

SCHEDULE 17-EHV CHARGING METHODOLOGY (FCP MODEL)

24. LDNO CHARGING

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

An IDNO Party with a Distribution System that qualifies as a CDCM "Designated Property" according to the definition set out in condition 50.10 of the Distribution Licences are eligible for portfolio discounts calculated using a price control disaggregation model (method M) consistent with the CDCM.

An IDNO Party with a Distribution Systems that qualifies as an EDCM "Designated EHV Property" according to the definition set out in condition SOA.11 of the Distribution Licences are eligible for discounts calculated using an "extended" price control disaggregation model (extended method M).

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

~~24.3 Under the EDCM, the DNO Party's network is divided into five network levels:-~~

~~Level 1 comprises 132 kV circuits~~

~~Level 2 comprises substations with a primary voltage of 132 kV and a secondary voltage of 22 kV or more.~~

~~Level 3 comprises circuits of 22 kV or more, excluding circuits already categorised as being in Level 1.~~

~~Level 4 comprises substations with a primary voltage of 22 kV or more but less than 132 kV and a secondary voltage of less than 22 kV.~~

~~Level 5 comprises substations with a primary voltage of 132 kV and a secondary voltage of less than 22 kV.~~

- ~~24.4 The DNO Party may designate 66 kV circuits belonging to either network level 1 or 3 and substations with a primary voltage of 66 kV into level 2 or level 4 or level 5,~~

depending on their network planning policies.

24.5—The network level of the boundary between the host DNO Party and the IDNO Party's Distribution System is determined by reference to the asset ownership boundary between the host DNO Party and the IDNO Party.

24.6—Where the IDNO Party's Distribution System only has one Connectee (whether a designated EHV property or not), the network level of the boundary between the host DNO Party and IDNO Party is determined by reference to the Point of Common Coupling. The Point of Common Coupling is determined in the same way as it is for an EDCM Connectee connected directly to the host DNO Party's network.

24.7—For EDCM Connectees, the Point of Common Coupling is the point on the network where the power flow associated with the single Connectee under consideration, may under some (or all) possible arrangements interact with the power flows associated with other Connectees, taking into account all possible credible running arrangements.

24.8—IDNO Party Distribution Systems are split into 15 categories based on the network level of the boundary between the host DNO Party and the IDNO Party, and whether or not higher network levels are used by the IDNO Party.

Table 10 Categorisation of designated EHV IDNO Parties

Category	Definition
Category 0000	Boundary at the GSP, whether the GSP is shared or not, with no use of any circuits
Category 1000	In England or Wales only, boundary at a voltage of 132 kV, unless the Connectee qualifies for category 0000
Category 1100	Boundary at 22 kV or more on the secondary side of a substation where the primary side is attached to a 132 kV circuit.
Category 0100	Boundary at 22 kV or more, but less than 132 kV, on the secondary side of a substation where the primary side is attached at 132 kV to a co-located GSP with no use of any 132 kV circuits
Category 1110	Boundary at a voltage of 22 kV or more, but less than 132 kV, but less than 132 kV, not at a substation, fed from a substation whose primary side is attached to a 132 kV distribution circuit

Category 0110	Boundary at a voltage of 22 kV or more, but less than 132 kV, not at a substation, fed from a substation whose primary side is attached at 132 kV to a co-located GSP with no use of any 132 kV circuits
Category 0010	Boundary at a voltage of less than 22 kV or more, but less than 132 kV, fed from a GSP with no intermediate transformation and no use of any 132 kV circuits
Category 0001	Boundary at a voltage of less than 22 kV on the secondary side of a substation where the primary side is attached at 132 kV to a co-located GSP with no use of any 132 kV circuits
Category 0002	Boundary at a voltage of less than 22 kV on the secondary side of a substation where the primary side is attached at 22 kV or more but less than 132 kV, to a co-located GSP with no use of any 132 kV circuits
Category 1001	Boundary at a voltage of less than 22 kV on the secondary side of a substation whose primary side is attached to a 132 kV distribution circuit
Category 0011	Boundary at a voltage of less than 22 kV on the secondary side of a substation whose primary side is at a voltage of 22 kV or more, but less than 132 kV, fed from a GSP with no intermediate transformation and no use of any 132 kV circuits.
Category 0111	Boundary at a voltage of less than 22 kV on the secondary side of a substation whose primary side is at a voltage of 22 kV or more, but less than 132 kV, fed through a distribution circuit from a substation whose primary side is attached at 132 kV to a co-located GSP with no use of any 132 kV circuits
Category 0101	Boundary at a voltage of less than 22 kV on the secondary side of a substation whose primary side is at a voltage of 22 kV or more, but less than 132 kV, fed from the secondary side of a co-located substation whose primary side is attached at 132 kV to a co-located GSP with no use of any circuit
Category 1101	Boundary at a voltage of less than 22 kV on the secondary side of a substation whose primary side is at a voltage of 22 kV or more but less than 132 kV, with no use of 33 kV circuit, fed from the secondary side

	of a co-located substation whose primary side is attached to a 132 kV distribution circuit
Category 1111	Boundary at a voltage of less than 22 kV on the secondary side of a substation whose primary side is at a voltage of 22 kV or more, but less than 132 kV, fed through a distribution circuit from a substation whose primary side is attached to a 132 kV distribution circuit.

~~24.924.3~~ All references to GSP in the table above relate to interconnections with the main interconnected onshore transmission network

26. PORTFOLIO EDCM TARIFFS FOR CONNECTEES IN THE EDCM

- 26.1 For Connectees on an ~~IDNO~~LDNO Party's Distribution System that would be covered by the EDCM if they were on the DNO Party's network, the EDCM is applied to calculate a portfolio EDCM charge/credit for each such Connectee.
- 26.2 These EDCM portfolio charges would be calculated as if each EDCM Connectee on the ~~IDNO~~LDNO Party's distribution system were notionally connected at the boundary between the DNO Party and the ~~IDNO~~LDNO Party; except for LDNO UMS tariffs, 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). Both EDCM import and export charges will apply.
- 26.3 For the purposes of calculating the boundary-equivalent portfolio EDCM tariffs, each EDCM Connectee on the ~~IDNO~~LDNO Party's ~~network-distribution system~~ would be assigned the demand Connectee category ~~relating to the 15 IDNO Party boundary categories determined by reference to that Embedded LDNO distribution system's point of common coupling. The Embedded LDNO distribution system's point of common coupling is defined as the point on the DNO Party's network where the power flow associated with consumption or output on the Embedded LDNO distribution system may under some (or all) possible arrangements interact with the power flows associated with other Connectees, taking into account all possible credible running arrangements.~~
- 26.4 Such Connectees would attract charges (credits) in respect of any reinforcements caused (avoided) on the DNO Party's network only, i.e. any network Branches that are on the ~~IDNO~~LDNO Party's network would be attributed a zero LRIC charge/credit.
- 26.5 The setting of final charges to Embedded Designated EHV Properties including the calculation of charges for assets used on the Embedded network will be established by the ~~IDNO~~LDNO Party.
- 26.6 All EDCM charges would be calculated using "boundary equivalent" data provided by the ~~IDNO~~LDNO Party to the host DNO Party for each Embedded Designated EHV Property. For the purposes of the EDCM, boundary equivalent data should be what the ~~IDNO~~LDNO Party has allowed for at the DNO Party- ~~IDNO~~LDNO Party boundary, for each EDCM Connectee, after taking into consideration the diversity and losses within the ~~IDNO~~LDNO Party's network. Data relating to CDCM end users must be

considered for the purposes of calculating boundary equivalent data in order to cater for the effect of diversity and losses.

- 26.7 The EDCM will include in the charges for Embedded Designated EHV Properties a fixed charge relating to any assets on the DNO Party's network that are for the sole use of an Embedded ~~IDNO-LDNO~~ Party's ~~network-distribution system~~. The assets on the DNO Party's network that are for the sole use of an Embedded LDNO distribution system are defined as the assets in which only consumption or output on the Embedded LDNO distribution system can directly alter the power flow in the asset, taking into consideration all possible credible running arrangements, i.e. all assets between the asset ownership boundary and the Embedded LDNO distribution system's point of common coupling are considered as sole use assets. These fixed charges would be calculated in the same way as it would be for EDCM Connectees connected directly to the host DNO Party's network.
- 26.8 In calculating charges for assets on the DNO Party's network that are for the sole use of an Embedded ~~IDNO-LDNO~~ Party's distribution system, DNO Party's will charge only for the proportion of sole use assets deemed to be used by Embedded Designated EHV Properties. This proportion will be calculated, in respect of each Embedded Designated EHV Properties, as the ratio of the boundary equivalent capacity of that Connectee to the capacity at the ~~IDNO-LDNO~~ Party- DNO Party boundary.
- 26.9 If there are no Embedded Designated EHV Properties on the ~~IDNO-LDNO~~ Party's network, no sole use asset charges would apply.
- 26.10 Demand scaling would be applied as normal to any EDCM portfolio tariff in respect of an EDCM Connectee. For the purposes of scaling, all EDCM Connectees connected to the ~~IDNO-LDNO Party's network-distribution system~~ will be treated as notional EDCM Connectees connected to the DNO Party's network with a Point of Common Coupling at the Embedded LDNO distribution system's pPoint of Ceommon Ceoupling at the voltage level of the boundary.
- 26.11 For EDCM Connectees connected to the ~~IDNO-LDNO~~ Party's network, the capacity-based charge for the DNO Party's indirect costs and the 20% share of residual revenue that is applied as a fixed adder, would be scaled down by a factor of 50 per cent, however, the scaling down will not apply where the residual revenue is negative.

SCHEDULE 18-EHV CHARGING METHODOLOGY (LRIC MODEL)

24. LDNO CHARGING

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

An ~~IDNO~~LDNO Party with a Distribution System that qualifies as a CDCM "Designated Property" according to the definition set out in condition 50.10 of the Distribution Licences are eligible for portfolio discounts calculated using a price control disaggregation model (method M) consistent with the CDCM.

An ~~IDNO~~LDNO Party with a Distribution Systems that qualifies as an EDCM "Designated EHV Property" according to the definition set out in condition SOA.11 of the Distribution Licences are eligible for discounts calculated using an "extended" price control disaggregation model (extended method M).

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

- 24.3 An ~~IDNO~~LDNO Party with a Distribution System that qualifies as an EDCM "Designated EHV Property" could itself have Connectees who would fall under the scope of the EDCM. Since the EDCM is a locational charging method, the host DNO Party would calculate EDCM charges at the DNO Party's boundary for each EDCM-like Connectee on the ~~IDNO~~LDNO Party's network. No discounts are calculated for such

EDCM Connectees as the DNO Party's charges are based only on the specific site's equivalent use of the DNO Party's network.

~~Under the EDCM, the DNO Party's network is divided into five network levels:-~~

~~Level 1 comprises 132 kV circuits~~

~~Level 2 comprises substations with a primary voltage of 132 kV and a secondary voltage of 22 kV or more.~~

~~Level 3 comprises circuits of 22 kV or more, excluding circuits already categorised as being in Level 1.~~

~~Level 4 comprises substations with a primary voltage of 22 kV or more but less than 132 kV and a secondary voltage of less than 22 kV.~~

~~Level 5 comprises substations with a primary voltage of 132 kV and a secondary voltage of less than 22 kV.~~

~~24.10 The DNO Party may designate 66 kV circuits belonging to either network level 1 or 3 and substations with a primary voltage of 66 kV into level 2 or level 4 or level 5, depending on their network planning policies.~~

~~24.11 The network level of the boundary between the host DNO Party and the IDNO Party's Distribution System is determined by reference to the asset ownership boundary between the host DNO Party and the IDNO Party.~~

~~24.12 Where the IDNO Party's Distribution System only has one Connectee (whether a designated EHV property or not), the network level of the boundary between the host DNO Party and IDNO Party is determined by reference to the Point of Common Coupling. The Point of Common Coupling is determined in the same way as it is for an EDCM Connectee connected directly to the host DNO Party's network.~~

~~24.13 For EDCM Connectees, the Point of Common Coupling is the point on the network where the power flow associated with the single Connectee under consideration, may under some (or all) possible arrangements interact with the power flows associated with other Connectees, taking into account all possible credible running arrangements.~~

24.14 IDNO Party Distribution Systems are split into 15 categories based on the network level of the boundary between the host DNO Party and the IDNO Party, and whether or not higher network levels are used by the IDNO Party.

Table 26 Categorisation of designated EHV IDNO Parties

Category	Definition
Category 0000	Boundary at the GSP, whether the GSP is shared or not, with no use of any circuits.
Category 1000	In England or Wales only, boundary at a voltage of 132 kV, unless the Connectee qualifies for category 0000.
Category 1100	Boundary at 22 kV or more on the secondary side of a substation where the primary side is attached to a 132 kV circuit.
Category 0100	Boundary at 22 kV or more, but less than 132 kV, on the secondary side of a substation where the primary side is attached at 132 kV to a co-located GSP with no use of any 132 kV circuits.
Category III0	Boundary at a voltage of 22 kV or more, but less than 132 kV, not at a substation, fed from a substation whose primary side is attached to a 132 kV distribution circuit.
Category 0110	Boundary at a voltage of 22 kV or more, but less than 132 kV, not at a substation, fed from a substation whose primary side is attached at 132 kV to a co-located GSP with no use of any 132 kV circuits.
Category 0010	Boundary at a voltage of 22 kV or more, but less than 132 kV, fed from a GSP with no intermediate transformation and no use of any 132 kV circuits.
Category 0001	Boundary at a voltage of less than 22 kV on the secondary side of a substation where the primary side is attached at 132 kV to a co-located GSP with no use of any 132 kV circuits.
Category 0002	Boundary at a voltage of less than 22 kV on the secondary side of a substation where the primary side is attached at 22 kV or more but less than 132 kV, to a co-located GSP with no use of any 132 kV circuits.

Category 1001	Boundary at a voltage of less than 22 kV on the secondary side of a substation whose primary side is attached to a 132 kV distribution circuit.
Category 0011	Boundary at a voltage of less than 22 kV on the secondary side of a substation whose primary side is at a voltage of 22 kV or more, but less than 132 kV, fed from a GSP with no intermediate transformation and no use of any 132 kV circuits.
Category 0111	Boundary at a voltage of less than 22 kV on the secondary side of a substation whose primary side is at a voltage of 22 kV or more, but less than 132 kV, fed through a distribution circuit from a substation whose primary side is attached at 132 kV to a co-located GSP with no use of any 132 kV circuits.
Category 0101	Boundary at a voltage of less than 22 kV on the secondary side of a substation whose primary side is at a voltage of 22 kV or more, but less than 132 kV, fed from the secondary side of a co-located substation whose primary side is attached at 132 kV to a co-located GSP with no use of any circuit.
Category 1101	Boundary at a voltage of less than 22 kV on the secondary side of a substation whose primary side is at a voltage of 22 kV or more but less than 132 kV, with no use of 33 kV circuit, fed from the secondary side of a co-located substation whose primary side is attached to a 132 kV distribution circuit.
Category 1111	Boundary at a voltage of less than 22 kV on the secondary side of a substation whose primary side is at a voltage of 22 kV or more, but less than 132 kV, fed through a distribution circuit from a substation whose primary side is attached to a 132 kV distribution circuit.

~~24.15—All references to GSP in the table above relate to interconnections with the main-interconnected onshore transmission network.~~

26. PORTFOLIO EDCM TARIFFS FOR CONNECTEES IN THE EDCM

- 26.1 For Connectees on an ~~IDNO~~LDNO Party's Distribution System that would be covered by the EDCM if they were on the DNO Party's network, the EDCM is applied to calculate a portfolio EDCM charge/credit for each such Connectee.
- 26.2 These EDCM portfolio charges would be calculated as if each EDCM Connectee on the ~~IDNO~~LDNO Party's distribution system were notionally connected at the boundary between the DNO Party and the ~~IDNO~~LDNO Party; except for LDNO UMS tariffs, 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). Both EDCM import and export charges will apply.
- 26.3 For the purposes of calculating the boundary-equivalent portfolio EDCM tariffs, each EDCM Connectee on the ~~IDNO~~LDNO Party's ~~network-distribution system~~ would be assigned the demand Connectee category ~~relating to the 15 IDNO Party boundary categories determined by reference to that Embedded LDNO distribution system's point of common coupling. The Embedded LDNO distribution system's point of common coupling is defined as the point on the DNO Party's network where the power flow associated with consumption or output on the Embedded LDNO distribution system may under some (or all) possible arrangements interact with the power flows associated with other Connectees, taking into account all possible credible running arrangements.~~
- 26.4 Such Connectees would attract charges (credits) in respect of any reinforcements caused (avoided) on the DNO Party's network only, i.e. any network Branches that are on the ~~IDNO~~LDNO Party's network would be attributed a zero LRIC charge/credit.
- 26.5 The setting of final charges to Embedded Designated EHV Properties including the calculation of charges for assets used on the Embedded network will be established by the ~~IDNO~~LDNO Party.
- 26.6 All EDCM charges would be calculated using "boundary equivalent" data provided by the ~~IDNO~~LDNO Party to the host DNO Party for each Embedded Designated EHV Property. For the purposes of the EDCM, boundary equivalent data should be what the ~~IDNO~~LDNO Party has allowed for at the DNO Party- ~~IDNO~~LDNO Party boundary, for each EDCM Connectee, after taking into consideration the diversity and losses within the ~~IDNO~~LDNO Party's network. Data relating to CDCM end users must be considered for the purposes of calculating boundary equivalent data in order to cater for the effect of diversity and losses.
- 26.7 The EDCM will include in the charges for Embedded Designated EHV Properties a fixed charge

relating to any assets on the DNO Party's network that are for the sole use of an Embedded ~~LDNO~~ Party's ~~network~~ distribution system. The assets on the DNO Party's network that are for the sole use of an Embedded LDNO distribution system are defined as the assets in which only consumption or output on the Embedded LDNO distribution system can directly alter the power flow in the asset, taking into consideration all possible credible running arrangements, i.e. all assets between the asset ownership boundary and the Embedded LDNO distribution system's point of common coupling are considered as sole use assets. These fixed charges would be calculated in the same way as it would be for EDCM Connectees connected directly to the host DNO Party's network.

- 26.8 In calculating charges for assets on the DNO Party's network that are for the sole use of an Embedded ~~IDNO~~LDNO Party's distribution system, DNO Party's will charge only for the proportion of sole use assets deemed to be used by Embedded Designated EHV Properties. This proportion will be calculated, in respect of each Embedded Designated EHV Properties, as the ratio of the boundary equivalent capacity of that Connectee to the capacity at the ~~IDNO~~LDNO Party- DNO Party boundary.
- 26.9 If there are no Embedded Designated EHV Properties on the ~~IDNO~~LDNO Party's network, no sole use asset charges would apply.
- 26.10 Demand scaling would be applied as normal to any EDCM portfolio tariff in respect of an EDCM Connectee. For the purposes of scaling, all EDCM Connectees connected to the ~~LDNO Party's network~~ distribution system will be treated as notional EDCM Connectees connected to the DNO Party's network with a Point of Common Coupling at the Embedded LDNO distribution system's point of common coupling-at the voltage level of the boundary.
- 26.11 For EDCM Connectees connected to the ~~IDNO~~LDNO Party's network, the capacity-based charge for the DNO Party's indirect costs and the 20% share of residual revenue that is applied as a fixed adder, would be scaled down by a factor of 50 per cent, however, the scaling down will not apply where the residual revenue is negative.

Schedule X – Calculation of Discount percentages for the Purpose of Determining Certain LDNO
Use of System Charges under schedule 16, 17 and 18

45 For the calculation of discount percentages used in Schedules 17 and 18, ~~the 15 boundary categories between the DNO Party and the embedded network described in Schedules 17 and 18 are grouped into five discount categories in England and Wales and three in Scotland~~ each embedded LDNO distribution system is allocated to one of five discount categories, defined as follows:

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

b) Discount category 132kV (in England and Wales only) - ~~This applies to boundary category 1000~~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 to boundary categories 1100 and 0100~~ this applies where the asset ownership boundary as at 22kV or more on the secondary side of a substation where the primary side is at 132kV.

d) Discount category EHV -~~This applies to boundary categories 1110, 0110 and 0010~~ this applies where the asset ownership boundary as 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 to boundary categories 1111, 0001, 1001, 0002, 0011, 0111, 1101, 0101~~ this applies where the asset ownership boundary is at less than 22kV.

In some cases, it may be appropriate to treat 66kV equipment as being equivalent to 132kV equipment and allocate Embedded LDNO distribution systems to categories accordingly.