast Over / (Under) Recovery [being (J - F - E + H2)]			-	-	-	-	-	-	J - F - E + H2
Forecast overall percentage change to Allowed Revenue (K)				-	-	-	-	-	
Overall % change to Use of System Charges effective 1st April of Regulatory Year to balance (L)									

Note 1: Cost categories associated with excluded services should only be populated if the Company recovers the costs of providing these services from Use of System Charges.

## SCHEDULE 16 – COMMON DISTRIBUTION CHARGING METHODOLOGY

### Introduction

This Schedule 16, version ~~14.1~~, is to be used for the calculation of Use of System Charges which will become effective from, 01 April 202~~32~~ and remain effective until superseded by a revised version.

1. This Schedule 16 sets out the Common Distribution Charging Methodology (CDCM), which gives the methods, principles, and assumptions underpinning the calculation of Use of System Charges by each DNO Party (except where the DNO Party is acting as an LDNO).
- 1A. The CDCM is applicable to “Designated Properties”, as defined in Standard Condition 13A (Common Distribution Charging Methodology) of the DNO Party’s Distribution Licences.
2. This Schedule 16 comprises two main parts. Part 1 describes the cost allocation rules. Part 2 describes the tariff structures and their application.
3. In order to comply with this methodology statement when setting distribution Use of System Charges the DNO Party will populate and publish the following CDCM model versions:

~~(a) — for charges effective from 1 April 2020:~~

~~(i) — where the Authority has given no direction under Clause 19.1B, CDCM model version 3 as issued by the Panel in accordance with Clause 14.5.3; or~~

~~(ii) — where the Authority has given direction under Clause 19.1B that periods of notice described in Clause 19.1A need not apply, CDCM model version 3(332) as issued by the Panel in accordance with Clause 14.5.3;~~

~~(b) — for charges effective from 1 April 2021:~~

~~(i) — where the Authority has given no direction under Clause 19.1B, CDCM model version 6 as issued by the Panel in accordance with Clause 14.5.3; or~~

~~(ii) where the Authority has given direction under Clause 19.1B that periods of notice described in Clause 19.1A need not apply, CDCM model version 6(379) as issued by the Panel in accordance with Clause 14.5.3; or~~

~~(e)(a)~~ for charges effective from 1 April 2022 ~~or later~~:

(i) where the Authority has given no direction under Clause 19.1B, CDCM model version 7 as issued by the Panel in accordance with Clause 14.5.3; or

~~(ii) where the Authority has given direction under Clause 19.1B that periods of notice described in Clause 19.1A need not apply, CDCM model version 8 as issued by the Panel in accordance with Clause 14.5.3; or-~~

~~(b) for charges effective from 1 April 2023 or later:~~

~~(i) where the Authority has given no direction under Clause 19.1B, CDCM model version 8 as issued by the Panel in accordance with Clause 14.5.3; or~~

~~(ii) where the Authority has given direction under Clause 19.1B that periods of notice described in Clause 19.1A need not apply, CDCM model version [TBC] as issued by the Panel in accordance with Clause 14.5.3.~~

4. The glossary at the end of this Schedule 16 contains definitions of terms and acronyms used in this Schedule 16. In the case of any conflict between the defined terms and acronyms set out in this Schedule 16 (on the one hand) and the definitions and rules of interpretation set out in Clause 1 of this Agreement (on the other), the defined terms and acronyms set out in this Schedule 16 shall prevail.
5. Algebraic formulae in this Schedule 16 use square brackets to clarify the calculations. For the avoidance of doubt, these square bracketed terms form an effective part of this Schedule 16.

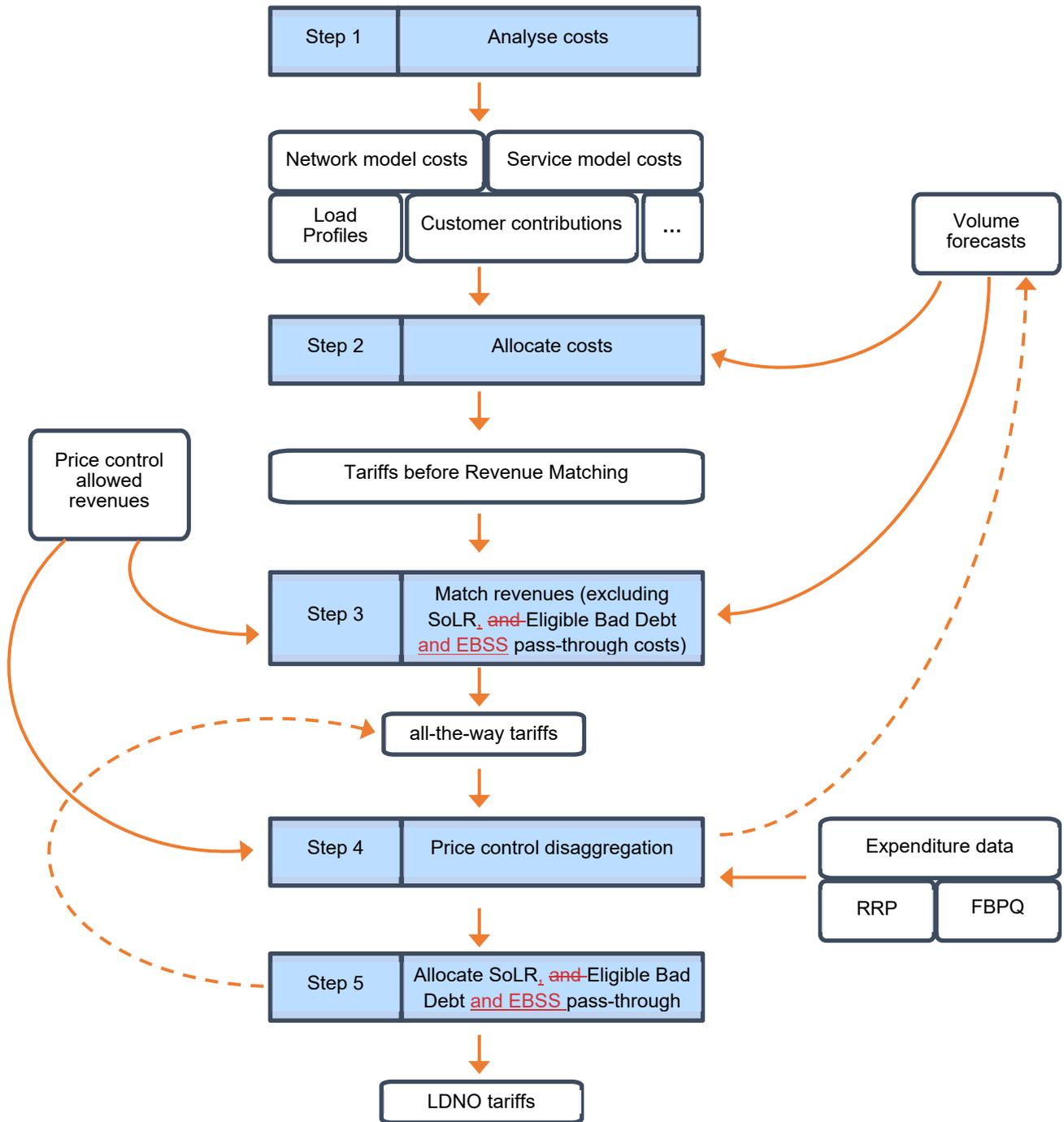
## **PART 1 — COST ALLOCATION**

### **Main steps in the allocation**

6. Figure 1 gives a general overview of how the four main steps in the methodology relate to each other.



**Figure 1**      **Overview of the main steps in the methodology**



7. Step 1 involves the gathering of information about the network, the costs of assets and operations, the users of the network, and the forecast level of use and level of allowed revenue in the charging year.
8. Step 2 is the application of the cost allocation rules set out below. These rules are only for tariffs before revenue matching and do not apply to LDNO tariffs.

9. Step 3 involves adjustments to the tariff components calculated in step 2 in order to match revenue recovered from the CDCM to the amount of revenue allowed under the price control conditions, less any adjustment needed for the recovery of the pass-through costs referred to in paragraph 10A, which are allocated in Step 5 following the application of discount factors as detailed in Step 4.
10. Step 4 uses price control condition calculations, actual expenditure data and forecast expenditure data in order to determine discount percentages, which are then applied to all-the-way tariffs in order to produce LDNO tariffs.
- 10A. Step 5 allocates pass-through of:
  - (a) the DNO Party's Supplier of Last Resort costs to all post revenue matching domestic tariffs with a fixed charge, including those for LDNOs; ~~and~~
  - (b) the DNO Party's Eligible Bad Debt costs to all post revenue matching metered demand tariffs, including those for LDNOs; and
  - (b)(c) the DNO Party's Energy Bills Support Scheme Levy costs to all post revenue matching domestic tariffs with a fixed charge, including those for LDNOs.-
11. Step 4 is independent from Steps 1 to 3. In practical terms, Step 4 must be performed first, as the discount percentages are used within Step 1 to combine volume forecasts for all-the-way and portfolio tariffs into a single composite dataset for each type of end user.

### Overview of the tariff components

12. Each tariff comprises some or all of the tariff components listed in table 1.

<b>Table 1: List of tariff components</b>		
<b>Tariff component</b>	<b>Unit</b>	
Three unit rates	p/kWh	
Fixed charge	p/day	
Capacity charge	p/kVA/day	
Exceeded capacity charge	p/kVA/day	Half hourly settled demand tariffs only.

### Costs associated with reactive power flows

87. For each tariff before revenue matching and each network level, the contribution to reactive power unit charges is obtained as follows:
- (a) Calculate what the contribution to a single unrestricted unit rate in p/kWh from each network level would be.
  - (b) Take the absolute value.
  - (c) Adjust for standing charge factors at the relevant network levels (for demand users only).
  - (d) Multiply by the assumed power factor in the network model.
  - (e) Multiply by the DNO Party's estimate of the average ratio of the reactive power flow (kVAr) to network load (kVA) at the relevant network level.
88. For the purpose of the calculation of reactive power unit charges, generation users are taken to make a full contribution to the reactive power flows in the network at their Entry Point and at each network level above their Entry Point.

### STEP 3: MATCH REVENUES

89. The DNO Party uses its volume forecasts to estimate the revenues that would be raised by applying the tariff before revenue matching components derived from step 2, excluding any revenues treated as excluded revenue under the price control conditions.
90. If any separate charging methodology is used alongside the CDCM, e.g. for EHV users, then the forecast revenues from these charges, excluding any revenues treated as excluded revenue under the price control conditions, are added to the total.
- 90A. The DNO Party calculates an adjusted forecast of allowed revenues, which excludes any Eligible Bad Debt, ~~and~~ Supplier of Last Resort and Energy Bills Support Scheme Levy pass-through costs. Such pass-through costs are taken into account in Step 5 after LDNO discounts have been applied in Step 4.

#### STEP 4: PRICE CONTROL DISAGGREGATION

96. Step 4 involves calculations based on price control and expenditure data which produce a series of discount percentages to be used to determine portfolio tariffs for LDNOs.
97. The discount percentages are determined in accordance with Schedule 29, which schedule is deemed to form part of this CDCM (as if it were set out herein).
98. For demand users, the discount percentages are applied to all tariff components in all-the-way tariffs in order to determine embedded network portfolio tariffs.
99. For generation users, the unit rate element (p/kWh) is not discounted, reflecting the modelling assumption that generation benefits are seen at the voltage level above the Exit Point, and therefore the embedded LDNO simply “passes on” the benefits seen at the DNO Party level. The fixed charge element (p/day) is discounted at 100 per cent, as this tariff component in the all-the-way tariff recovers costs associated with the allocation of other expenditure to service assets, which are not provided by the DNO Party.

#### STEP 5: ALLOCATION OF PASS-THROUGH COSTS

100. Step 5 involves calculations based on the level of:

(a) Supplier of Last Resort pass-through costs to be recovered in the charging year. Such costs are allocated to all domestic tariffs with a fixed charge (including LDNO tariffs) on an equivalent basis (i.e. without discounting LDNO tariffs);

~~(b) Step 5 also involves calculations based on the level of~~ Eligible Bad Debt pass-through costs to be recovered in the charging year. Such costs are allocated to all demand tariffs (including LDNO tariffs) on an equivalent basis (i.e. without discounting LDNO tariffs); and

~~100.(c)~~ Energy Bills Support Scheme Levy pass-through costs to be recovered in the charging year. Such costs are allocated to all domestic tariffs with a fixed charge (including LDNO tariffs) on an equivalent basis (i.e. without discounting LDNO tariffs).

101. Supplier of Last Resort pass-through costs are allocated by applying a fixed charge adder (p/day) to the tariffs for following customer groups (as further described in paragraph 102):

- Domestic Aggregated;
- LDNO LV: Domestic Aggregated;
- LDNO HV: Domestic Aggregated;
- LDNO HVplus: Domestic Aggregated (which is calculated in the EDCM);
- LDNO EHV: Domestic Aggregated (which is calculated in the EDCM);
- LDNO 132kV/EHV: Domestic Aggregated (which is calculated in the EDCM);
- LDNO 132kV: Domestic Aggregated (which is calculated in the EDCM);
- LDNO 0000: Domestic Aggregated (which is calculated in the EDCM).

102. The fixed charge adder is calculated as the costs to be passed through (in £) multiplied by 100 divided by the combined customer count of the groups listed in paragraph 101 (including those with tariff calculated in the EDCM, as determined in paragraph 53A) divided by the number of days in the charging year.

103. Eligible Bad Debt pass-through costs are allocated by applying a fixed charge adder (p/day) to all metered demand tariffs excluding ‘related MPAN’ tariffs. The fixed charge adder is calculated as the costs to be passed through (in £) multiplied by 100 divided by the combined customer count of all metered demand customer groups (including those with tariffs calculated in the EDCM, as determined in paragraph 53B) excluding ‘related MPAN’ customer groups divided by the number of days in the charging year.

103A. Energy Bills Support Scheme Levy pass-through costs are allocated by applying a fixed charge adder (p/day) to the tariffs for following customer groups (as further described in paragraph 103B).

- Domestic Aggregated;

- LDNO LV: Domestic Aggregated;
- LDNO HV: Domestic Aggregated;
- LDNO HVplus: Domestic Aggregated (which is calculated in the EDCM);
- LDNO EHV: Domestic Aggregated (which is calculated in the EDCM);
- LDNO 132kV/EHV: Domestic Aggregated (which is calculated in the EDCM);
- LDNO 132kV: Domestic Aggregated (which is calculated in the EDCM);
- LDNO 0000: Domestic Aggregated (which is calculated in the EDCM).

103B. The fixed charge adder is calculated as the costs to be passed through (in £) multiplied by 100 divided by the combined customer count of the groups listed in paragraph 103A (including those with tariff calculated in the EDCM, as determined in paragraph 53A) divided by the number of days in the charging year.

103.104. The DNO Party will publish details of the fixed charge adders calculated under this Step 5 in its Use of System Charging Statement (as defined in and required by Standard Condition 14 of the DNO Party's Distribution Licence).

~~104.105. The DNO Party will publish details of the fixed charge adders calculated under this Step 5 in its Use of System Charging Statement (as defined in and required by Standard Condition 14 of the DNO Party's Distribution Licence)~~Not used.

~~105.106.~~ Not used.

~~106.107.~~ Not used.

~~107.108.~~ Not used.

~~108.109.~~ Not used.

~~109.110.~~ Not used.

~~110.111.~~ Not used.

**Term****Meaning**

**Energy Bills Support Scheme** means the government support scheme to reduce the cost of customers' energy bills, as announced in a package of support announced by the Chancellor of the Exchequer on 3 February 2022.

**Energy Bills Support Scheme Levy** means an amount that the DNO Party can recover in accordance with its Distribution Licence in relation to the Energy Bills Support Scheme.

**excluded revenue** revenue from "Excluded Services" (as defined in the price control conditions).

**Forecast Business Plan Questionnaire or FB PQ** the questionnaire that the DNO Party is required to submit under the Regulatory Instructions and Guidance issued by the Authority under the DNO Party's Distribution Licence.

**GSP** grid supply point: where the network is connected to a transmission network.

**HV** nominal voltages of at least 1kV and less than 22kV.

**kV** Kilovolt (1,000 Volts): a unit of voltage.

**kVAr** Kilo Volt Ampere reactive: a unit of reactive power flow.

**kVArh** Kilo Volt Ampere reactive hour: a unit of total reactive power flow over a period of time.

**kW** Kilowatt (1,000 Watts): a unit of power flow.

**kWh** Kilowatt hour: a unit of energy.

**LDNO** a licensed distribution network operator, meaning an IDNO Party or DNO Party operating an electricity distribution system outside of its Distribution Services Area.

**load factor** for a user category, average load divided by maximum aggregate load.

## SCHEDULE 17 – EHV CHARGING METHODOLOGY (FCP MODEL)

### 1. INTRODUCTION

This Schedule 17, version ~~14.1~~, is to be used for the calculation of Use of System Charges which will become effective from, 01 April 202~~32~~ and remain effective until superseded by a revised version.

1.1 This Schedule 17 sets out one of the two EHV Distribution Charging Methodologies (EDCM). The other EDCM is set out in Schedule 18.

1.2 This Schedule 17 sets out the methods, principles, and assumptions underpinning the EDCM for the calculation of Use of System Charges by the following DNO Parties:

Scottish Hydro Electric Power Distribution plc;

Southern Electric Power Distribution plc;

SP Distribution Limited;

SP Manweb plc;

Western Power Distribution (East Midlands) plc; and

Western Power Distribution (West Midlands) plc.

1.3 In order to comply with this methodology statement when setting distribution Use of System Charges the DNO Parties referred to above will populate the following EDCM model versions:

~~(a) for charges effective from 1 April 2020:~~

~~(i) where the Authority has given no direction under Clause 19.1B, EDCM model version FCP v3 as issued by the Panel in accordance with Clause 14.5.3; or~~

~~(ii) where the Authority has given direction under Clause 19.1B that periods of notice described in Clause 19.1A need not apply, EDCM model version FCP v3(332) as issued by the Panel in accordance with Clause 14.5.3;~~

~~(b) for charges effective from 1 April 2021:~~

~~(i) where the Authority has given no direction under Clause 19.1B, EDCM model version FCP v7 as issued by the Panel in accordance with Clause 14.5.3; or~~

~~(ii) where the Authority has given direction under Clause 19.1B that periods of notice described in Clause 19.1A need not apply, EDCM model version FCP v7(379) as issued by the Panel in accordance with Clause 14.5.3; or~~

~~(e)(a)~~ (a) for charges effective from 1 April 2022 ~~or later:~~

(i) where the Authority has given no direction under Clause 19.1B, EDCM model version FCP v9 as issued by the Panel in accordance with Clause 14.5.3; or

(ii) where the Authority has given direction under Clause 19.1B that periods of notice described in Clause 19.1A need not apply, EDCM model version FCP v10 as issued by the Panel in accordance with Clause 14.5.3; or

(b) for charges effective from 1 April 2023 or later:

(i) where the Authority has given no direction under Clause 19.1B, EDCM model version FCP v10 as issued by the Panel in accordance with Clause 14.5.3; or

(ii) where the Authority has given direction under Clause 19.1B that periods of notice described in Clause 19.1A need not apply, EDCM model version [TBC] as issued by the Panel in accordance with Clause 14.5.3.;

## Main Steps

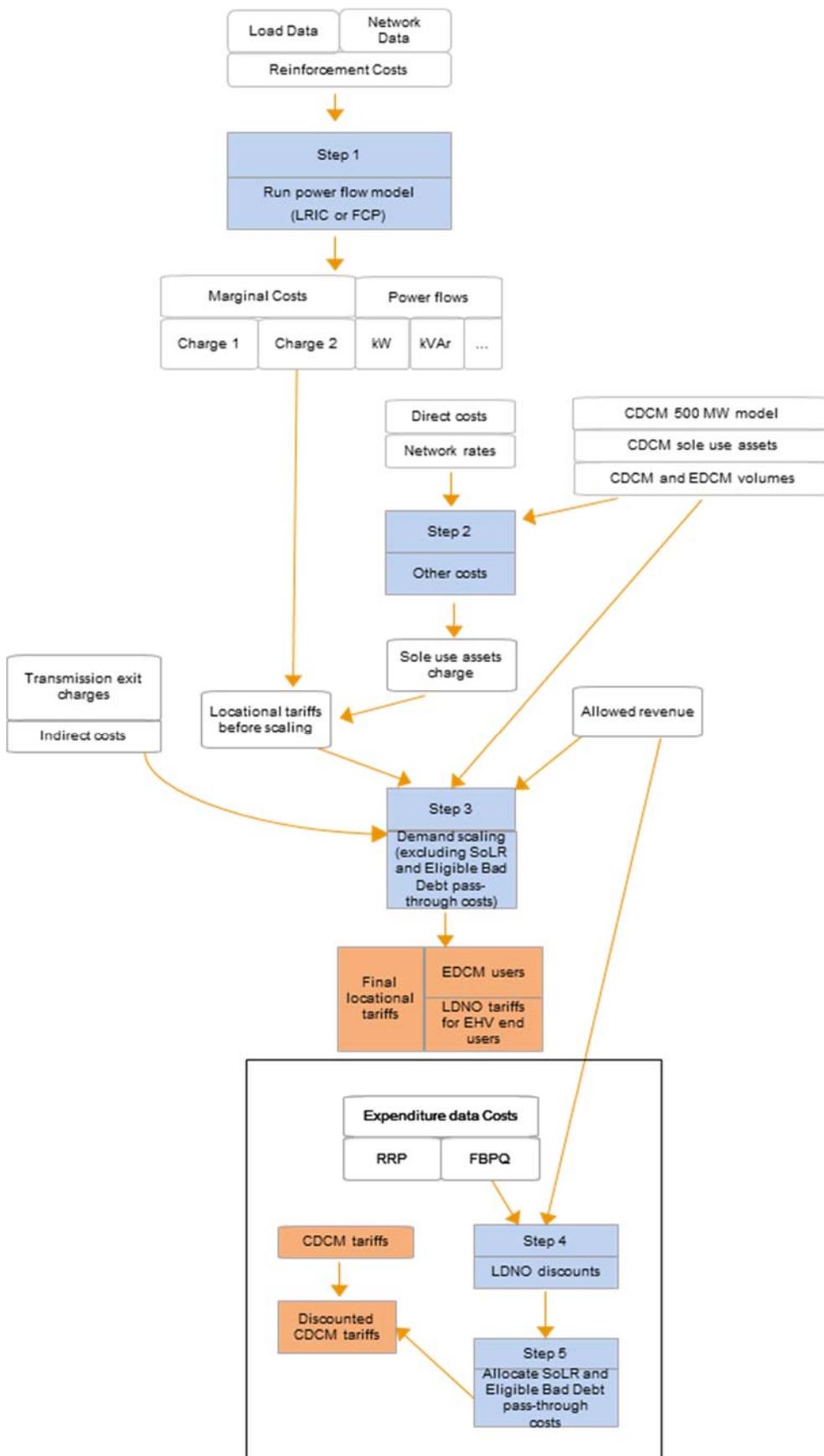
1.4 The EDCM involves four main steps.

1.5 Step 1 is the application of load flow techniques and the LRIC or FCP methodologies to determine an EDCM tariff element, known as Charge 1, which represents costs associated with demand-led reinforcement, estimated by reference to power flows in the maximum demand scenario.

1.6 Step 2 involves the allocation of DNO Party costs to Connectees using appropriate cost drivers.

- 1.7 Step 3 adds a scaling element to charges which is related to Allowed Revenue.
- 1.8 Step 4 uses CDCM charges to determine the element of portfolio charges to be applied in the case of DNO/IDNO Parties who are supplied from the DNO Party's network at voltages higher than the scope of CDCM charges.
- 1.9 Figure 1 provides a diagrammatic overview of the steps involved for import charges.

Figure 1 Diagrammatic overview of the EDCM for import [\[edit diagram to include EBSS pass-through costs in steps 3 and 5\]](#)



**13. ALLOCATION DRIVERS FOR OTHER CHARGE ELEMENTS IN THE EDCM**

13.1 In addition to charges calculated using the FCP and LRIC methodologies and transmission connection (exit) charges, the EDCM includes charge elements relating to:

- the DNO Party's direct operating costs (this includes inspection and maintenance costs, operating expenditure relating to fault repairs and the cost of tree cutting);
- the DNO Party's indirect costs. (these are costs that are not directly related to network assets, such as business support costs);
- the DNO Party's network rates (these are business rates paid by DNO Parties);  
and
- the DNO Party's residual revenue.

13.2 The residual revenue is that part of the DNO Party's Allowed Revenue less any revenue relating to recovery of the DNO Party's Supplier of Last Resort, ~~and~~ Eligible Bad Debt, and Energy Bills Support Scheme Levy pass-through costs that has not been pre-allocated to demand charges using cost-based charge elements.

13.3 EDCM charge elements are determined using allocation drivers. The following allocation drivers are used in the EDCM:

- The value of assets that are for the sole use of a Connectee (sole use assets). This is relevant to import and export charges.
- The value of site-specific shared network assets used by the Connectee. This is relevant to import charges only.
- The sum of historical consumption at the time of system peak and 50 per cent of Maximum Import Capacity. This is relevant to import charges only.
- Chargeable Export Capacity. This is relevant to export charges only.

13.4 The methods used to determine the value of sole use assets and shared site-specific shared network assets are described below.

15.13 Network use factors for import charges of a mixed import-export site that is generation-dominated are set to default values. These default values are equal to the “collars” for each network level calculated as described in section on demand scaling. DNO Parties implementing the FCP methodology would use the rules set out in the LRIC methodology to determine whether a location is to be modelled as a generation site, and is therefore generation dominated.

15.14 The total value of the site-specific shared assets required to serve each Connectee is calculated according to the formula:

$$\text{TNA} = \text{NAC} + (\text{NAD} * (1 - (\text{Hours in super-red for which not a customer} / \text{Annual hours in super-red})) * (\text{Days in year} / (\text{Days in year} - \text{Days for which not a customer})))$$

Where:

TNA is the total site-specific network assets in £/kVA required to serve a Connectee.

NAC is the site-specific asset value in £/kVA for capacity for that Connectee aggregated across all levels.

NAD is the site-specific asset value in £/kVA for demand for that Connectee aggregated across all levels.

15.15 Total site-specific shared assets is the aggregate value (in £) of all site-specific shared assets for EDCM Connectees. This is calculated by multiplying TNA by the Maximum Import Capacity (adjusted, if necessary, for Connectees connected for part of the Charging Year), and then aggregating across all EDCM Connectees.

## **16. CALCULATION OF THE EDCM DEMAND REVENUE TARGET**

16.1 The EDCM demand revenue target is the share of the DNO Party’s Allowed Revenue less any revenue relating to recovery of the DNO Party’s Supplier of Last Resort, ~~and~~ Eligible Bad Debt, and Energy Bills Support Scheme Levy pass-through costs (excluding transmission exit charges and net revenue from EDCM generation) that will be recovered from EDCM Connectees through import charges.

16.2 This section describes the method used to calculate the EDCM demand revenue target.

Total EDCM sole use assets is the aggregate sole use asset MEAVs of all EDCM Connectees, excluding the value of sole use assets associated with exempt export capacity, adjusted for part-year connected Connectees.

EHV assets are the aggregate EHV assets in the CDCM model.

HV and LV network assets from the CDCM model.

HV and LV service model assets from the CDCM model.

0.68 is the operating intensity factor.

- 16.5 A single contribution rate for indirect costs is calculated for all EDCM Connectees as follows:

Indirect costs contribution rate (per cent) =  $\text{INDOC} / (\text{Total site-specific shared assets} + \text{Total EDCM sole use assets} + \text{EHV assets} + (\text{HV and LV network assets} + \text{HV and LV service model assets}) / 0.68)$

Where:

INDOC is the DNO Party's total expenditure on indirect costs.

Total site-specific shared assets is the aggregate value (in £) of all site-specific shared assets for EDCM Connectees.

Total EDCM sole use assets is the aggregate sole use asset MEAVs of all EDCM Connectees, excluding the value of sole use assets associated with exempt export capacity, adjusted for part-year connected Connectees.

EHV assets are the aggregate EHV assets in the CDCM model.

HV and LV network assets from the CDCM model.

HV and LV service model assets from the CDCM model.

0.68 is the operating intensity factor.

- 16.6 Next, a residual revenue contribution rate is calculated as follows:

Residual revenue contribution rate (per cent) =  $(AR - DOC - INDOC - NR - GCN) /$   
 $(\text{Total site-specific shared assets} + \text{EHV assets} + \text{HV and LV network assets})$

Where:

AR is the DNO Party's total Allowed Revenue excluding transmission exit charges in £/year and excluding any revenue relating to recovery of the DNO Party's Supplier of Last Resort, ~~and~~ Eligible Bad Debt and Energy Bills Support Scheme Levy pass-through costs.

DOC is the DNO Party's total expenditure on direct operating costs.

INDOC is the DNO Party's total expenditure on indirect costs.

NR is the DNO Party's total expenditure on network rates.

GCN is the total forecast net revenue in £/year from the application of EDCM export charges, including the EDCM generation fixed charge. This amount is estimated by applying the calculated EDCM export charges rounded to the relevant number of decimal points.

Total site-specific shared assets is the aggregate value (in £) of all site-specific shared assets for EDCM Connectees.

EHV assets are the aggregate EHV assets in the CDCM model.

HV and LV network assets from the CDCM model.

- 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

## 24. LDNO CHARGING

24.1 LDNOs with Distribution Systems that serve Connectees that fall within the scope of the CDCM would have their charges based on standard discount percentages applied to the CDCM all-the-way end user charges.

A LDNO with a Distribution System that qualifies as a CDCM “Designated Property” according to the definition set out in condition 13A.6 of the Distribution Licence is eligible for portfolio discounts calculated using the price control disaggregation model provided for under Schedule 29, with any subsequent adjustment applied in respect of the DNO Party's Supplier of Last Resort, ~~and~~ Eligible Bad Debt and Energy Bills Support Scheme Levy pass-through costs as described in paragraphs 100 to 104 of the CDCM.

A LDNO with a Distribution System that qualifies as an EDCM “Designated EHV Property” according to the definition set out in condition 13B.6 of the Distribution Licence is eligible for discounts calculated using the price control disaggregation model provided for under Schedule 29, with any subsequent adjustment applied in respect of the DNO Party's Supplier of Last Resort, ~~and~~ Eligible Bad Debt and Energy Bills Support Scheme Levy pass-through costs as described in paragraphs 100 to 104 of the CDCM.

24.2 A LDNO with a Distribution System that qualifies as an EDCM “Designated EHV Property” could itself have Connectees who would fall under the scope of the EDCM. Since the EDCM is a locational charging method, the host DNO Party would calculate EDCM charges at the DNO Party’s boundary for each EDCM-like Connectee on the LDNO’s Distribution System. No discounts are calculated for such EDCM Connectees as the DNO Party’s charges are based only on the specific site’s equivalent use of the DNO Party’s Distribution System.

## 25. CALCULATION OF LDNO DISCOUNTS

25.1 The discount percentages are determined in accordance with Schedule 29, which is deemed to form part of this EDCM (as if it were set out therein).

25.2 In each case, the discount is applied to all CDCM tariff components. Discount percentages are capped to 100 per cent.

25.3 Supplier of Last Resort pass-through costs are allocated by applying a fixed charge adder (p/day) to the following customer groups, as calculated under paragraph 102 of the CDCM:

- LDNO HVplus: Domestic Aggregated;
- LDNO EHV: Domestic Aggregated;
- LDNO 132kV/EHV: Domestic Aggregated;
- LDNO 132kV: Domestic Aggregated;
- LDNO 0000: Domestic Aggregated.

25.4 Eligible Bad Debt pass-through costs are allocated by applying a fixed charge adder (p/day) to all metered demand tariffs excluding 'related MPAN' tariffs, as calculated under paragraph 103 of the CDCM.

25.5 Energy Bills Support Scheme Levy pass-through costs are allocated by applying a fixed charge adder (p/day) to the following customer groups, as calculated under paragraph 103A of the CDCM:~~Not used.~~

- LDNO HVplus: Domestic Aggregated;
- LDNO EHV: Domestic Aggregated;
- LDNO 132kV/EHV: Domestic Aggregated;
- LDNO 132kV: Domestic Aggregated;
- LDNO 0000: Domestic Aggregated.

~~25.5~~25.6 ~~Not used.~~

~~25.6~~25.7 Not used.

~~25.7~~25.8 Not used.

~~25.8~~25.9 Not used.

~~25.9~~25.10 Not used.

**EDCM Generation** means a Generator Installation that is a Designated EHV Property as defined in Standard Conditions 50A.11 and 13B.6 of the DNO Party's Distribution Licence.

**EHV** Extra High Voltage.

**Eligible Bad Debt** means any bad debts with respect to Use of System Charges that the DNO Party can recover in accordance with the DNO Party's Distribution Licence. For the avoidance of doubt, this definition includes the DNO Party's bad debt and bad debt which the DNO Party is recovering on behalf of LDNOs.

**Energy Bills Support Scheme** means the government support scheme to reduce the cost of customers' energy bills, as announced in a package of support announced by the Chancellor of the Exchequer on 3 February 2022.

**Energy Bills Support Scheme Levy** means an amount that the DNO Party can recover in accordance with its Distribution Licence in relation to the Energy Bills Support Scheme.

**Embedded** means connected to a LDNO's Distribution System.

**ER P2/6** Energy Network Association's Engineering Recommendation P2/6 which is the planning standard for security of supply to be used by the DNO Parties.

**ETR 130** Energy Network Association's Engineering Technical Report 130 which is the Application Guide for assessing the capacity of Distribution Systems to which Generation Installations are connected.

**Extra High Voltage (EHV)** Refers to voltages operating on the Authorised Network Model at 22kV or higher.

**Forecast Business Plan Questionnaire or FBPQ** means the questionnaire that the DNO Party is required to submit under the Regulatory Instructions and Guidance issued by the Authority under the DNO Party's Distribution Licence.

## SCHEDULE 18 – EHV CHARGING METHODOLOGY (LRIC MODEL)

This Schedule 18, version [14.1], is to be used for the calculation of Use of System Charges which will become effective from, 01 April 2023~~2~~ and remain effective until superseded by a revised version.

### 1. INTRODUCTION

- 1.1 This Schedule 18 sets out one, of the two, EHV Distribution Charging Methodologies (EDCM). The other EDCM is set out in Schedule 17.
- 1.2 This Schedule 18 sets out the methods, principles, and assumptions underpinning the EDCM for the calculation of Use of System Charges by the following DNO Parties:
- Eastern Power Networks plc;
- Electricity North West Limited;
- London Power Networks plc;
- Northern Powergrid (Northeast) Limited;
- Northern Powergrid (Yorkshire) plc;
- South Eastern Power Networks plc;
- Western Power Distribution (South Wales) plc; and
- Western Power Distribution (South West) plc.
- 1.3 In order to comply with this methodology statement when setting distribution Use of System Charges the DNO Parties referred to above will populate the following EDCM model versions:

~~(a) For charges effective from 1 April 2020:~~

- ~~(i) where the Authority has given no direction under Clause 19.1B, EDCM model version LRIC v3 as issued by the Panel in accordance with Clause 14.5.3; or~~

~~(ii) for charges effective from 1 April 2020 where the Authority has given direction under Clause 19.1B that periods of notice described in Clause 19.1A need not apply, EDCM model version LRIC v3 (332) as issued by the Panel in accordance with Clause 14.5.3;~~

~~(b) for charges effective from 1 April 2021:~~

~~(i) where the Authority has given no direction under Clause 19.1B, EDCM model version LRIC v7 as issued by the Panel in accordance with Clause 14.5.3; or~~

~~(ii) where the Authority has given direction under Clause 19.1B that periods of notice described in Clause 19.1A need not apply, EDCM model version LRIC v7(379) as issued by the Panel in accordance with Clause 14.5.3; or~~

~~(e)(a) for charges effective from 1 April 2022 or later:~~

~~(iii)(i) where the Authority has given no direction under Clause 19.1B, EDCM model version LRIC v9 as issued by the Panel in accordance with Clause 14.5.3; or~~

~~(ii) where the Authority has given direction under Clause 19.1B that periods of notice described in Clause 19.1A need not apply, EDCM model version LRIC v10 as issued by the Panel in accordance with Clause 14.5.3; or~~

~~(b) for charges effective from 1 April 2023 or later:~~

~~(iii) where the Authority has given no direction under Clause 19.1B, EDCM model version LRIC v10 as issued by the Panel in accordance with Clause 14.5.3; or~~

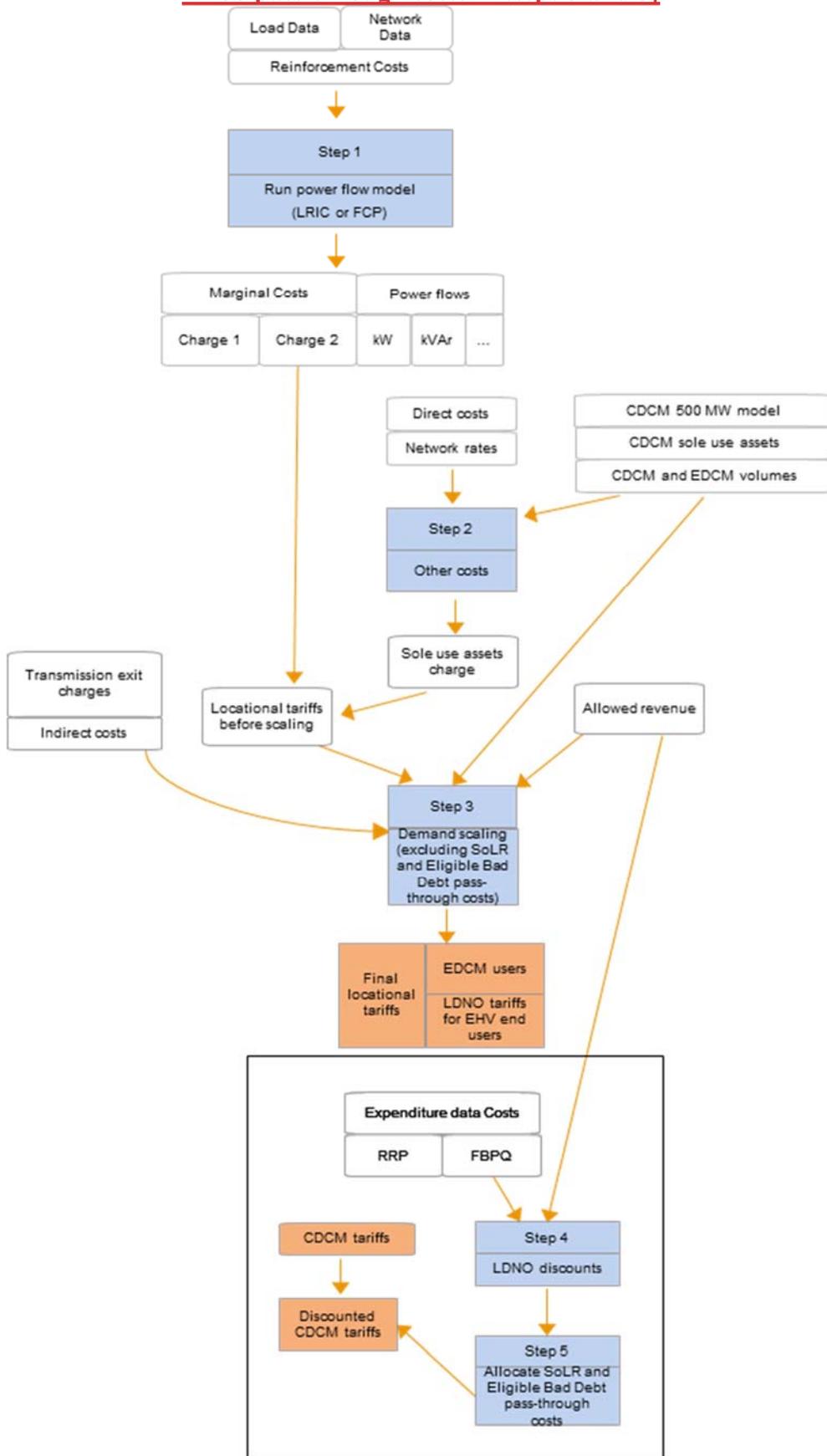
~~(iv) where the Authority has given direction under Clause 19.1B that periods of notice described in Clause 19.1A need not apply, EDCM model version [TBC] as issued by the Panel in accordance with Clause 14.5.3. -~~

## Main steps

1.4 The EDCM involves four main steps.

- 1.5 Step 1 is the application of load flow techniques and the LRIC or FCP methodologies to determine an EDCM tariff element, known as Charge 1, which represents costs associated with demand-led reinforcement, estimated by reference to power flows in the maximum demand scenario.
- 1.6 Step 2 involves the allocation of DNO Party costs to Connectees using appropriate cost drivers.
- 1.7 Step 3 adds a scaling element to charges which is related to Allowed Revenue.
- 1.8 Step 4 uses CDCM charges to determine the element of portfolio charges to be applied in the case of DNO/IDNO Parties who are supplied from the DNO Party's network at voltages higher than the scope of CDCM charges.
- 1.9 Figure 1 provides a diagrammatic overview of the steps involved for import charges.

Figure 1 Diagrammatic overview of the EDCM for import [edit diagram to include EBSS pass-through costs in steps 3 and 5]



Where:

EDCM DG revenue target in £/year is calculated as described above

Total EDCM generation capacity (in kVA) is the aggregate Chargeable Export Capacity of all Connectees, adjusted, if necessary for Connectees connected part of the year.

- 12.6 The fixed export capacity charge in p/kVA/day is applied to the Chargeable Export Capacity of each EDCM Connectee.

### **13. ALLOCATION DRIVERS FOR OTHER CHARGE ELEMENTS IN THE EDCM**

- 13.1 In addition to charges calculated using the FCP and LRIC methodologies and transmission connection (exit) charges, the EDCM includes charge elements relating to:

- the DNO Party's direct operating costs (this includes inspection and maintenance costs, operating expenditure relating to fault repairs and the cost of tree cutting);
- the DNO Party's indirect costs. (these are costs that are not directly related to network assets, such as business support costs);
- the DNO Party's network rates (these are business rates paid by DNO Parties); and
- the DNO Party's residual revenue.

- 13.2 The residual revenue is that part of the DNO Party's Allowed Revenue less any revenue relating to recovery of the DNO Party's Supplier of Last Resort, ~~and~~ Eligible Bad Debt and Energy Bills Support Scheme Levy pass-through costs that has not been pre-allocated to demand charges using cost-based charge elements.

- 13.3 EDCM charge elements are determined using allocation drivers. The following allocation drivers are used in the EDCM:

- 15.13 Network use factors for import charges of a mixed import-export site that is generation-dominated are set to default values. These default values are equal to the “collars” for each network level calculated as described in section on demand scaling. Generation-dominated sites are determined according to the rules set out in the LRIC methodology to determine whether a location is to be modelled as a generation site.
- 15.14 The total value of the site-specific shared assets required to serve each Connectee is calculated according to the formula:

$$\text{TNA} = \text{NAC} + (\text{NAD} * (1 - (\text{Hours in super-red for which not a customer} / \text{Annual hours in super-red})) * (\text{Days in year} / (\text{Days in year} - \text{Days for which not a customer})))$$

Where:

TNA is the total site-specific network assets in £/kVA required to serve a Connectee.

NAC is the site-specific asset value in £/kVA for capacity for that Connectee aggregated across all levels.

NAD is the site-specific asset value in £/kVA for demand for that Connectee aggregated across all levels.

- 15.15 Total site-specific shared assets is the aggregate value (in £) of all site-specific shared assets for EDCM Connectees. This is calculated by multiplying TNA by the Maximum Import Capacity (adjusted, if necessary, for Connectees connected for part of the Charging Year), and then aggregating across all EDCM Connectees.

## **16. CALCULATION OF THE EDCM DEMAND REVENUE TARGET**

- 16.1 The EDCM demand revenue target is the share of the DNO Party’s Allowed Revenue less any revenue relating to recovery of the DNO Party's Supplier of Last Resort<sup>1</sup> ~~and~~ Eligible Bad Debt and Energy Bills Support Scheme Levy pass-through costs (excluding transmission exit charges and net revenue from EDCM generation) that will be recovered from EDCM Connectees through import charges.
- 16.2 This section describes the method used to calculate the EDCM demand revenue target.

capacity, adjusted for part-year connected Connectees. EHV assets are the aggregate EHV assets in the CDCM model.

HV and LV network assets from the CDCM model.

HV and LV service model assets from the CDCM model.

0.68 is the operating intensity factor.

- 16.5 A single contribution rate for indirect costs is calculated for all EDCM Connectees as follows:

Indirect costs contribution rate (per cent) =  $\text{INDOC} / (\text{Total site-specific shared assets} + \text{Total EDCM sole use assets} + \text{EHV assets} + (\text{HV and LV network assets} + \text{HV and LV service model assets}) / 0.68)$

Where:

INDOC is the DNO Party's total expenditure on indirect costs.

Total site-specific shared assets is the aggregate value (in £) of all site-specific shared assets for EDCM Connectees.

Total EDCM sole use assets is the aggregate sole use asset MEAVs of all EDCM Connectees, excluding the value of sole use assets associated with exempt export capacity, adjusted for part-year connected Connectee. EHV assets are the aggregate EHV assets in the CDCM model.

HV and LV network assets from the CDCM model.

HV and LV service model assets from the CDCM model.

0.68 is the operating intensity factor.

- 16.6 Next, a residual revenue contribution rate is calculated as follows:

Residual revenue contribution rate (per cent) =  $(\text{AR} - \text{DOC} - \text{INDOC} - \text{NR} - \text{GCN}) / (\text{Total site-specific shared assets} + \text{EHV assets} + \text{HV and LV network assets})$

Where:

AR is the DNO Party's total Allowed Revenue excluding transmission exit charges in £/year and excluding any revenue relating to recovery of the DNO Party's Supplier of Last Resort, ~~and~~ Eligible Bad Debt and Energy Bills Support Scheme Levy pass-through costs.

DOC is the DNO Party's total expenditure on direct operating costs.

INDOC is the DNO Party's total expenditure on indirect costs.

NR is the DNO Party's total expenditure on network rates.

GCN is the total forecast net revenue in £/year from the application of EDCM export charges, including the EDCM generation fixed charge. This amount is estimated by applying the calculated EDCM export charges rounded to the relevant number of decimal points.

Total site-specific shared assets is the aggregate value (in £) of all site-specific shared assets for EDCM Connectees.

EHV assets are the aggregate EHV assets in the CDCM model.

HV and LV network assets from the CDCM model.

- 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

## 24. LDNO CHARGING

- 24.1 LDNOs with Distribution Systems that serve Connectees that fall within the scope of the CDCM would have their charges based on standard discount percentages applied to the CDCM all-the-way end user charges.

A LDNO with a Distribution System that qualifies as a CDCM “Designated Property” according to the definition set out in condition 13A.6 of the Distribution Licence is eligible for portfolio discounts calculated using the price control disaggregation model provided for under Schedule 29, with any subsequent adjustment applied in respect of the DNO Party's Supplier of Last Resort, ~~and~~ Eligible Bad Debt and Energy Bills Support Scheme Levy pass-through costs as described in paragraphs 100 to 104 of the CDCM.

A LDNO with a Distribution System that qualifies as an EDCM “Designated EHV Property” according to the definition set out in condition 13B.6 of the Distribution Licence is are eligible for discounts calculated using the price control disaggregation model provided for under Schedule 29, with any subsequent adjustment applied in respect of the DNO Party's Supplier of Last Resort, ~~and~~ Eligible Bad Debt, and Energy Bills Support Scheme Levy pass-through costs as described in paragraphs 100 to 104 of the CDCM.

- 24.2 A LDNO with a Distribution System that qualifies as an EDCM “Designated EHV Property” could itself have Connectees who would fall under the scope of the EDCM. Since the EDCM is a locational charging method, the host DNO Party would calculate EDCM charges at the DNO Party’s boundary for each EDCM-like Connectee on the LDNO’s Distribution System. No discounts are calculated for such EDCM Connectees as the DNO Party’s charges are based only on the specific site’s equivalent use of the DNO Party’s Distribution System.

## 25. CALCULATION OF LDNO DISCOUNTS

25.1 The discount percentages are determined in accordance with Schedule 29, which is deemed to form part of this EDCM (as if it were set out herein).

25.2 In each case, the discount applied to all CDCM tariff components. Discount percentages are capped to 100 per cent.

25.3 Supplier of Last Resort pass-through costs are allocated by applying a fixed charge adder (p/day) to the following customer groups, as calculated under paragraph 102 of the CDCM:

- LDNO HVplus: Domestic Aggregated;
- LDNO EHV: Domestic Aggregated;
- LDNO 132kV/EHV: Domestic Aggregated;
- LDNO 132kV: Domestic Aggregated;
- LDNO 0000: Domestic Aggregated.

25.4 Eligible Bad Debt pass-through costs are allocated by applying a fixed charge adder (p/day) to all metered demand tariffs excluding 'related MPAN' tariffs, as calculated under paragraph 103 of Schedule 16.

25.5 Energy Bills Support Scheme Levy pass-through costs are allocated by applying a fixed charge adder (p/day) to the following customer groups, as calculated under paragraph 103A of the CDCM:

- LDNO HVplus: Domestic Aggregated;
- LDNO EHV: Domestic Aggregated;
- LDNO 132kV/EHV: Domestic Aggregated;
- LDNO 132kV: Domestic Aggregated;
- LDNO 0000: Domestic Aggregated.

further from source) of the given location, taking account of losses. Such factors provide a means of recognising that the maximum demands observed at individual locations (e.g. substations at a given voltage level) on a section of network may not be coincident. Details of the calculation of Diversity Factors are set out in section 5.11 (Diversity Factors) of Annex 1.

**EDCM**

has the meaning given to that expression in Paragraph 1.

**EDCM Connectee**

means a Connectee whose Connected Installation is a Designated EHV Property as defined in Standard Conditions 50A.11 and 13B.6 of the DNO Party's Distribution Licence.

**EHV**

Extra High Voltage.

**Eligible Bad Debt**

means any bad debts with respect to Use of System Charges that the DNO Party can recover in accordance with the DNO Party's Distribution Licence. For the avoidance of doubt, this definition includes the DNO Party's bad debt and bad debt which the DNO Party is recovering on behalf of LDNOs.

**Energy Bills Support Scheme**

means the government support scheme to reduce the cost of customers' energy bills, as announced in a package of support announced by the Chancellor of the Exchequer on 3 February 2022.

**Energy Bills Support Scheme Levy**

means an amount that the DNO Party can recover in accordance with its Distribution Licence in relation to the Energy Bills Support Scheme.

**Embedded**

means connected to a LDNO's Distribution System.