DCP 234 Draft Legal Text

Merging the PCDM and Extended PCDM

Amend Schedule 16 (CDCM) as follows:

Reference	Amendment
Paragraph 97	Replace the existing text with the following – "The discount percentages are determined in accordance with Schedule [X],[1] which schedule is deemed to form part of this CDCM (as if it were set out herein)."
Paragraphs 98 and 99	Replace the existing text with the text moved from paragraphs 124 and 125 (see below). Delete the heading to paragraph 99.
Paragraphs 100 to 120 (including the tables and headings)	Delete, and mark the paragraphs as "not used."
Paragraphs 124 and 125	Move the existing text to paragraphs 97 and 98 (as referred to above), and mark paragraphs 124 and 125 as "Not used."

Commented [GWLG1]: Does this change require a change to the spreadsheet model?

Commented [CH2]: No, but we may need to add a version number and release date and delete the corresponding model version number in the other schedule.

Commented [GWLG3]: We've taken this approach so that the remaining text appears at the start of the section, and the 'not used' paragraphs are at the end (rather than there being a long list of 'not used' paragraphs in the middle).

Commented [CH4]: Agreed.

Amend Schedule 17 as follows:

Reference	Amendment
Paragraph 25.1	Replace the existing text with the following – "The discount percentages are determined in accordance with Schedule [X],[2] which schedule is deemed to form part of this EDCM (as if it were set out herein)."
Paragraph 25.2 and 25.3	Replace the existing text with the text moved from paragraphs 25.18 and 25.19 (see below).
Paragraph 25.4 to 25.17 (including the tables and headings).	Delete, and mark the paragraphs "Not used."

Commented [GWLG5]: Do we need to change the heading to 25?

Commented [GWLG6]: There is no equivalent of paragraph 96 in the CDCM.

Commented [CH7]: Introductory paragraph for the price control disaggregation which could be added to this schedule.

Commented [CH8]: Agreed

Commented [CH9]: Please add 25.19 as 25.2 and mark 25.3 as not used but do not add 25.18.

Commented [CH10]: Confirmed that this text should be deleted and marked as not used.

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[1] The schedule number for the new schedule below.
[2] The schedule number for the new schedule below.

Reference	Amendment
Paragraph 25.18 and 25.19	Move the existing text to paragraphs 25.2 and 25.3 (as referred to above), and mark paragraphs 25.18 and 25.19 as "Not used."

Commented [CH11]: Agreed.

Amend Schedule 18 as follows:

Commented [GWLG12]: Same comments as for schedule 17.

Commented [CH13]: As above for Schedule 17.

Reference	Amendment
Paragraph 25.1	Replace the existing text with the following – "The discount percentages are determined in accordance with Schedule [X],[3] which schedule is deemed to form part of this EDCM (as if it were set out herein)."
Paragraph 25.2 and 25.3	Replace the existing text with the text moved from paragraphs 25.18 and 25.19 (see below).
Paragraph 25.4 to 25.17 (including the tables and headings).	Delete, and mark the paragraphs "Not used."
Paragraph 25.18 and 25.19	Move the existing text to paragraphs 25.2 and 25.3 (as referred to above), and mark paragraphs 25.18 and 25.19 as "Not used."

Add a new Schedule [X][4] as follows:

Schedule [X] - Calculation of ~~discount percentages~~Discount Percentages for the ~~purpose~~Purpose of ~~determining certain~~Determining Certain LDNO ~~use~~Use of ~~system charges~~System Charges under Schedules 16, 17 and 18

1.   This Schedule forms part of the CDCM and the EDCMs. It describes the methodology for the calculation of discount percentages for the purpose of determining certain LDNO use of system charges under Schedules 16, 17 and 18.

2.   For the purposes of calculating discount percentages, the DNO Party's network is split

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[3] The schedule number for the new schedule below.
[4] To be numbered with the number of the first available schedule at the time of implementation.

into five levels: (i) LV services, (ii) LV mains, (iii) HV/LV, (iv) HV, and (v) a single level covering EHV and 132kV (including EHV/HV).

3. The ~~calculation~~determination of discount percentages used in Schedule 16 ~~involve~~involves the following steps:

    a) Breakdown of price control allowed revenue between operating expenditure, depreciation and return on regulatory asset value.

    b) Allocation of each of these components of price control allowed revenue to network levels.

    c) Determination of a percentage allocation of total revenue per unit to network levels.

    d) Determination of the proportion of the LV mains deemed to be used by LV-connected embedded networks.

    e) Determination of the proportion of the HV network deemed to be provided by HV-connected embedded networks.

    f) Calculation of the discount percentage for each combination of boundary network level and end user network level.

4. For the calculation of discount percentages used in Schedule 16, in order to determine the allocation to network levels of each element of price control revenue, the DNO Party uses cost allocation drivers calculated from the following sources:

    a) ~~RRP~~Regulatory Reporting Pack (RRP) data on units distributed and operating expenditure broken down by network level.

    b) Data that each DNO Party considers appropriately represents the forecast of net capital expenditure and customer contributions for the period 2005/2006–2014/2015, broken down by network level.

    c) Data from a version of the Forecast Business Plan Questionnaires (FBPQ) that would have been submitted by each DNO Party to the Authority before April 2010.

Commented [GWLG14]: We note that this (c) is new.

Commented [CH15]: It is adding clarity to show how old the data is.

d) Forecast data that each DNO Party considers appropriately represents the gross modern equivalent asset values (replacement costs) for various asset types.

e) The value of all notional assets calculated in each DNO Party's EDCM model. This comprises the aggregate of:

I. the sum of notional site-specific asset values of all network levels allocated to capacity for all customers in the DNO Party's EDCM model;

II. the sum of notional asset values at all network levels allocated to demand for all customers in the DNO Party's EDCM model;

III. the sum of sole use asset values allocated to demand for all customers in the DNO Party's EDCM model; and

IV. the sum of sole use asset values for generation only for all customers in the DNO Party's EDCM model.

f) The CDCM notional asset values for each network level as referred to in paragraph 63 of Schedule 16.

5. For theThe calculation of discount percentages used in Schedules 17 and 18, the is a two-part process. The first part of the methodprocess involves the calculation of the percentages used to allocate the DNO Party's Allowed Revenue to each network level. This is done for each element of Allowed Revenue: the operating cost, depreciation and return on RAV elements. These are aggregated over the period 2005/2006 to 2009/2010 (the DPCR4 period). In order to determine the allocation to network levels of each element of price control revenue, the following cost allocation drivers are used:

a) Data submitted by the DNO Party to the Authority using the format prescribed in the Regulatory Reporting Pack (RRP) on units distributed and operating expenditure broken down by network level (typically relating to the year 2007/2008).

b) Data from a version of the FBPQ that would have been submitted by each DNO Party to the Authority before April 2010.

Commented [GWLG16]: Why only typically? When not?
Is the RRP for 2007/8 different to the current one?

Commented [CH17]: Please delete

c) Data that each DNO Party considers appropriately represents the forecast of net capital expenditure and customer contributions for the period 2005/2006–2014/2015, broken down by network level.

d) Forecast data that each DNO Party considers appropriately represents the gross modern equivalent asset values (replacement costs) for various asset types.

Allocation of operating expenditure to network levels

6.   The DNO Party allocates operating expenditure in the 2007/2008 RRP by network level. The RRP already allocates some operating expenditure by network level.

Table: Allocation rules

	Allocation key	**Percentage capitalised**	**Direct cost indicator**
Load related new connections & reinforcement (net of contributions)	As described in this Schedule	100.0%	1
Non-load new & replacement assets (net of contributions)	MEAV	100.0%	1
Non-operational capex	MEAV	23.5%	1
Faults	MEAV	23.5%	1
Inspections, & Maintenance	MEAV	23.5%	1
Tree Cutting	MEAV	23.5%	1
Network Policy	MEAV	52.57%	
Network Design & Engineering	MEAV	52.57%	
Project Management	MEAV	52.57%	
Engineering Mgt & Clerical Support	MEAV	52.57%	
Control Centre	MEAV	52.57%	
System Mapping – Cartographical	MEAV	52.57%	
Customer Call Centre	MEAV	52.57%	
Stores	MEAV	52.57%	
Vehicles & Transport	MEAV	52.57%	
IT & Telecoms	Do not allocate	52.57%	
Property Mgt	Do not allocate	52.57%	
HR & Non-operational Training	MEAV	52.57%	
Health & Safety & Operational Training	MEAV	52.57%	
Finance & Regulation	MEAV	52.57%	
CEO etc	MEAV	52.57%	
Atypical cash costs	Do not allocate		1
Pension deficit payments	Do not allocate	57.7%	1

Metering	Do not allocate		1
Excluded services & de minimis	Do not allocate		1
Relevant distributed generation (less contributions)	Do not allocate		1
IFI	Do not allocate		1
Disallowed Related Party Margins	Do not allocate		1
Statutory Depreciation	Do not allocate		1
Network Rates	Do not allocate		1
Transmission Exit Charges	Deduct from revenue		1
Pension deficit repair payments by related parties	Do not allocate		1
Non activity costs and reconciling amounts	Do not allocate		1

7.   For the categories of expenditure for which the table reports "MEAV" under "the column "Allocation key", the DNO Party allocates the difference between total and allocated operating expenditure on the basis of an estimate of modern equivalent asset value by network level. Estimated gross modern equivalent asset values used for this purpose are derived from asset counts and gross modern equivalent asset values (replacement costs) for various asset types. The DNO Party maps assets to network levels using the mapping shown in the table inheaded paragraph 12 "(Mapping of assets to network levels)", and calculates the share of MEAV allocated to each of the network levels.

8.   For the calculation of discount percentages used in Schedule 16 only, the estimated gross modern equivalent asset value at the EHV and 132kV network level is adjusted by multiplying it by the EHV Reduction Ratio. The EHV Reduction Ratio is a factor applied to the EHV network drivers that reduces the allocation of costs to the EHV network level to account for revenues recovered from EDCM Connectees. The EHV Reduction Ratio is calculated as follows:

[EHV Reduction Rate] = [EHV and 132kV assets in the CDCM model] / ([EHV and 132kV assets in the CDCM model] + [All notional assets in the EDCM model])

wWhere:

EHV and 132kV assets in the CDCM model = the sum of the notional values in £ of the EHV assets in the CDCM model, namely 132kV, 132kV/EHV, EHV, EHV/HV, and 132kV/HV assets; and

all notional assets in the EDCM model = the total notional value in £ of the assets as described in earlier in this schedule.paragraph 4(e) above.

9. For each network level, the DNO Party calculates a category of operating costs called "*Load related new connections & reinforcement (net of contributions)*" as the sum of the following elements:

   a. General reinforcement costs reported in table 2.4 of the 2007/2008 RRP. These are reported by network level. The amount related to the HV system is allocated entirely to the HV network level. No allocation is made for the HV/LV network level.

   b. ["New connections & customer specific reinforcement" less "Customer contributions (directs) for connections" for connections at each network level aggregated over the period 2005/2006 to 2014/2015], and divided by 10. Both sets of numbers are reported for each network level in the FBPQ (worksheet LR1). No allocation is made for the HV/LV network level. If this element is negative for any network level, it is replaced by zero for that network level.

10. The DNO Party adjusts the operating costs allocated to each network level - equal to the sum of the operating costs already allocated to network levels in the 2007/2008 RRP and the operating costs allocated in line with the previous paragraphs - by multiplying, for each operating cost category, the allocated cost by [one minus the relevant capitalisation percentage specified in the table headed "in paragraph 6 (Allocation rules").].

11. On the basis of summing this adjusted allocation of operating costs across cost categories for each network level, the DNO Party calculates the share of operating costs of each network level. These are denoted as ["**Expensed proportions**].".

12. Transmission exit charges are not allocated to any of the voltage tiers. These charges are deducted from the allowed revenue.

Table: Mapping of assets to network levels

Asset	Network level
LV mains overhead lines	LV mains
LV services overhead lines	LV services
LV overhead support	LV mains
LV mains underground cable, consac	LV mains
LV mains underground cable, plastic	LV mains
LV mains underground cable, paper	LV mains
LV services underground cable	LV services
LV pillar, indoors	LV mains
LV pillar, outdoors	LV mains
LV board, wall-mounted	LV mains
LV board, underground	LV mains
LV fuses, pole-mounted	LV mains
LV fuses, tower-mounted	LV mains
6.6/11 kV overhead line, open	HV
6.6/11 kV overhead line, covered	HV
20 kV overhead line, open	HV
20 kV overhead line, covered	HV
6.6/11 kV overhead support	HV
20 kV overhead support	HV
6.6/11kV underground cable	HV
20kV underground cable	HV
HV submarine cable	HV
6.6/11 kV circuit breaker pole-mounted	HV
6.6/11 kV circuit breaker ground-mounted	HV
6.6/11 kV switch pole-mounted	HV
6.6/11 kV switch ground-mounted	HV/LV
6.6/11 kV ring main unit	HV/LV
6.6/11 kV other switchgear, pole-mounted	HV
6.6/11 kV other switchgear, ground-mounted	HV
20 kV circuit breaker, pole-mounted	HV
20 kV circuit breaker, ground-mounted	HV
20 kV switch, pole-mounted	HV
20 kV switch, ground-mounted	HV/LV
20 kV ring main unit	HV/LV
20 kV other switchgear, pole-mounted	HV
20 kV other switchgear, ground-mounted	HV
6.6/11 kV transformer, pole-mounted	HV/LV
6.6/11 kV transformer, ground-mounted	HV/LV
20 kV transformer, pole-mounted	HV/LV

20 kV transformer, ground-mounted	HV/LV
33kV overhead pole line	EHV and 132kV
33kV overhead tower line	EHV and 132kV
66kV overhead pole line	EHV and 132kV
66kV overhead tower line	EHV and 132kV
33kV pole	EHV and 132kV
33kV tower	EHV and 132kV
66kV pole	EHV and 132kV
66kV tower	EHV and 132kV
33kV underground cable, non-pressurised	EHV and 132kV
33kV underground cable, oil	EHV and 132kV
33kV underground cable, gas	EHV and 132kV
66kV underground cable, non-pressurised	EHV and 132kV
66kV underground cable, oil	EHV and 132kV
66kV underground cable, gas	EHV and 132kV
EHV submarine cable	EHV and 132kV
33 kV circuit breaker, indoors	EHV and 132kV
33 kV circuit breaker, outdoors	EHV and 132kV
33 kV switch, ground-mounted	EHV and 132kV
33 kV switch, pole-mounted	EHV and 132kV
33 kV ring main unit	EHV and 132kV
33 kV other switchgear	EHV and 132kV
66 kV circuit breaker, indoors and outdoors	EHV and 132kV
66 kV other switchgear	EHV and 132kV
33 kV transformer, pole-mounted	EHV and 132kV
33 kV transformer, ground mounted	EHV and 132kV
33 kV auxiliary transformer	EHV and 132kV
66 kV transformer	EHV and 132kV
66 kV auxiliary transformer	EHV and 132kV
132kV overhead line pole conductor	EHV and 132kV
132kV overhead line tower conductor	EHV and 132kV
132kV pole	EHV and 132kV
132kV tower	EHV and 132kV
132kV tower fittings	EHV and 132kV
132kV underground cable, non-pressurised	EHV and 132kV
132kV underground cable, oil	EHV and 132kV
132kV underground cable, gas	EHV and 132kV
132kV submarine cable	EHV and 132kV
132kV circuit breaker, indoors and outdoors	EHV and 132kV
132kV other switchgear	EHV and 132kV
132kV transformer	EHV and 132kV
132kV auxiliary transformer	EHV and 132kV

132kV/EHV remote terminal unit, pole-mounted	EHV and 132kV
132kV/EHV remote terminal unit, ground-mounted	EHV and 132kV
HV remote terminal unit, pole-mounted	HV
HV remote terminal unit, ground-mounted	HV

Allocation of depreciation and return to network levels

13. Both the depreciation and return on capital elements of allowed revenue are allocated to network levels on the basis of net capital expenditure data aggregated over the 10-year period from 2005/2006 to 2014/2015, taking in Thethe DNO Party's appropriate estimates or forecasts for each year as available.

14. The DNO Party calculates the net capital expenditure split by LV, LV/HV, HV, and EHV and 132kV (which includes EHV/HV). For each of these four segments, the relevant net capital expenditure is calculated by adding up expenditure on total condition based replacement (proactive and reactive replacement), connections spend minus customer contributions (directs) for connections at that voltage level, general reinforcement capital expenditure at that voltage level, and fault reinforcement capital expenditure at that voltage level.

15. For the calculation of discount percentages used in Schedule 16 only, the net capital expenditure at the EHV and 132kV network level is adjusted by multiplying it by the EHV Reduction Ratio (see Glossaryparagraph 8 above). This adjustment is not done for the calculation of discount percentages used in Schedules 17 and 18.

16. Some of these net capital expenditure categories allow HV substation and transformer costs to be identified. These costs (and no other costs) are allocated to the HV/LV network level. The ratio of the expenditure in these categories on HV substations and transformers to the expenditure in these categories on other HV assets is denoted as ["**HV/LV capital expenditure ratio**]".

17. Some of the net capital expenditure categories do not separately identify HV substation/transformer costs and report a single figure for HV. For these categories, the costs reported under HV are split between the HV/LV network and the HV network level so that the ratio of the amount allocated to the HV/LV network level to the costs

reported under HV is equal to the [HV/LV capital expenditure ratio.] determined above.

18. Generation-related capital expenditure is not included in the net capex attributable to each network level.

19. The DNO Party splits the net capital expenditure allocated to LV by dividing it between the LV mains and the LV services network levels. It does this on the basis of the ratio of net capital expenditure on total condition based replacement costs for each of those two network levels.

Determination of a percentage allocation of total revenue per unit to network levels

20. The DNO Party determines a breakdown of price control allowed revenue over the period from 2005/2006 to 2009/2010 between (1) operating expenditure, (2) depreciation and (3) return on regulatory asset value. Operating expenditure is then allocated to each network level according to the [Expensed proportions] for each network level calculated earlier.(see paragraph 11 above). The other elements of price control allowed revenue are allocated to each network level in the proportions calculated as described earlier. Different allocations are obtained for the purpose of Schedule 16 and for the purposes of Schedules 17 and 18. Again, separately for the purposes of Schedule 16 and for Schedules 17 and 18, the allocations of each of the three components of price control allowed revenue are aggregated by network level to obtain a percentage per network level of total price control allowed revenue.

21. The price control allowed revenue for 2007/2008 (denoted as the ["**Total allowed revenue**]") is adjusted by deducting from it the [Revenue not to share].   The ["**Revenue not to share**]" comprises the aggregate of:

    a) the net amount earned by the DNO Party under price control financial incentive schemes for 2007/2008 (this may be a negative number); and

    b) Transmission exit charges for 2007/2008.

22. The [Adjusted total revenue to share] for the calculation of discount percentages used in Schedule 16 (and the [Total revenue to share] for the calculation of discount percentages used in Schedule 17 and 18) are then allocated to each network level using

the appropriate weighted average percentage allocations calculated as described earlier in this Schedule.

23. A further two revenue elements are allocated to each network level using the [Expensed proportions] for each network level:

    a. "Customer contributions indirects" (from worksheet LR1 of the FBPQ) aggregated over the period 2005/2006 to 2014/2015, and divided by ten.

    b. The absolute value of the aggregate across all network levels and over the period 2005/2006 to 2014/2015 of any negative numbers obtained when "New connections & customer specific reinforcement" less "Customer contributions (directs) for connections" for connections at each network level in the FBPQ (worksheet LR1) is calculated, divided by 10.

24. The revenues allocated to each network level are then rescaled by the estimated number of units flowing through each network level, loss adjusted to LV. The result is denoted by "**Revenue to share per unit**", for each network level. The Revenue not to share is re-scaled by all units flowing into the DNO Party's EHV network, loss adjusted to LV; the result is denoted as "**Revenue not to share per unit**".

25. The DNO Party calculates the number of units flowing through each network level, loss-adjusted to LV, in two steps.

26. The first step is to calculate adjustment factors for units distributed at LV, at HV and at EHV and 132kV in respect of each of the LV, HV and EHV and 132kV levels.

    a) For units distributed at LV, the adjustment factor is 1 (one).

    b) For units distributed at HV, the adjustment factor is 0 (zero) in respect of the LV level, and $(U + 0.5*Losses) / (U + Losses)$ in respect of the other levels, where U is the number of units distributed at LV plus half of the number of units distributed at HV plus a quarter of the number of units distributed at EHV and 132kV.

    c) For units distributed at EHV, the adjustment factor is 0 (zero) in respect of the LV and HV levels, and $(U + 0.25*Losses) / (U + Losses)$ in respect of the EHV and 132kV level, where U is defined as above.

27. The second step is to calculate, for each of the LV, HV, and EHV and 132kV networks, the sum of the product of the three adjustment factors and the units distributed at each of LV, HV, and EHV and 132kV. This gives the number of units, (loss adjusted to LV) flowing through each of the LV, HV, and EHV and 132kV networks. The number of units (loss adjusted to LV) flowing through the LV services, the LV mains and the HV/LV network levels are the same as the number flowing through the LV network.

28. For each network level, the DNO Party calculates the percentage that the [Revenue to share per unit] represents of the sum of the [Revenue to share per unit] across all network levels and the [Revenue not to share per unit]. The results are denoted as ["**LV mains allocations**], [", "**LV services allocation**], [", "**HV/LV allocation**], [", "**HV allocation**]" and ["**EHV and 132kV allocation**]."

Calculation of direct proportions

29. The DNO Party calculates the [HV direct proportion] and the [LV direct proportion] on the basis of the allocation of RRP operating expenditure across network levels set out earlier in this Schedule (before the adjustment for capitalisation rates is made). Before this calculation is performed, any negative figure is set to zero.

30. The ["**HV direct proportion**]" is the ratio of the sum of the operating expenditure allocated to the HV network level across the expenditure categories identified as "Direct costs" in the table headed "in paragraph 6 (Allocation rules") to the sum of the operating expenditure allocated to the HV network level across all operating expenditure categories.

31. The ["**LV direct proportion**]" is the ratio of the sum of the operating expenditure allocated to the LV services or the LV mains network levels across the expenditure categories identified as "Direct costs" in the table headed "in paragraph 6 (Allocation rules") to the sum of the operating expenditure allocated to the LV services or LV mains networks level across all operating expenditure categories.

32. The DNO Party calculates the [EHV and 132kV direct cost proportion] on the basis of the allocation of RRP operating expenditure across network levels set out earlier in this Schedule (before the adjustment for capitalization rates is made). Before this calculation is performed, any negative figure is set to zero. The ["**EHV and 132kV**

direct cost proportion}" is calculated as the ratio of the sum of the operating expenditure allocated to the EHV and 132kV network level across the expenditure categories identified as "Direct costs" in the table ~~headed "~~in paragraph 6 (Allocation rules~~"~~) to the sum of the operating expenditure allocated to the EHV and 132kV network level across all operating expenditure categories.

LV mains split

33. The DNO Party will procure that the Nominated Calculation Agent estimates for the DNO Party's Distribution Services Area the proportion of the LV mains which LV-connected embedded networks are deemed to use by:

   a) determining the total length of its LV mains used by LV-connected embedded networks;

   b) dividing that total length by the number of end users on LV-connected embedded networks; and

   c) dividing the result by the average length of LV mains by LV end user on the DNO Party's own LV network.

34. The estimates will be based on available data provided by DNO Parties and IDNO Parties.

35. The result of this calculation is denoted "{"**LV mains split**}".".

HV split

36. The DNO Parties will procure that the Nominated Calculation Agent estimates the typical proportion of the HV network which is provided by the DNO Party in the case of HV loads supplied through an HV-connected embedded network. This estimate will be based on sample data, and the average used will be the same for all DNO Parties.

37. The proportion is denoted "{"**HV split**}"." and is represented as:

$$HV\ Split = 1 - \frac{Sum\ of\ IDNO\ network\ length/Number\ of\ IDNO\ connections}{Sum\ of\ DNO\ network\ lengths/Number\ of\ DNO\ connections}$$

EHV network level disaggregation

38.   For the calculation of discount percentages used in Schedule 17 and 18 only, the percentage allocated to the EHV and 132kV network level, [EHV and 132kV allocation], is split into separate percentages for the following asset levels:

   a)   132kV circuits (England and Wales only);

   b)   132kV/EHV substations (England and Wales only);

   c)   EHV circuits; and

   d)   EHV/HV substations

39.   The DNO Party splits [EHV and 132kV allocation] into separate percentages for the above assets levels on the basis of the share of the MEAV of the EHV and 132kV network level accounted for by the MEAV of the assets associated with each of the four asset levels. The DNO Party does this on the basis of the MEAV of the assets and of the mapping in the table below. The results of the allocation of [EHV and 132kV allocation] into percentage allocations for the different EHV and 132kV asset levels are denoted as ["**132kV allocation**], [", "**132kV/EHV allocation**], [", "**EHV allocation**]" and ["**EHV/HV allocation**]."

Table: MEAV EDCM mapping

Asset	Asset level
6.6/11 kV circuit breaker pole-mounted	EHV/HV
6.6/11 kV circuit breaker ground-mounted	EHV/HV
20 kV circuit breaker, pole-mounted	EHV/HV
20 kV circuit breaker, ground-mounted	EHV/HV
33kV overhead pole line	EHV
33kV overhead tower line	EHV
66kV overhead pole line	EHV
66kV overhead tower line	EHV
33kV pole	EHV
33kV tower	EHV

66kV pole	EHV
66kV tower	EHV
33kV underground cable, non-pressurised	EHV
33kV underground cable, oil	EHV
33kV underground cable, gas	EHV
66kV underground cable,non Pressurised	EHV
66kV underground cable, oil	EHV
66kV underground cable, gas	EHV
EHV submarine cable	EHV
33 kV circuit breaker, indoors	132kV/EHV
33 kV circuit breaker, outdoors	132kV/EHV
33 kV switch, ground-mounted	132kV/EHV
33 kV switch, pole-mounted	132kV/EHV
33 kV ring-main-unit	132kV/EHV
33 kV other switchgear	EHV/HV
66 kV circuit breaker, indoors and outdoors	132kV/EHV
66 kV other switchgear	EHV/HV
33 kV transformer, pole-mounted	EHV/HV
33 kV transformer, ground mounted	EHV/HV
33 kV auxiliary transformer	EHV/HV
66 kV transformer	EHV/HV
66 kV auxiliary transformer	EHV/HV
132kV overhead line pole conductor	132kV
132kV overhead line tower conductor	132kV
132kV pole	132kV
132kV tower	132kV
132kV tower fittings	132kV
132kV underground cable, non-pressurised	132kV
132kV underground cable, oil	132kV
132kV underground cable, gas	132kV
132kV submarine cable	132kV

132kV circuit breaker, indoors and outdoors	132kV
132kV other switchgear	132kV
132kV transformer	132kV/EHV
132kV auxiliary transformer	132kV/EHV
132kV/EHV remote terminal unit, pole mounted	EHV/HV
132kV/EHV remote terminal unit, ground mounted	EHV/HV

Calculation of discount percentages

40. The discount percentage used in Schedule 16 to calculate tariffs applicable to embedded networks with an LV boundary is:

    [LV: LV discount] = [LV services allocation] + ([LV mains allocation](1 – [LV mains split]*[LV direct proportion])).*

41. For embedded networks with an HV boundary, three percentage discount figures are used in Schedule 16.

42. The discount percentage used in Schedule 16 to calculate tariffs applicable to embedded networks with an HV boundary in respect of LV network end users is:

    [HV: LV discount] = [LV services allocation] + [LV mains allocation] + [HV/LV allocation] + [HV allocation](1 – [HV split]*[HV direct proportion]).*

43. The discount percentage used in Schedule 16 to calculate tariffs applicable to embedded networks with an HV boundary in respect of LV substation end users is:

    [HV: LV Sub discount] = ([HV/LV allocation] + [HV allocation](1 – [HV split]*[HV direct proportion]))/(1 – [LV mains allocation] – [LV services allocation]).*

44. The discount percentage used in Schedule 16 to calculate tariffs applicable to embedded networks with an HV boundary in respect of HV end users is:

    [HV: HV discount] = [HV allocation](1 – [HV split]*[HV direct proportion])/ (1 – [LV services allocation] – [LV mains allocation] – [HV/LV allocation]).*

45. For the calculation of discount percentages used in Schedules 17 and 18, the 15 boundary categories between the DNO Party and the embedded network described in Schedules 17 and 18 are grouped into five discount categories in England and Wales and three in Scotland:

   a) Discount category 0000 - This applies to boundary category 0000.

   b) Discount category 132kV (in England and Wales only) - This applies to boundary category 1000.

   c) Discount category 132kV/EHV (in England and Wales only) - This applies to boundary categories 1100 and 0100.

   d) Discount category EHV - This applies to boundary categories 1110, 0110 and 0010.

   e) Discount category HVplus - This applies to boundary categories 1111, 0001, 1001, 0002, 0011, 0111, 1101, 0101.

46. Discount percentages for Schedules 17 and 18 are determined as follows:

For discount categories 0000, 132kV/EHV and HVplus

Discount percentage = the lowest of 100 per cent and $P / (S + U)$

For discount category 132kV

Discount percentage = the lowest of 100 per cent and $(P + ([132kV\ allocation] * (1 - ([Network\ length\ split\ for\ 132kV] * [EHV\ and\ 132kV\ direct\ cost\ proportion])))) / (S + U)$

For discount category EHV

Discount percentage = the lowest of 100 per cent and $(P + ([EHV\ allocation] * (1 - ([Network\ length\ split\ for\ EHV] * [EHV\ and\ 132kV\ direct\ cost\ proportion])))) / (S + U)$

Where:

Discount percentage is the discount applicable for each combination of discount category and end user type.

P is the sum of the allocation percentages for all network levels below the network level of the DNO Party-embedded network boundary up to and including the network level of the end user in the case of demand, and up to and excluding the network level of the end user in the case of generation.

S is the sum of the percentages for all network levels in the distribution network above and including the network level of the end user in the case of demand, and up to and excluding the network level of the end user in the case of generation.

U is the ratio of the sum of the DNO Party's total incentive revenue and the transmission exit charge, and the DNO Party's total Allowed Revenue including any incentive revenue and transmission exit charge.

[*Network length split for 132kV*] and [*Network length split for EHV*] are currently set to 100 per cent.

[*EHV and 132kV direct cost proportion*] is as calculated in ~~earlier~~paragraph 32.

Glossary of Terms used in this Schedule

47.   Expressions used in this Schedule shall be interpreted in accordance with Schedules 16, 17 and 18.

47. ~~In this Schedule, except where the context otherwise requires, the expressions in the left-hand column below shall have the meaning given to them in the right-hand column below:~~

~~Term~~	~~Meaning~~
~~Allowed Revenue~~	~~the DNO Party's "Combined Allowed Distribution Network Revenue" (as defined in the DNO Party's price control conditions).~~
~~CDCM~~	~~the Common Distribution Charging Methodology.~~
~~Common Distribution Charging Methodology~~	~~the methodology of that name with which the DNO Party is obliged to comply under its Distribution Licence.~~

Commented [GWLG28]: We could re-insert the defined terms here, but there seems little point duplicating the definitions from schedules 16-18, and having them twice creates a risk of conflict.

Commented [CH29]: Agreed.

Term	Meaning
customer contribution	capital charges payable by customers under the DNO Party's connection charging policy.
Distribution System	has the meaning given to that expression in the Electricity Distribution Licences, and (unless the context otherwise requires) is a reference to the Company's Distribution System (as defined in the Company's Electricity Distribution Licence)
EDCM	means the EHV distribution charging methodology as described in Schedule 17 or Schedule 18 (as applicable to each DNO Party).
EHV	EHV refers to nominal voltages of at least 22kV and less than 132kV.
EHV Reduction Ratio	A factor applied to the EHV network drivers in the methodology that reduces the allocation of costs to the EHV network level to account for revenues recovered from EDCM customers. The EHV Reduction Ratio is calculated as follows: [EHV Reduction Rate] = [EHV and 132kV assets in the CDCM model] / ([EHV and 132kV assets in the CDCM model] + [All notional assets in the EDCM model]) where: EHV and 132kV assets in the CDCM model = the sum of the notional values in £ of the EHV assets in the CDCM model, namely 132kV, 132kV/EHV, EHV, EHV/HV, and 132kV/HV assets; and all notional assets in the EDCM model = the total notional value in £ of the assets described earlier in this schedule.
end user	is a user, excluding DNO Parties and IDNO Parties.
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.
kWh	Kilowatt hour: a unit of energy.
LDNO	a licensed distribution network operator, meaning an IDNO Party or DNO Party.
LV	nominal voltages of less than 1kV.
LV Mains	LV distributing mains where: a) the upper boundary is at the secondary side (LV) of a distributor transformer; and b) the lower boundary is the point of connection associated with the LV service.

Term	Meaning
LV Services	the service line from the LV main to the DNO's protection device situated upon the customer's premises, including the joint and associated components connecting the service line to the distributing main.
modern equivalent asset and modern equivalent asset value	is a reference to the cost of replacing an asset at the time of the calculation.
MPAN	the unique number identifying a particular Metering Point or Metering System.
MVA	Mega Volt Ampere (1,000 kVA): a unit of network capacity.
MW	Megawatt (1,000 kW): a unit of power flow.
MWh	Megawatt hour (1,000 kWh): a unit of energy.
network	the DNO Party's Distribution System within the DNO Party's Distribution Services Area.
network level	the network is modelled as a stack of circuit and transformation levels between supplies at LV and the transmission network. A network level is any circuit or transformation level in that stack. Additional network levels are used for transmission exit and for LV and HV customer assets.
Point of Common Coupling	The point on the network where the power flow associated with the single Connectee under consideration, may under some (or all) possible arrangements interact with the power flows associated with other Connectees, taking into account all possible credible running arrangements
RRP	regulatory reporting pack, a dataset produced each year by each DNO Party for the Authority.
service model	a costed design for the typical dedicated assets of a category of network users.
standing charge	any fixed or capacity charge that does not depend on actual use of the network.
unit	where the context permits, the word unit refers to kWh.
unit rate	a charging or payment rate based on units distributed or units generated. Unit rates are expressed in p/kWh. Tariffs applied to multi rate meters and/or using several time bands for charging have several unit rates.
user	refers to customers (whether demand customers or generators) and (where relevant) LDNOs.

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