DCP 474 - APPLICATION OF SMART METER COMMUNICATION LICENCE COSTS IN THE CDCM

SCHEDULE 16 – COMMON DISTRIBUTION CHARGING METHODOLOGY

Introduction

This Schedule 16, version ~~14.1~~[TBC], is to be used for the calculation of Use of System Charges which will become effective from, ~~01 April 2022~~[TBC] and remain effective until superseded by a revised version.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

(c) 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.

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.

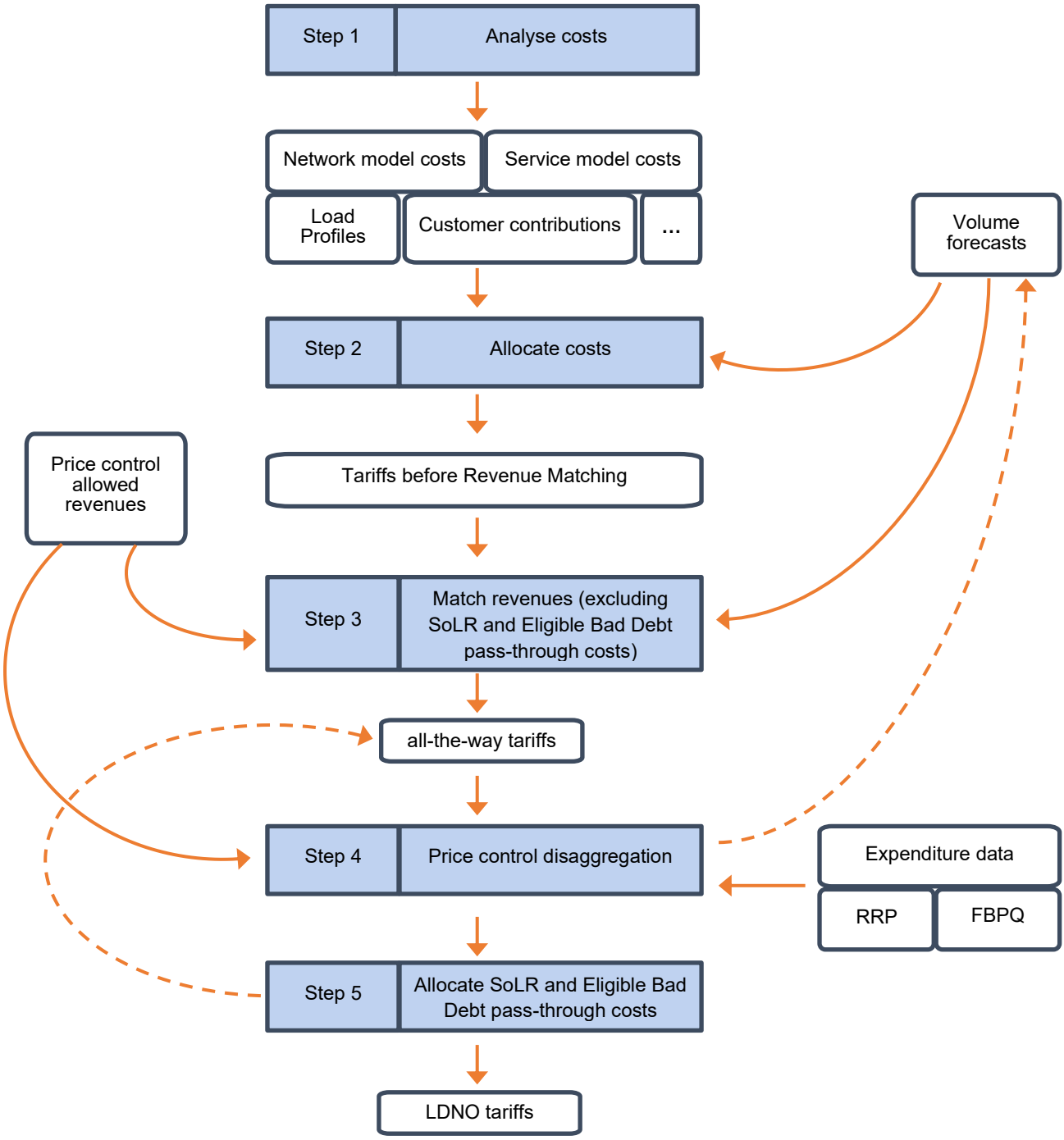
5. Algebraic formulae in this Schedule 16 use square brackets to clarify the calculations. For the avoidance of doubt, these square bracketed terms form an effective part of this Schedule 16.

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.

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.

Table 1: List of tariff components

Tariff component	**Unit**	
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.

Table 1: List of tariff components		
Tariff component	**Unit**	
Reactive power charge	p/kVArh	

13. For users that are acting as LDNOs, tariffs are portfolio tariffs with the same tariff components as the corresponding all-the-way end user tariff, excluding reactive power charges (but prices for some tariff components may be calculated as zero).

14. 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 reactive power unit charges expressed in p/kVArh, and with no more than two decimal places in the case of fixed and capacity charges (including exceeded capacity charges) expressed in p/MPAN/day and p/kVA/day respectively.

STEP 1: ANALYSE COSTS

15. The first step of the methodology involves the determination of costs or revenue allowances for various parts of the network, and the collection of information about the relevant characteristics of network users.

Network model asset values

16. The DNO Party specifies a network model, also known as a distribution reinforcement model (DRM) or a 500 MW model, in line with the requirements of this section.

17. The network model determines the £/kW/year figure (based on simultaneous maximum load at each network level) corresponding to amortisation and return on capital for assets at the LV circuits, HV/LV, HV, EHV/HV and EHV network levels, and, in England and Wales, at the 132kV/EHV, 132kV/HV and 132kV network levels.

18. Not Used.

19. The network model consists of a costed design for an increment to the DNO Party's network.

20. At each network level, the model is sized to provide secure capacity to meet demand that, aggregated up to individual grid supply point (GSP) level, amounts to 500 MW of simultaneous maximum demand.

21. The model's design assumes a power factor of 0.95 and no embedded generation.

22. The assets included in the network model are modern equivalent assets of the kind that the DNO Party would normally install on new networks.

23. The nature, quantity and size of assets in the model is such as to meet demand and security to the DNO Party's design and planning standards, allowing for the use of standard size equipment and typical utilisation factors.

24. The proportion of assets of different types at each network level, e.g. overhead and underground circuits, reflects the mix of users and the topography in the DNO Party's Distribution Services Area.

25. The cost assumed for each asset type reflect total purchase and installation cost in the charging year, using the DNO Party's normal procurement methods.

Diversity allowances

26. For each of the 132kV (except in Scotland), EHV and HV voltage levels, the DNO Party determines a diversity allowance between the transformation level above circuits at that voltage and the transformation level below circuits at that voltage.

27. Each diversity allowance represents the extent, expressed as a percentage, to which the sum of the maximum load across all substations below would exceed the corresponding sum for substations above.

28. The DNO Party also determines a diversity allowance between the GSP Group as a whole and the individual grid supply points.

Customer contributions under current connection charging policy

29. The DNO Party estimates the extent to which the assets at each network level used by each category of users would have been expected to be covered by customer contributions if they had been constructed under the charging year's connection charging policy.

30. The DNO Party groups users into categories, by network level of supply, for the purpose of making these estimates.

31. In the case of generators, the proportions relate to the notional assets whose construction or expansion might be avoided due to the generator's offsetting of demand on the network, and takes the same values as for a demand user at the same network level of supply.

Service model asset values

32. The DNO Party specifies a set of service models covering the range of typical dedicated assets operated for the benefit of individual HV and LV users of the network.

33. For each service model, the DNO Party estimates the number and types of connections that the model covers, and a total construction cost for the assets in the model.

34. For each tariff before revenue matching, the DNO Party identifies the extent to which each of the service models represents the relevant assets for an average user in that tariff.

35. A weighted average of service models is used if several service models apply to the same tariff.

36. In the case of unmetered supplies, service model assets are modelled on the basis of units delivered.

37. In the case of generation service models, the service models should reflect the additional costs of protection equipment for a typical generator in each category, for example the difference in cost between a fuse and a circuit breaker, or the cost of additional telecommunications equipment used for control purposes.

Transmission exit expenditure

38. The DNO Party prepares a forecast of expenditure on transmission exit charges in the charging year.

Other expenditure

39. The DNO Party prepares a forecast of other expenditure for the charging year, where other expenditure is defined as the sum of:

    (a) 100 per cent of direct operating costs.
    (b) 60 per cent of indirect costs (as defined in RRP guidance).

(c) 100 per cent of network rates.

Distribution time bands

40. The DNO Party determines five distribution time bands, labelled black, red, yellow, amber and green. The 'red', 'amber' and 'green' time bands will apply to tariffs that are metered. The 'black', 'yellow' and 'green' time bands will apply to tariffs that are unmetered.

41. Distribution time bands are defined separately for Monday-Friday and for Saturday/Sunday. In each case, time bands are defined by reference to UK clock time only, and always begin and end on the hour or half hour. There will be no constraint on either the number of hours that can be covered by each time band or whether the time band applies to all or only part of a day. The red, amber and green times bands will apply throughout the year. The black and yellow time bands can be set to apply to only part of the year, where so specified by the DNO Party.

41A. The DNO Party may only change distribution time bands with effect from 1 April and must provide a minimum of 15 months prior notice of such changes. However, where a change to distribution time bands is caused by the implementation of a change to this methodology, the requirement to provide a minimum of 15 months' notice prior notice will not apply.

41B. Notice of changes to the distribution time bands should be given in the relevant charging statement, and such notice should appear in the same paragraph of the statement as the time bands that are being changed.

Load characteristics

42. The DNO Party estimates the following load characteristics for each category of demand users:

- A load factor, defined as the average load of a user group over the year, relative to the maximum load level of that user group. Load factors are numbers between 0 and 1; and
- A coincidence factor, defined as the expectation value of the load of a user group at the time of system simultaneous maximum load, relative to the maximum load level of that user group. Coincidence factors are numbers between 0 and 1.

42A. The load characteristics for unmetered supplies for which Use of System Charges are billed on an aggregated basis are not determined from settlement data. For each such unmetered supplies tariff the load characteristics are calculated using profile data derived for each GSP Group.

43. In determining the load characteristics of each category of demand user the DNO Party will use reasonable endeavours to analyse meter and profiling data received for the most recent 3 year period (at the time of setting charges for the relevant charging year) for which data are available in time for use in the calculation of charges. Load factors and coincidence factors will be calculated individually for each of the 3 years and a simple arithmetic average will be calculated to be used in tariff setting.

44. For load factors and coincidence factors in the case of customer classes for which Use of System Charges are billed on an aggregated basis (except the unmetered supplies customer classes), data adjusted for GSP Group correction factor are used.

45. Not used.

46. Not used.

Loss adjustment factors to transmission

47. For each network level, the DNO Party determines a single loss adjustment factor to transmission relating to Exit Points from its network at that level. These loss adjustment factors should be representative of average losses at the time of system simultaneous maximum load.

Peaking probabilities

48. The DNO Party determines a peaking probability in respect of each network level and each of the distribution time bands.

49. The peaking probability represents the probability that an asset at that network level would experience maximum load during that distribution time band. In deriving peaking probabilities the DNO Party will use reasonable endeavours to use the most recent 3 year period (at the time of setting charges for the relevant charging year) for which information is available in time for use in the calculation of charges. Peaking

probabilities will be derived individually for each of the 3 years and a simple arithmetic average will be calculated to be used in tariff setting.

Power factor data

50. The DNO Party determines or estimates, for each network level, the average of the ratio of reactive power flows (kVAr) to network capacity (kVA), weighted by reactive power flow.

51. If data are not available for any network level, the DNO Party uses data for the nearest network level at which they are available.

Volume forecasts

52. The DNO Party forecasts the volume chargeable to each tariff component under each tariff for the charging year. The DNO Party forecast should be separately analysed by both: tariffs before revenue matching, and all-the-way tariffs.

52A. For the purposes of the calculations described in Step 2 below, forecast volumes for the Domestic Aggregated (Related MPAN) and Non-Domestic Aggregated (Related MPAN) tariffs are added to the volumes for Domestic Aggregated or CT and Non-Domestic Aggregated or CT tariffs as follows:

(a) Domestic Aggregated (Related MPAN) volumes are added to Domestic Aggregated or CT volumes;

(b) LDNO LV: Domestic (Related MPAN) volumes are added to LDNO LV: Domestic Aggregated or CT volumes;

(c) LDNO HV: LV Domestic (Related MPAN) volumes are added to LDNO HV: LV Domestic Aggregated or CT volumes;

(d) Non-Domestic Aggregated (Related MPAN) volumes are added to Non-Domestic Aggregated or CT volumes.

(e) LDNO LV: Non-Domestic (Related MPAN) volumes are added to LDNO LV: Non-Domestic Aggregated or CT volumes; and

(f) LDNO HV: Non-Domestic (Related MPAN) volumes are added to LDNO HV: Non-Domestic Aggregated or CT volumes.

53. The volume forecasts for portfolio tariffs are multiplied by the LDNO discount percentages determined in Step 4, and combined with the all-the-way volume forecasts for each end user type. These combined volume forecasts are used throughout Steps 2 and 3 of the methodology.

53A. The DNO Party also forecasts the total customer count for tariffs for domestic customers connected to LDNO networks which are calculated in the EDCM.

53B. The DNO Party also forecasts the total customer count for tariffs for all demand tariffs for Designated Properties connected to LDNO networks which are calculated in the EDCM.

Forecast of price control allowed revenues

54. The DNO Party prepares a forecast of allowed revenue for the charging year in accordance with the requirements of the price control conditions and in a manner which is consistent with its volume forecasts and in a format consistent with Table 1 of Schedule 20.

STEP 2: ALLOCATE COSTS

Categories of costs

55. The cost and revenue allocation is driven by a representation of the different voltage and transformation levels in the network and by a distinction between the elements of cost related to assets and those related to operations.

56. Table 2 shows the network levels and categories of costs used in the model. In this Schedule 16, the acronym EHV refers to voltages of 22 kV and above, up to and excluding 132 kV. In the case of the Scottish Distribution Services Areas, the entries for the 132kV and 132kV/EHV network levels are zero as these voltages are part of the transmission network. LV refers to voltages below 1 kV, and HV refers to voltages of at least 1kV and less than 22kV.

Table 2: Categories of unit costs in the model			
Category	**Description**	**Unit**	**Levels**
Network assets	Amortisation and return on capital for networks or substations at each level, excluding assets that are deemed to be covered by customer contributions. This is expressed per kW of system simultaneous maximum load.	£/kW/year	132kV 132kV/EHV EHV EHV/HV 132kV/HV HV HV/LV LV circuits
Transmission exit	Expressed per kW of system simultaneous maximum load	£/kW/year	Transmission exit
Other expenditure	Other expenditure is attributed to levels and assets in the network following the rules set out below. The part allocated to network levels is expressed per kW of system simultaneous maximum load.	£/kW/year	132kV 132kV/EHV EHV EHV/HV 132kV/HV HV HV/LV LV circuits
	The part of other expenditure allocated to assets dedicated to one customer is expressed per user for each user type.	£/year	For each type of user

Annuitisation of network model asset values

57. Capital costs that are not covered by customer contributions are converted to annual costs using a level annuity with the annuity period and rate of return set out in table 3.

Table 3: Annuity rate of return and annuity period	
Parameter	**Value**
Annuity period	40
Annuity rate of return	Set to equal the latest pre-tax real weighted average cost of capital (CC below) for each DNO Party calculated using the following formula: CC = (Gearing Assumption x Pre-Tax Cost of Debt) + (1- Gearing Assumption)*(Post Tax Cost of Equity/(1-Corporation Tax Rate)) where: Gearing Assumption is set to the 'Notional gearing' value for the regulatory year for which tariffs are being set in the latest version of the PCFM (InputSummary sheet, Finance inputs, Vanilla allowed return on capital) prepared for the relevant DNO Party for publication with such tariff setting on the DNO Party's website; Pre-Tax Cost of Debt is set to the 'Allowed return on debt' value for the regulatory year for which tariffs are being set in the latest version of the PCFM (InputSummary sheet, Finance inputs, CAPM calculator tool: allowed return on debt) prepared for the relevant DNO Party for publication with such tariff setting on the DNO Party's website; Post Tax Cost of Equity is set to the 'Allowed return on equity' value for the regulatory year for which tariffs are being set in the latest version of the PCFM (InputSummary sheet, Finance inputs, CAPM calculator tool: allowed return on equity) prepared for the relevant DNO Party for publication with such tariff setting on the DNO Party's website; and

Table 3: Annuity rate of return and annuity period	
Parameter	**Value**
	Corporation Tax Rate is set to the 'Corporation tax rate' value for the regulatory year for which tariffs are being set in the latest version of the PCFM (InputSummary sheet, Tax, Tax policy) prepared for the relevant DNO Party for publication with such tariff setting on the DNO Party's website. In the event of any value not being available from the above data sources, the DNO Party will prepare a forecast of the value to be used in the CC formula instead. The CC value is calculated as a percentage, and rounded to two decimal places.

Determination of unit costs from network model

58. For each network level, the DNO Party determines the flow at time of system simultaneous maximum load, measured at Exit Points from the network level, that could be accommodated by the network model on the basis of a normal mix and diversity of loads for its network.

59. The asset value and unit cost for that network level are obtained by dividing the annuitised cost of purchasing and installing the assets in the network model by this exit flow at time of system simultaneous maximum load.

[network level assets £/kW] = [assets £]/[modelled exit flow at time of system simultaneous maximum load kW]

[network level £/kW/year] = [network level assets £/kW]*[annuity factor]

60. The modelled exit flow at peak time is obtained by combining the 500 MW at GSP sizing assumption, the diversity allowance between GSP and GSP Group, and the loss adjustment factor for the relevant network level.

Allocation of other expenditure

61. Estimated load at each network level is calculated from:

volume forecasts for each tariff before revenue matching;
the loss adjustment factors representative of the time of system simultaneous maximum load;
the load characteristics for users on each tariff before revenue matching, used to estimate the contribution of each user category to load at the time of system simultaneous maximum load.

62. For the purposes of this calculation, a generation user is taken to make a zero contribution to load at the network level corresponding to circuits at its Entry Point, and a full negative contribution to load at all network levels above its Entry Point. For demand users, account is taken of differences between the diversity allowance in the network model and the diversity of each customer group in order to ensure that the estimated load matches the volumes subject to charges in respect of each network level.

63. For each network level covered by the network model, a notional asset value is calculated by multiplying the unit asset cost by the estimated load:

[notional asset value £] = [network level assets £/kW]*[estimated load kW]

64. For each service model, a notional asset value is calculated by multiplying the unit asset value of that service model by the extent to which each user requires that model.

65. Other expenditure (excluding transmission exit charges) is allocated between network levels in the proportion given by these notional assets.

66. The result is combined with forecast transmission exit charges to give an annual expenditure figure for each network level and for each service model. These figures are converted into unit cost using the same rules as for costs and revenues from network assets and customer assets.

Allocation of costs on the basis of contribution to system simultaneous maximum load

67. All £/kW/year unit costs and revenue are used in the calculation of yardstick charges for each tariff before revenue matching

68. For demand tariffs before revenue matching and portfolio tariffs before revenue matching related to demand users, the contributions of each network level to the unit rate are calculated as follows:

[p/kWh from network model assets] = 100*[network level £/kW/year]*[user loss factor]/[network level loss factor]*[pseudo load coefficient]*(1 – [contribution proportion])/[days in charging year]/24

[p/kWh from operations] = 100*[transmission exit or other expenditure £/kW/year]*[user loss factor]/[network level loss factor]*[pseudo load coefficient]/[days in charging year]/24

69. These calculations are repeated for each network level.

70. In the paragraph 68 equation:

(a) the user loss factor is the loss adjustment factor to transmission for the network level at which the user is supplied;

(b) the network level loss factor is the loss adjustment factor to transmission for the network level for which costs are being attributed; and

(c) the pseudo load coefficient is calculated as follows:

i) calculate the ratio of coincidence factor to load factor that would apply if units were uniformly spread within each time band, based on the estimated proportion of units that fall within each distribution time band and the assumption that the time of system simultaneous maximum load is certain to be in the red or black (as appropriate) distribution time band;

ii) calculate a correction factor for each user type as the ratio of the coincidence factor to load factor, divided by the result of the calculation above;

iii) for each network level and each unit rate, derive the ratio of coincidence factor (to network asset peak) to load factor that would apply given peaking probabilities at that network level if units were uniformly spread within each time band, multiplied by the correction factor; and

iv) the result of (iii) above is the pseudo load coefficient for the network level and unit rate.

71. For generation tariffs before revenue matching and portfolio tariffs before revenue matching, no contribution to the unit rate is calculated in respect of the network level corresponding to circuits at the Entry Point, and a negative contribution to the unit rate (i.e. a credit) comes from each network level above the Entry Point. That contribution is calculated as follows:

[p/kWh from network model assets] = –100*[network level £/kW/year]*[user loss factor]/[network level loss factor]*(1 – [contribution proportion])/[days in year]/24

[p/kWh from operations] = –100*[transmission exit or other expenditure £/kW/year]*[user loss factor]/[network level loss factor]/[days in year]/24

72. Not used.

Allocation of network costs to standing charges (fixed and capacity)

73. For demand users, other than unmetered users, standing charge factors are used to reduce unit charges and to attribute these costs or revenues to capacity charges (p/kVA/day) or fixed charges (p/day) instead.

74. The standing charge factors for demand tariffs before revenue matching are shown in the table below:

Tariff before revenue matching	EHV	EHV/HV	HV	HV/LV	LV circuits
Domestic Aggregated or CT					100%
Non-Domestic Aggregated or CT					100%
LV Site Specific			20%	100%	100%
LV Sub Site Specific			100%	100%	
HV Site Specific	20%	100%	100%		
Unmetered Supplies					0%

75. Where a standing charge factor is specified for the EHV/HV network level, the same standing charge factor applies to the 132kV/HV network level.

76. Where a standing charge factor is specified for the EHV network level, and where the 500 MW model includes 132kV/HV transformation, the 132kV standing charge factor is set to the EHV standing charge factor multiplied by the proportion of load going through 132kV/HV transformation.

77. For each tariff before revenue matching, the unit rates are reduced to take account of the allocation of costs to capacity or fixed charges. This is achieved by multiplying the cost element for each relevant network level by (1 – [standing charge factor]).

78. For each demand user type, and for each network level, the unit cost to be attributed to capacity charges or fixed charges in respect of that network level is:

[p/kVA/day from network model assets] = 100*[standing charge factor]*[network level £/kW/year]*[user loss factor]/[network level loss factor]*(1 – [contribution

proportion])/[days in year]/(1 + [diversity allowance])*[power factor in network model]

[p/kVA/day from transmission exit or other expenditure] = 100*[standing charge factor]*[transmission exit or other expenditure £/kW/year]*[user loss factor]/[network level loss factor]/[days in year]/(1 + [diversity allowance])*[power factor in network model]

79. The power factor in network model parameter is set to 0.95.

80. The diversity allowance for the LV circuit level is defined as the amount by which the aggregate maximum demand load determined for that network level exceeds the estimated demand at the time of system simultaneous maximum load. The aggregate maximum demand is calculated by aggregating agreed import capacities for users for which Use of System Charges are billed on a site specific basis (excluding users with Domestic Aggregated or CT and Non-Domestic Aggregated or CT) and estimated capacities for users in for which Use of System Charges are billed on an aggregated basis and those with Domestic Aggregated or CT and Non-Domestic Aggregated or CT for which Use of System Charges are billed on a site specific basis.

81. For the tariffs before revenue matching listed below, the unit costs calculated by the formula above are allocated to the capacity charge. The exceeded capacity charge for half hourly settled demand users, except unmetered users, is calculated using the same formula, but with the customer proportion set to zero.

- LV Site Specific
- LV Sub Site Specific
- HV Site Specific

82. Otherwise, the unit costs calculated by the formula above are allocated to the fixed charge.

83. For the tariffs before revenue matching listed below, LV costs are allocated to the fixed charge by estimating the proportion of LV network capacity used by these categories of users, and dividing the corresponding proportion of LV costs by the number of domestic and non-domestic MPANs:

- Domestic Aggregated or CT
- Non-Domestic Aggregated or CT.

84. Not used.

Costs associated with LV customer and HV customer levels

85. Other expenditure allocated to the LV customer and HV customer network levels are included in the fixed charge for each tariff before revenue matching where there is such a tariff component.

86. In the case of unmetered supplies, these charges are spread across all units.

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 pass-through costs. Such pass-through costs are taken into account in Step 5 after LDNO discounts have been applied in Step 4.

91. If the adjusted forecast of allowed revenue exceeds the estimate of relevant revenues, then the difference is a residual shortfall. If the estimate of relevant revenues exceeds the adjusted forecast of allowed revenue, then the difference is a residual surplus.

92. Revenue matching is achieved by:

(a) apportioning the total value of the residual surplus or residual shortfall to be returned or recovered respectively, via a fixed charge to (i) the domestic LV-connected charging band and (ii) the specific charging bands set out in paragraph 2.4 of Schedule 32 on the basis of (A) the aggregated consumption of all Final Demand Sites in that band (including the consumption of any Related MPANs where applicable), relative to (B) the combined total net consumption for all Final Demand Sites (including the consumption of any Related MPANs where applicable) plus the total consumption for unmetered customers.

(b) The allocated proportion of the residual value to each charging band will then be divided equally among all Final Demand Sites within that charging band, resulting in the same level of residual fixed charge.

(c) Residual charges for each Final Demand Site will be applied as a fixed charge adder (p/Final Demand Site/day) calculated as follows: the revenue surplus or shortfall (in pence) to be recovered for the band that the Final Demand Site is in;

divided by the total number of Final Demand Sites in that band; divided by days in the charging year.

92A. In order to calculate all-the-way tariffs, residual charges are added to the tariffs before revenue matching as shown in the table below.

Tariff before revenue matching	All-the-way Tariff	Residual Charge
Domestic Aggregated or CT	Domestic Aggregated or CT with Residual	Domestic LV-connected Charging Band
Domestic Aggregated (Related MPAN)	Domestic Aggregated (Related MPAN)	None
Non-Domestic Aggregated or CT	Non-Domestic Aggregated or CT No Residual	None
	Non-Domestic Aggregated or CT Band 1	Non-domestic LV connected without a MIC as a basis for its current charge (Charging Band 1)
	Non-Domestic Aggregated or CT Band 2	Non-domestic LV connected without a MIC as a basis for its current charge (Charging Band 2)
	Non-Domestic Aggregated or CT Band 3	Non-domestic LV connected without a MIC as a basis for its current charge (Charging Band 3)
	Non-Domestic Aggregated or CT Band 4	Non-domestic LV connected without a MIC as a basis for its current charge (Charging Band 4)
Non-Domestic Aggregated (Related MPAN)	Non-Domestic Aggregated (Related MPAN)	None
LV Site Specific	LV Site Specific No Residual	None
	LV Site Specific Band 1	Non-domestic LV connected with a MIC as a basis for its current charge (Charging Band 1)
	LV Site Specific Band 2	Non-domestic LV connected with a MIC as a basis for its current charge (Charging Band 2)

	LV Site Specific Band 3	Non-domestic LV connected with a MIC as a basis for its current charge (Charging Band 3)
	LV Site Specific Band 4	Non-domestic LV connected with a MIC as a basis for its current charge (Charging Band 4)
LV Sub Site Specific	LV Sub Site Specific No Residual	None
	LV Sub Site Specific Band 1	Non-domestic LV connected with a MIC as a basis for its current charge (Charging Band 1)
	LV Sub Site Specific Band 2	Non-domestic LV connected with a MIC as a basis for its current charge (Charging Band 2)
	LV Sub Site Specific Band 3	Non-domestic LV connected with a MIC as a basis for its current charge (Charging Band 3)
	LV Sub Site Specific Band 4	Non-domestic LV connected with a MIC as a basis for its current charge (Charging Band 4)
HV Site Specific	HV Site Specific No Residual	None
	HV Site Specific Band 1	Non-domestic HV connected with a MIC as a basis for its current charge (Charging Band 1)
	HV Site Specific Band 2	Non-domestic HV connected with a MIC as a basis for its current charge (Charging Band 2)
	HV Site Specific Band 3	Non-domestic HV connected with a MIC as a basis for its current charge (Charging Band 3)
	HV Site Specific Band 4	Non-domestic HV connected with a MIC as a basis for its current charge (Charging Band 4)
Unmetered Supplies	Unmetered Supplies	Unmetered Supplies

Note 1: In all cases, the charges are added together by adding each individual component of the tariffs individually, whether it is a fixed or unit residual charge component.

Note 2: Where a charge is listed as 'None', or a value has not been set for a charge, the residual charge to be added in the case of that tariff component is zero.

92B. For any DNO Party, if the count of Final Demand Sites in any given metered non-domestic charging band is less than two in the charging year for which tariffs are being determined, the residual fixed charge for that band will be calculated as set out in accordance with Paragraph 92, but the total import consumption and total count of Final Demand Sites in that band will be combined with the equivalent information for the band above that band and at the same voltage level. If the band in question is the highest band, then it will be combined with the equivalent information for the band below that band and at the same voltage level. The residual fixed charge should therefore be the same for all the Final Demand Sites in the bands combined under this Paragraph 92B. There must be no single or combined band with less than two Final Demand Sites within that band. A Final Demand Site connected during the year will be counted as a fraction based on the proportion of the year for which the site was connected.

92C. There are eight possible combinations for grouping of non-domestic charging bands under Paragraph 92B. The grouping of bands under Paragraph 92B shall be applied in accordance with the preference order given in the table below.

Preference order for band grouping combinations	**Band 1**	**Band 2**	**Band 3**	**Band 4**
First	1	2	3	4
Second	1 + 2		3	4
Third	1	2 + 3		4
Fourth	1	2	3 + 4	
Fifth	1 + 2		3 + 4	
Sixth	1 + 2 + 3			4
Seventh	1	2 + 3 + 4		
Eighth	1 + 2 + 3 + 4			

92D. Revenue matching for unmetered customers is achieved by apportioning the total value of the residual surplus or residual shortfall to be returned or recovered respectively, on the basis of total consumption for unmetered customers, relative to the combined total net consumption for all Final Demand Sites (including the consumption of any Related MPANs where applicable) plus the total consumption for unmetered customers. The residual value for unmetered customers is then recovered by applying a unit charge adder (p/kWh) calculated as follows: the residual surplus or shortfall (in pence) to be recovered; divided by the total volume of all unmetered customers (in kWh).

93. The unit charges adder is positive if there is a shortfall and negative if there is a surplus.

94. Where a residual surplus exists, and it is not possible to apply the charge from any charging band, as it reduces the fixed components of the relevant all-the-way tariff to less than zero (post allocation of pass-through costs in step 5), then the total fixed charge element of that all-the-way tariff will be capped at zero. The remaining residual surplus will be returned to all Final Demand Sites within that charging band by applying a fixed charge adder (p/kWh) across all unit rates. If this procedure would result in negative value for any tariff component, then that tariff component is set to zero, and the unit charge adder figure is modified to the extent necessary to match forecast and target revenue.

94A. Where Paragraph 94 applies and the basis for that all-the-way tariff is derived from more than one tariff before revenue matching and shares the same residual charge as described in Paragraph 92A, then the amount of residual charge to be applied will be set equal to the amount that applies to whichever tariff before revenue matching would first require a cap to be applied in accordance with Paragraph 94 (i.e. the lesser of the two). Where applicable, this applies to the fixed charge element of the relevant all-the-way tariff and the fixed charge adder on unit rates of the relevant all-the-way tariff.

94B. As an interim solution until a long term solution is implemented (through a Significant Code Review or otherwise), where the application of paragraphs 94 and 94A fail to allow the production of a full suite of charges (which can include zero values), then the DRM Asset Costs will be multiplied across all assets by a single scaling percentage factor set at the largest value that allows a suite of charges to be produced. Where DRM

Asset Costs have had to be scaled, the scaling percentage factor will be set out in the Relevant Charging Statement.

95. Tariffs for generation do not have any revenue matching element.

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 the following calculations based on:

(a) the level of 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)~~.~~; and

(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

~~(a)~~(c) the level of Smart Meter Communication Licence pass-through costs to be recovered in the charging year. Such costs are allocated to all aggregated demand tariffs, excluding 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 or CT;
- LDNO LV: Domestic Aggregated or CT;
- LDNO HV: Domestic Aggregated or CT;
- LDNO HVplus: Domestic Aggregated or CT (which is calculated in the EDCM);
- LDNO EHV: Domestic Aggregated or CT (which is calculated in the EDCM);
- LDNO 132kV/EHV: Domestic Aggregated or CT (which is calculated in the EDCM);
- LDNO 132kV: Domestic Aggregated or CT (which is calculated in the EDCM);
- LDNO 0000: Domestic Aggregated or CT (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.

104. Smart Meter Communication Licence pass-through costs shall be allocated by applying a fixed charge adder (p/day) to aggregated metered demand tariffs excluding 'related MPAN' tariffs divided by the number of days in the charging year.

105. The Smart Meter Communication License fixed charge adder shall be calculated as the Smart Meter Communication Licence pass-through costs applicable to the Charging Year (in £) multiplied by 100 divided by the combined forecast customer count of all aggregated metered demand tariffs excluding related MPAN tariffs and divided by the number of days in the Charging Year.

106. The Smart Meter Communication License fixed charge adder shall apply only to the following tariffs:

(a) Domestic Aggregated or CT; and

(b) Non-Domestic Aggregated or CT.

~~104.~~107. 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).

~~105. Not used.~~

~~106. Not used.~~

~~107. Not used.~~

108. Not used.

109. Not used.

110. Not used.

111. Not used.

112. Not used.

113. Not used.

114. Not used.

115. Not used.

116. Not used.

117. Not used.

118. Not used.

119. Not used.

120. Not used.

121. Not used.

122. Not used.

123. Not used.

124. Not used.

125. Not used.

PART 2 — TARIFF STRUCTURES AND APPLICATION

126. The CDCM provides for a common tariff structure for all 14 DNO Parties and their Distribution Service Areas.

127. This part details the common tariff structure for tariffs before revenue matching and associated tariff elements for demand and generation, for unmetered supplies and for charges to LDNOs.

127A. Tariffs before revenue matching are used to calculate the all-the-way tariffs as described in Paragraph 92A.

Tariff structures for demand customers

Aggregated Metered Demand

128. For MPANs that are to be charged on an aggregated basis (as further described in Paragraph 132C), Use of System Charges will be via the Supercustomer approach which for non-MHHS MPANs uses data from the D0030 industry data flow and is based on Settlement Classes comprising:

(a) Line Loss Factor Class (LLFC);

(b) Profile Class (PC);

(c) Standard Settlement Configuration (SSC); and

(d) Time Pattern Regime (TPR)

and which for MHHS MPANs uses data from the REP-002B industry data flow based on DUoS Tariff ID.

129. For non-MHHS NHH settled MPANs, the combination of LLFC/PC/SSC/TPR determines the associated profile and half-hourly data values. For HH and MHHS metered MPANs, the half-hourly data is used.

130. DNO specific network time bands will be applied to the appropriate SSC/TPR combinations or half-hourly data associated with each DUoS Tariff ID stated in Paragraph 129.

131. Charges will be applied on a fixed charge and unit rate basis. The latter allocated to DNO specific network time bands. There will be no capacity, exceeded capacity or reactive charges for aggregated metered demand MPANs.

132. Structure of aggregated metered demand charges will be as follows (where, if MPAN counts are provided for each settlement period, the fixed charge will be applied to the MPAN count in the final settlement period of the day):

(a) Fixed charge will be p/MPAN/day; and

(b) Unit charges will be p/kWh.

132A. Domestic Aggregated (Related MPAN) and Non-Domestic Aggregated (Related MPAN) and unmetered supplies will be charged on a p/kWh basis only.

132B. As described in Paragraph 40, there will be three unit rate time bands on a time-of-day basis for all aggregated customers with the exception of the unmetered supplies tariff, to reflect the requirements of the cost drivers of their individual networks. These three time bands will be called ‘red’, ‘amber’ and ‘green’ to represent three differing cost signals.

132C. Those MHHS customers whose Connection Type is “Whole Current” will be charged on an aggregated basis and will be assigned to the appropriate tariff before revenue matching based on the Domestic Premises Indicator.

Those non-MHHS customers in Measurement Class A, F or G will be charged on an aggregated basis. Such customers will be assigned to the appropriate tariff before revenue matching based on the Measurement Class, type of metering equipment installed and the voltage of connection as specified in the table below:

Tariff before revenue matching	**Voltage of Connection**	**Settlement Type (HH or NHH)**	**Metering**	**Measurement Class**
Domestic Aggregated or CT	LV	NHH	Whole Current or Current Transformer	A

Domestic Aggregated or CT	LV	HH	Whole Current or Current Transformer	F
Domestic Aggregated (Related MPAN)	LV	NHH	Whole Current or Current Transformer	A
Domestic Aggregated (Related MPAN)	LV	HH	Whole Current or Current Transformer	F
Non-Domestic Aggregated or CT	LV	NHH	Whole Current or Current Transformer	A
Non-Domestic Aggregated or CT	LV	HH	Whole Current	G
Non-Domestic Aggregated (Related MPAN)	LV	NHH	Whole Current or Current Transformer	A
Non-Domestic Aggregated (Related MPAN)	LV	HH	Whole Current	G

132D. For non-MHHS Metering Points, where the Supplier transfers customers from NHH Settlement to HH Settlement the following Measurement Classes will apply:

- Domestic users connected at LV with non-CT metering installed will transfer from Measurement Class A to Measurement Class F.

- Domestic users connected to LV with CT metering can (at supplier option in discussion with user) move to Measurement Class C (must be more than 100kW), Measurement Class E (must be 100kW or less) or Measurement Class F (must be 100kW or less).

- Non-Domestic users connected at LV with non-CT metering installed will transfer from Measurement Class A to Measurement Class G.

- Non-Domestic users connected at LV with CT metering installed will transfer from Measurement Class A to Measurement Class C (more than 100kW) or Measurement Class E (100kW or less).

Site-Specific Metered Demand

133. For HH metered demand not subject to aggregated charging, Use of System Charges will be settled on a site-specific basis using data from the D0275 or D0036 or for MHHS customers the IF-021 or IF-013 or IF-014 industry data flows based on half hourly metered data provided for the MPAN.

134. With the exception of Domestic Aggregated or CT and Non-Domestic Aggregated or CT, which will consist of a fixed and unit charge, Charges will consist of a fixed, unit, capacity and reactive power charge.

135. As described in Paragraph 40, there will be three unit rate time bands on a time of day basis for all half hourly settled customers with the exception of the half hourly unmetered supplies tariff, to reflect the requirements of the cost drivers of their individual networks. These three time bands will be called 'red', 'amber' and 'green' to represent three differing cost signals.

135A Those users in Measurement Class C or E and MHHS customers whose Connection Type is not "Whole Current" will be HH settled on a site-specific basis, and assigned to the appropriate tariff before revenue matching based on the type of metering equipment installed and the voltage of connection as specified in the table below:

Tariff before revenue matching	**Voltage of Connection**	**Metering**
Domestic Aggregated or CT	LV	Current Transformer (Below 70 kVA)*
Non-Domestic Aggregated or CT	LV	Current Transformer (Below 70 kVA)*
LV Site Specific	LV	Current Transformer
LV Sub Site Specific	LV Sub	Current Transformer
HV Site Specific	HV	Current Transformer

* only available during transitional arrangements catered for part 4 of this schedule.

136. Structure of the HH demand charges:

(a) Fixed charge p/MPAN/day;

(b) Unit rate charge p/kWh;

(c) Capacity charge p/kVA/day (as applicable per paragraph 134);

(d) Exceeded capacity charge p/kVA/day (as applicable per paragraph 134); and

(e) Reactive power charge p/kVArh (as applicable per paragraph 134).

137. Generally the p/MPAN/day charge relates to one MPAN. However, where a site is a group of MPANs as identified in the connection agreement, billing systems should be able to group the MPANs where appropriate for charging purposes.

138. Unit charges will be allocated by settlements HH data and DNO Party specific network time bands.

139. Where a site is incorrectly identified in MPAS as having been de-energised (i.e. when non-zero metering advances are received for a period despite the site being identified as de-energised), then the DNO Party shall contact the supplier to request that the status is corrected.

(a) For non-MHHS Metering Points, and for MHHS Metering Points for Settlement Periods whilst they are not under MHHS arrangements, if a site is found to be energised, then once its status has been corrected in MPAS, charges will be back dated to the date of energisation as identified in MPAS.

(b) For MHHS Metering Points, charges will be applied. Once the status has been corrected in MPAS, any difference in charges will be back dated to cover the period in which the site was incorrectly identified as de-energised.

140. Not used.

Unmetered Supplies

140A. Use of System Charges for aggregated settled unmetered demand MPANs

(Measurement Class B) will be via the Supercustomer approach. As described in Paragraph 40, there will be three unit rate time bands for the Unmetered Supplies tariff, to reflect the requirements of the cost drivers of their individual networks. The three time bands will be called 'black', 'yellow' and 'green' to represent three differing cost signals.

140B. Use of System Charges for unmetered supplies which are pseudo HH metered (Measurement Class D) will use data from the D0275 or D0036, or for MHHS customers the IF-021 or IF-013 or IF-014 industry data flows based on half hourly data provided for the MPAN.

140C. Charges will consist of unit rates only.

Tariff	Voltage of Connection
Unmetered Supplies	LV

Demand Tariff Structures

141. Table 4 below shows the structure for aggregated metered demand tariffs before revenue matching, and Table 5 below shows the structure for site-specific demand tariffs.

Table 4: Aggregated Tariffs before revenue matching

Tariff before revenue matching	Unit 1 (p/kWh)	Unit 2 (p/kWh)	Unit 3 (p/kWh)	Fixed charge p/MPAN/day
Domestic Aggregated or CT	Red	Amber	Green	✓
Domestic Aggregated (Related MPAN)	Red	Amber	Green	
Non-Domestic Aggregated or CT	Red	Amber	Green	✓
Non-Domestic Aggregated (Related MPAN)	Red	Amber	Green	
Unmetered Supplies	Black	Yellow	Green	

Table 5: Site Specific Tariffs before revenue matching							
Tariff before revenue matching	**Unit rate 1 p/kWh**	**Unit rate 2 p/kWh**	**Unit rate 3 p/kWh**	**Fixed charge p/MPAN/ day**	**Capacity charge p/kVA /day**	**Exceeded Capacity charge p/kVA/day**	**Reactive power charge p/kVArh**
Domestic Aggregated or CT	Red	Amber	Green	✓			
Non-Domestic Aggregated or CT	Red	Amber	Green	✓			
LV Site Specific	Red	Amber	Green	✓	✓	✓	✓
LV Sub Site Specific	Red	Amber	Green	✓	✓	✓	✓
HV Site Specific	Red	Amber	Green	✓	✓	✓	✓
Unmetered Supplies	Black	Yellow	Green				

Note 1: The Domestic Aggregated (Related MPAN) and Non-Domestic Aggregated (Related MPAN) tariffs are supplementary to a standard published tariff and therefore only available under these conditions. These will be charged the same red, amber and green unit rates but will have a zero fixed charge.

Note 2: Where DNO Parties use a default tariff for invalid settlement combinations these will be charged at the Domestic Aggregated or CT rates.

Note 3: LV Sub applies to customers connected to the DNO Party's network at a voltage of less than 1 kV at a substation with a primary voltage (the highest operating voltage present at the substation) of at least 1 kV and less than 22 kV, where the current transformer (CT) used for the customer's settlement metering is located at the substation. For these purposes, 'at the substation' means:

a) an HV/LV substation with the metering CT in the same chamber as the substation transformer; or

b) an HV/LV substation with the metering CT in a chamber immediately adjacent to the substation transformer chamber.

Note 4: not used.

Note 5: Where a customer or its supplier requests a DNO Party to confirm if a connection may be eligible for an LV Sub tariff, the DNO Party will investigate and reach a decision, taking account of any supporting information provided by the customer or supplier and any additional information that is available to it. Administration charges (to cover reasonable costs) may apply if a technical assessment or site visit is required, but shall not be applied where the DNO Party agrees to the change of tariff request. In all circumstances where a DNO Party decides or agrees that a customer should be moved to an LV Sub tariff, the new tariff charges will be applied in the next calendar month following the DNO Party's decision or agreement. Where a customer is already registered on an LV Sub tariff they will remain so.

Note 6: not used.

Note 7: Fixed charges are generally levied on a pence per MPAN basis. However, there are some instances where more than one MPAN exists on a customer's connection and only one fixed charge is appropriate. Where a group of MPANs is classed as a site as identified in the connection agreement, billing systems should be able to group the MPANs, where appropriate, for charging purposes.

Tariff structures for generation

NHH and Aggregated HH Metered Generation

142. NHH metered generation in measurement class A and HH metered generation in Measurement Classes F and G or MHHS customers whose Connection Type is "Whole Current" will be charged on an aggregated basis. Use of System Charges for LV generation aggregated tariffs will be billed via Supercustomer. The billing systems will be required to apply fixed charges plus negative unit charges with the process being managed through the DNO Party's invoicing of the supplier.

143. Structure of aggregated generation charges (where, if MPAN counts are provided for each settlement period, the fixed charge will be applied to the MPAN count in the final settlement period of the day):

(a) Fixed charge will be p/MPAN/day;

(b) Unit rate charge p/kWh; and

(c) Reactive Charges will not apply.

Site Specific HH Generation

144. Use of System Charges for HH Site Specific generation tariffs (which excludes Measurement Class F and G) or MHHS customers whose Connection Type is not "Whole Current") will be via the HH billing systems. The billing systems will be required to apply fixed charges plus reactive power unit charges, negative unit charges and manage the process through the DNO Party's invoicing of the supplier

145. Structure of Site Specific HH generation charges:

(a) Fixed charge will be p/MPAN/day;

(b) Unit rate charge p/kWh; and

(c) Reactive power charge p/kVArh.

146. The following tables and notes show the structure for generation tariffs.

Table 6: Generation Aggregated Tariffs				
Tariff Name	**Unit rate 1 (p/kWh)**	**Unit rate 2 (p/kWh)**	**Unit rate 3 (p/kWh)**	**Fixed charge p/MPAN/day**
LV Generation Aggregated	Red	Amber	Green	✓
LV Sub Generation Aggregated	Red	Amber	Green	✓

Table 7: Generation Site-Specific Tariffs					
Tariff	**Unit rate 1 p/kWh**	**Unit rate 2 p/kWh**	**Unit rate 3 p/kWh**	**Fixed charge p/MPAN/day**	**Reactive power charge p/kVArh**
LV Generation Site Specific	Red	Amber	Green	✓	✓
LV Sub Generation Site Specific	Red	Amber	Green	✓	✓
HV Generation Site Specific	Red	Amber	Green	✓	✓
LV Generation Site Specific no RP charge	Red	Amber	Green	✓	
LV Sub Generation Site Specific no RP charge	Red	Amber	Green	✓	
HV Generation Site Specific no RP charge	Red	Amber	Green	✓	

Note 1: not used.

Note 2: not used.

Note 3: not used.

Note 4: LV Sub Generation applies to customers connected to the DNO Party's network at a voltage of less than 1 kV at a substation with a primary voltage (the highest operating voltage present at the substation) of at least 1 kV and less than 22 kV, where the current transformer used for the customer's settlement metering is located at the substation.

Note 5: not used.

Note 6: Note 4 above for LV generation substation tariffs will be applied for new customers from 1 April 2010.

Note 7: Where a DNO Party has requested (and still requires) a generator to operate with a power factor of less than 0.95, excess reactive power charges will not apply (these instances are identified in the table as 'no RP charge').

Tariff structures for LDNOs

147. The tariff structure for LDNOs will mirror the structure of the all-the-way-tariff, and is dependent on the voltage of the Point of Connection being either LV (see Table 8) or HV (see Table 9); except for the LDNO unmetered tariffs (marked with ** in Tables 8 and 9 below), which are charged by reference to the voltage of the Points of Connection that provide the majority of the energised domestic connections for the LDNO in the GSP Group (or, where there is no such majority, on such other reasonable basis as the DNO Party determines). In all cases, the same tariff elements will apply.

Table 8: LDNO LV connection*							
Tariff Name	**Unit rate 1 p/kWh**	**Unit rate 2 p/kWh**	**Unit rate 3 p/kWh**	**Fixed charge p/MPAN/day**	**Capacity charge p/kVA/day**	**Exceeded Capacity charge p/kVA/day**	**Reactive power charge p/kVArh**
LV Domestic Aggregated or CT	Red	Amber	Green	✓			
Domestic Aggregated (Related MPAN)	Red	Amber	Green				
Non-Domestic Aggregated or CT (No Residual)	Red	Amber	Green	✓			
Non-Domestic Aggregated or CT Band 1	Red	Amber	Green	✓			
Non-Domestic Aggregated or CT Band 2	Red	Amber	Green	✓			
Non-Domestic Aggregated or CT Band 3	Red	Amber	Green	✓			
Non-Domestic Aggregated or CT Band 4	Red	Amber	Green	✓			
Non-Domestic Aggregated (Related MPAN)	Red	Amber	Green				
LV Site Specific (No Residual)	Red	Amber	Green	✓	✓	✓	✓
LV Site Specific Band 1	Red	Amber	Green	✓	✓	✓	✓
LV Site Specific Band 2	Red	Amber	Green	✓	✓	✓	✓
LV Site Specific Band 3	Red	Amber	Green	✓	✓	✓	✓
LV Site Specific Band 4	Red	Amber	Green	✓	✓	✓	✓
Unmetered Supplies	Black	Yellow	Green				
LV Generation Aggregated	✓			✓			
LV Generation Site Specific	✓			✓			✓

* Where the boundary between the LDNO and DNO network is at LV

Table 9: LDNO HV connection*							
Tariff Name	**Unit rate 1 p/kWh**	**Unit rate 2 p/kWh**	**Unit rate 3 p/kWh**	**Fixed charge p/MPAN/ day**	**Capacity charge p/kVA/day**	**Exceeded Capacity charge p/kVA/day**	**Reactive power charge p/kVArh**
LV Domestic Aggregated or CT	Red	Amber	Green	✓			
LV Domestic Aggregated (Related MPAN)	Red	Amber	Green				
LV Non-Domestic Aggregated or CT (No Residual)	Red	Amber	Green	✓			
LV Non-Domestic Aggregated or CT Band 1	Red	Amber	Green	✓			
LV Non-Domestic Aggregated or CT Band 2	Red	Amber	Green	✓			
LV Non-Domestic Aggregated or CT Band 3	Red	Amber	Green	✓			
LV Non-Domestic Aggregated or CT Band 4	Red	Amber	Green	✓			
LV Non-Domestic Aggregated (Related MPAN)	Red	Amber	Green				
LV Site Specific (No Residual)	Red	Amber	Green	✓	✓	✓	✓
LV Site Specific Band 1	Red	Amber	Green	✓	✓	✓	✓
LV Site Specific Band 2	Red	Amber	Green	✓	✓	✓	✓
LV Site Specific Band 3	Red	Amber	Green	✓	✓	✓	✓
LV Site Specific Band 4	Red	Amber	Green	✓	✓	✓	✓

Unmetered Supplies	Black	Yellow	Green				
LV Sub Site Specific (No Residual)	Red	Amber	Green	✓	✓	✓	✓
LV Sub Site Specific Band 1	Red	Amber	Green	✓	✓	✓	✓
LV Sub Site Specific Band 2	Red	Amber	Green	✓	✓	✓	✓
LV Sub Site Specific Band 3	Red	Amber	Green	✓	✓	✓	✓
LV Sub Site Specific Band 4	Red	Amber	Green	✓	✓	✓	✓
HV Site Specific (No Residual)	Red	Amber	Green	✓	✓	✓	✓
HV Site Specific Band 1	Red	Amber	Green	✓	✓	✓	✓
HV Site Specific Band 2	Red	Amber	Green	✓	✓	✓	✓
HV Site Specific Band 3	Red	Amber	Green	✓	✓	✓	✓
HV Site Specific Band 4	Red	Amber	Green	✓	✓	✓	✓
LV Generation Aggregated	Red	Amber	Green	✓			
LV Sub Generation Aggregated	Red	Amber	Green	✓			✓
LV Generation Site Specific	Red	Amber	Green	✓			✓
LV Sub Generation Site Specific	Red	Amber	Green	✓			✓
HV Generation Site Specific	Red	Amber	Green	✓			✓

Capacity charges

Maximum Import Capacity

148. The Maximum Import Capacity (MIC) will be charged on a site basis (p/kVA/day).

149. The level of MIC will be agreed at the time of connection and when an increase has been approved. Following such an agreement (be it at the time of connection or an increase) no reduction in MIC will be allowed for a period of one year (subject to Part 4 below).

150. Subject to Part 4 below, reductions to the MIC may only be permitted once in a 12 month period and no retrospective changes will be allowed. Where MIC is reduced the new lower level will be agreed with reference to the level of the customers' maximum demand. It should be noted that where a new lower level is agreed the original capacity may not be available in the future without the need for network reinforcement and associated cost.

151. For LDNO connections, if capacity ramping has been agreed with the DNO Party, in accordance with the DNO Party's connection charging methodology, the phasing profile will apply instead of the above rules. Where an LDNO has agreed a phasing of capacity this will be captured in the Bilateral Connection Agreement with the DNO Party.

Standby Capacity for Additional Security on Site

152. Where standby capacity charges are applied, the charge will be set at the same rate as that applied to normal MIC.

Exceeded Capacity

153. Where a customer takes additional capacity over and above the MIC without authorisation, the excess will be classed as exceeded capacity. The exceeded portion of the capacity will be charged at the exceeded capacity rate (p/kVA/day). The exceeded capacity will be charged for the duration of the month in which the breach occurs and derived as follows:

Exceeded capacity (kVA) = max (0, Chargeable capacity – MIC)

Where:

Chargeable capacity = actual capacity utilised as set out below

MIC = Maximum Import Capacity

Minimum Capacity Levels

154. There is no minimum capacity threshold.

Capacity Value Calculations – Import

155. The actual capacity utilised will be calculated by the following formula:

$$\text{ImportDemand} = 2 \times \sqrt{\text{AI}^2 + \max(RI, RE)^2}$$

Where:

AI = Import consumption in kWh

RI = Reactive import in kVArh

RE = Reactive export in kVArh

Import Demand = kVA

156. This calculation is completed for every half hour and the maximum value from the billing period is captured.

157. Not used.

158. Only kVArh Import and kVArh Export values occurring at times of kWh Import are used.

Capacity Value Calculations – Export

159. The actual capacity utilised will be calculated by the following formula:

$$\text{Export Demand} = 2 \times \sqrt{\text{AE}^2 + \max(RI, RE)^2}$$

Where:

AE = Export production in kWh

RI = Reactive import in kVArh

RE = Reactive export in kVArh

Export Demand = kVA

160. This calculation is completed for every half hour and the maximum value from the billing period is captured.

161. The export demand value is calculated to record the highest export value and used for information only.

162. Only kVArh Import and kVArh Export values occurring at times of kWh Export are used.

Reactive power charges

163. Reactive power charges will be applied based on chargeable reactive power. The charge will be p/kVArh for units in excess of a set amount.

164. The chargeable reactive power units will be calculated by the following formulae.

Chargeable Reactive Power Unit Calculations - Import

$$\text{Chargeable kVArh} = \max\left(\max(\text{RI}, \text{RE}) - \left(\sqrt{\left(\frac{1}{0.95^2} - 1\right)} \times AI\right), 0\right)$$

Where:

AI = Import consumption in kWh

RI = Reactive Import in kVArh

RE = Reactive export in kVArh

165. The 0.95 constant refers to the reactive charging threshold and the design power factor of the network model within the CDCM.

166. This calculation is completed for every half hour and the values summated over the billing period.

167. Only kVArh Import and kVArh Export values occurring at kWh Import are used.

168. The square root calculation will be to two decimal places.

Chargeable Reactive Power Unit Calculations - Export

$$\text{Chargeable kVArh} = \max\left(\max(\text{RI},\text{RE}) - \left(\sqrt{\left(\frac{1}{0.95^2} - 1\right)} \times AE\right), 0\right)$$

Where:

AE = Export production in kWh

RI = Reactive import in kVArh

RE = Reactive export in kVArh

169. The 0.95 constant refers to the reactive charging threshold and the design power factor of the network model within the CDCM.

170. This calculation is completed for every half hour and the values summated over the billing period.

171. Only kVArh Import and kVArh Export values occurring at kWh Export are used.

172. The square root calculation will be to two decimal places.

Charging decimal places

173. DNO Parties will set unit charges (kWh) and reactive power charges (kVArh) to three decimal places. The rates for fixed charges and capacity charges and exceeded capacity charges will be set to two decimal places.

Part 3 — Network Unavailability Rebate Payments

174. A compensation payment may be payable to customers for network outages under two schemes.

175. The majority of customers are compensated under the Guaranteed Standards arrangements set out in The Electricity (Standards of Performance) Regulations 2015.

176. Customers who are off supply for greater than defined periods of time are entitled to a payment. This scheme applies to all demand customers and to all generators not included in the scheme described below.

177. For customers with generation connected at more than 1,000 volts and who have agreed a standard connection the following scheme will apply. This scheme is known as Distributed Generation Network Unavailability Rebate and payments will be calculated for each generator on the following basis:

Payment = A*B*(C-D)

Where:

A = the network unavailability price of £2 per MW per hour.

B = incentivised generator capacity; the highest active electrical power that can be generated (or the relevant incremental change of this amount in cases of the expansion of existing generation plant) by the generator for the year, according to the connection and/or use of system agreement(s).

C = network interruption duration; the total duration of all occurrences (in minutes) on the network each of which involves a physical break in the circuit between itself and the rest of the system or due to any other open circuit condition, which prevents the generator from exporting power. It excludes:

- 50 per cent of the total duration of cases where the DNO Party takes pre-arranged outages of its equipment for which the statutory notification has been issued to the generator;

- the cases where the generator has specific exemption agreements with the DNO Party in the connection and/or use of system agreement(s); and

- the cases which are part of exempted events in the quality of service incentive or the Guaranteed Standard Statutory Instrument (such exemptions include interruptions of less than three minutes duration and industrial action).

D = the baseline network interruption duration for the relevant year which either has a default value of zero or some other value agreed between the customer and the DNO Party and recorded within either; the connection offer, connection agreement and/or use of system agreement(s).

178. Distributed Generation Network Unavailability Rebate scheme payments will be calculated by the DNO Party on an annual basis (1st April - 31st March) and payments made shortly after the end of each year. This payment is automatic and does not need to be claimed by the generation customer. The de minimis level of rebate is £5 (and below that amount no payment will be made).

Part 4 – Transitional Protection for Customers affected by BSC Modification P432 or MHHS

179. This Part 4 sets out the transitional protection for Customers who may be affected by BSC Modification P432, being Customers with CT metering which are required to become half-hourly settled by migrating to Measurement Class C or E, or any other CT Metering Points catered for by MHHS which are migrating to become half-hourly settled on a site-specific basis.

180. This Part 4 forms part of the CDCM, but also applies to IDNO Parties and to DNO Parties acting outside of their distribution services area.

181. Subject to paragraph 182 below, where:

(a) a Customer takes a supply of electricity at a Premises where the electricity conveyed to the Premises is recorded through a CT meter; and

(b) the Metering Point for such Premises has been migrated to either Measurement Class C or E for BSC Modification P432 or required to become half-hourly settled for MHHS; and

(c) the supplier has provided contact details for the Customer to the DNO/IDNO Party (in accordance with Clause 19.14 of the DCUSA) no later than three months after the date of first migration,

then, with effect from the date of the migration of the Premises, the Domestic Aggregated or CT tariff, or the Non-Domestic Aggregated or CT tariff as applicable shall be applied.

182. With effect from 12 months after the date of the first migration of a Premises, the DNO/IDNO Party shall allocate the Premises to a charging band based on the current price control residual band thresholds applying a MIC set by reference to the highest peak import capacity billed during the 12-month transition period (unless and until a different MIC is agreed by the DNO/IDNO Party).

183. In this Part 4, the following definitions shall apply:

BSC Modification P432	means the modification to the BSC referred to as modification 'P432, Half Hourly Settlement for CT

Advanced Metering Systems', which was implemented on 15 April 2024.

Glossary of Terms used in this Schedule 16

In this Schedule 16, 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).
all-the-way tariff	a tariff applicable to an end user rather than an LDNO.
boundary tariff	a tariff for use of the DNO Party's network by an LDNO where charges are based on boundary flows.
CDCM	the Common Distribution Charging Methodology.
charging year	the 12-month period ending on a 31st March for which charges and credits are being calculated.
coincidence factor	for a user category, aggregate load at the time of the DNO Party's system simultaneous maximum load divided by maximum aggregate load.
Common Distribution Charging Methodology	the methodology of that name with which the DNO Party is obliged to comply under its Distribution Licence.
Connection Type	has the meaning given to the term in the Energy Market Data Specification.
contribution proportion	the proportion of asset annuities which are deemed covered by customer contributions. This is defined for each combination of a tariff and a network level.
customer contribution	capital charges payable by customers under the DNO Party's connection charging policy.

Term	*Meaning*
CT	Current Transformer, indicating metering which uses current transformers to induce a reference current which is then passes through the meter (as compared to non-CT or whole current metering, where the full electrical current passes through the meter).
distribution time bands	the time bands described in paragraphs 40, 41 and 135.
diversity allowance	the extent, expressed as a percentage, to which the sum of the maximum load across all assets in the modelled network level is expected to exceed the simultaneous maximum load for the network level as a whole, as per paragraph 27.
Domestic Premises Indicator	has the meaning given to the term in the Energy Market Data Specification.
DRM	distribution reinforcement model. This may refer either to a 500 MW network model or to a cost allocation method based on such a model.
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; network elements with a nominal voltage of 132kV are excluded from EHV for the purpose of this Schedule 16.
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.
embedded network	an electricity distribution system operated by an LDNO and embedded within the DNO Party’s network.

Term	*Meaning*
end user	is a user, but excluding LDNOs.
excluded revenue	revenue from "Excluded Services" (as defined in the price control conditions).
Forecast Business Plan Questionnaire or FBPQ	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.
LV	nominal voltages of less than 1kV.

Term	*Meaning*
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.
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.
Measurement Class	has the meaning given to that expression in the BSC.
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.

Term	*Meaning*
network model	a costed design for a 500 MW extension to the DNO Party's network, as described in paragraph 16.
peaking probability	is the peaking probability described in paragraph 49.
power factor	the ratio of energy transported (kW) to network capacity used (kVA).
portfolio tariff	a tariff for use of the DNO Party's network by an LDNO where charges are based on flows out of/into the LDNO's electricity distribution system from its end users or further nested networks.
price control conditions	the charge restriction conditions contained as special conditions within the DNO Party's Distribution Licence.
profile class	has the meaning given to that expression in the Balancing and Settlement Code.
regulatory asset value	is the DNO Party's regulatory asset value as described in the Regulatory Instructions and Guidance issued by the Authority under the DNO Party's Distribution Licence.
Related MPAN	has the meaning given to the expression "Related Metering Points" in the Retail Energy Code.
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.
Smart Meter Communication Licence	granted pursuant to sections 6(1A) and (1C) of the Electricity Act 1989 to the Licensee.

Term	*Meaning*
Supercustomer	in relation to billing, is billing by using aggregated data, as described in paragraph 128.
Supplier of Last Resort	a supply licensee to which a Last Resort Supply Direction applies, where Last Resort Supply Direction has the meaning given to that expression in the Supply Licence.
system simultaneous maximum load	the maximum load for the GSP Group as a whole.
time pattern regime or TPR	means a code that is used to identify the switching times of a meter register.
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.

SCHEDULE 29 – CALCULATION OF DISCOUNT PERCENTAGES FOR THE PURPOSE OF DETERMINING CERTAIN LDNO USE OF SYSTEM CHARGES UNDER SCHEDULES 16, 17 AND 18

Implementation Date

This Schedule 29, version 16.1, is to be used for the calculation of Use of System Charges which will become effective from, 01 April 2024 and remain effective until superseded by a later revised version.

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.

1A. In order to comply with this methodology statement when setting distribution Use of System Charges the DNO Parties will populate the price control disaggregation model (PCDM) version 5.0 when issued by the Panel in accordance with Clause 14.5.3.

2. For the purposes of calculating discount percentages, the DNO Party's network is split 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 of discount percentages used in Schedule 16 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) 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.

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.

~~g) The 'Pass-through Smart Meter Communication Licence Costs' from the CDCM target revenue as reflected in Table 1 of Schedule 20, expressed in 2007/08 prices (see paragraphs 11B and 11C below).~~

5. The calculation of discount percentages used in Schedules 17 and 18 is a two-part process. The first part of the process 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 (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.

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.

~~e) The 'Pass-through Smart Meter Communication Licence Costs' from the CDCM target revenue as reflected in Table 1 of Schedule 20, expressed in 2007/08 prices (see paragraphs 11B and 11C below).~~

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.

~~6A The DNO Party allocates the 'Pass-through Smart Meter Communication Licence Costs' from the CDCM target revenue as described in Table 1 of Schedule 20 by network level (see paragraphs 11B and 11C below).~~

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	See paragraph 11A below		See paragraph 11A below
~~Pass-through Smart Meter Communication Licence Costs~~	~~See paragraph 11B below~~		~~See paragraph 11B below~~

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 in 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])

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 as described in 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 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**".

11A. RRP costs described in the table at paragraph 6 above as "Non activity costs and reconciling amounts" shall be allocated as follows:

(a) costs described in table 2.6 of the 2007/2008 RRP as "Ofgem licence fee" shall be 100% allocated directly to the LV services level and treated as indirect costs; and

(b) no other costs shall be directly allocated.

~~11B. Costs included in the CDCM target revenue as described in Table 1 of Schedule 20 reflected as 'Pass-through Smart Meter Communication Licence Costs' shall be expressed in 2007/08 prices and shall be added to the final allocation of operating expenditure and be 100% allocated directly to the LV Services level and treated as indirect costs.~~

~~11C. Conversion to 2007/08 prices shall be undertaken using the price index adjustment factor applying under the charge restriction conditions of the DNO Party's Distribution Licence, by multiplying the input from the CDCM by the following price index adjuster:~~

$$\text{Price Index Adjuster} = \frac{PI_{2007/08}}{PI_t}$$

~~Where $PI_{2007/08}$ is the price index in 2007/08 and PI_t is the price index for the charging year for which charges are being calculated under this Schedule 29.~~

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 the 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 paragraph 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 (see paragraph 11 above). The depreciation and return on regulatory asset value elements of price control allowed revenue are allocated to each network level in the proportions calculated as described in paragraphs 13-19 of this Schedule. 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] (denoted as the "**Adjusted total revenue 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 in paragraph 20 of 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 ~~and 'Pass-through Smart Meter Communication Licence Costs'~~ across network levels set out in paragraphs 6~~, 6A~~ and 7 of 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 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 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 in paragraphs 6-12 of 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 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:

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

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, each LDNO Distribution System is allocated to one of five discount categories, defined as follows:

a) Discount category 0000 - this applies where the asset ownership boundary between the host DNO Party and the LDNO is at the GSP.

b) Discount category 132kV (in England and Wales only) - this applies where the asset ownership boundary is at 132kV and not at the GSP.

c) Discount category 132kV/EHV (in England and Wales only) - this applies where the asset ownership boundary is at 22kV or more on the secondary side of a substation where the primary side is at 132kV.

d) Discount category EHV - this applies where the asset ownership boundary is at 22kV or more, but less than 132kV, not at a GSP or at a transformation substation where the primary is at 132kV.

e) Discount category HVplus - this applies where the asset ownership boundary is at less than 22kV.

45A. For the purposes of allocating each LDNO Distribution System to a category in accordance with paragraph 45, the DNO Party may designate 66 kV circuits belonging to either network level l or 3 and substations with a primary voltage of 66 kV into level 2 or level 4 or level 5, depending on its network planning policies.

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 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.