

Advanced Electricity Networks Limited

Statement of Charges for Use of System

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1 Introduction

- 1.1 This statement sets out Advanced Electricity Networks' charges and the basis by which they are calculated. It has been prepared consistent with Standard Licence Condition 14 of our Electricity Distribution licence. The main purpose of this statement is to provide the schedule of charges¹ for the use of our Distribution System and to provide the schedule of Line Loss Factors² (LLF) that will be applied in Settlement to account for losses within the Distribution System. There is a glossary of terms within Appendix 1 and we include guidance notes in Appendix 2 to facilitate your understanding of the charges we apply.
- 1.2 Within this statement, the terms 'Users' and 'Customers' as well as other terms which are capitalised have the meanings defined in the glossary.
- 1.3 The CDCM charges in this statement (for Low Voltage and High Voltage Designated Properties) replicate those published by the Distribution Network Operators (DNO). The charges for any Extra High Voltage (EHV) Designated Properties connected to networks owned by Advanced Electricity Networks are calculated in accordance with the methodology set out within the Advanced Electricity Networks Use of System Charging Methodology Statement. The DNO CDCM and EDCM charges are calculated using the following methodologies set out in the Distribution Connection and Use of System Agreement³ (DCUSA):
- Common Distribution Charging Methodology (CDCM); for Low Voltage (LV) and High Voltage (HV) Designated Properties as defined in DCUSA Schedule 16
 - Extra High Voltage (EHV) Distribution Charging Methodology (EDCM); for Designated EHV Properties as defined in DCUSA Schedule 17
 - Note: as mentioned above, the charges calculated by Advanced Electricity Networks for any Designated EHV Properties connected to our networks will be in accordance with the Advanced Electricity Networks Use of System Charging Methodology Statement
 - Price Control Disaggregation Model (PCDM); used to establish the Discount Percentages for calculation of the Licensed Distribution Network Operators' (LDNO) Distribution Use of System (DUoS) charges in the CDCM and EDCM, as defined in DCUSA Schedule 29

¹ Charges may be positive or negative

² Known as adjustment factors in the Distribution Licence and commonly referred to as Loss Adjustment Factors. The schedule of Line Loss Factors will be provided in a revision to this statement following the Line Loss Factors for the relevant year being successfully audited by Elexon

³ The Distribution and Connection Use of System Agreement (DCUSA) publicly available from <http://www.dcusa.co.uk/>

- 1.4 Separate charges are calculated depending on the characteristics of a connection and whether the use of the Distribution System is for demand or generation purposes (import or export respectively). Where a generation connection is deemed to support the Distribution System, the charges will be negative and the Supplier will receive credits for exported energy.
- 1.5 The application of charges to premises is usually referenced using the relevant Line Loss Factor Class (LLFC) contained in the charge tables. Further information on how to identify and calculate the charge that will apply for your premises is provided in the guidance notes within Appendix 2.
- 1.6 All charges in this statement are shown exclusive of Value Added Tax (VAT). Invoices will include VAT calculated at the applicable rate.
- 1.7 The annexes of this statement are also available in spreadsheet format. This spreadsheet contains supplementary information used for charging purposes and a simple model to assist you to calculate charges. This spreadsheet can be downloaded from www.advancedelectricitynetworks.co.uk.

Validity Period

- 1.8 This charging statement is valid for services provided from the effective date stated on the first page of this statement and remains valid until it is either varied by a revised version or superseded by a statement with a later effective date.
- 1.9 When using this charging statement, care should be taken to ensure that the statement(s) valid for the period that is of interest are used.
- 1.10 Notice of any revision to this statement will be provided to Users of our Distribution System via a posting on our website (with the exception of updates to Annex 6; New or Amended EHV Sites which will be published as an addendum). The latest statements will be available for download from www.advancedelectricitynetworks.co.uk

Contact Details

- 1.11 If you have any questions about this statement, Advanced Electricity Networks can be contacted by the following means:
 - Writing to the following address: -

Advanced Electricity Networks Limited
Nexus Park
Avenue East
Skyline 120
Great Notley
Braintree
Essex
CM77 7AL
 - Telephoning Advanced Electricity Networks Limited General Enquiries on 01376 312520; or
 - Emailing enquiries@advancedelectricitynetworks.co.uk
 - Our website is www.advancedelectricitynetworks.co.uk

2 Charge Application and Definitions

- 2.1 This section details how the charges in this statement are applied and billed to Users of our Distribution System.
- 2.2 We use two billing approaches dependant upon the type of metering data received:
- The ‘Supercustomer’ approach for Customers for whom we receive aggregated consumption data through Settlement
 - The ‘Site-specific’ approach for Customers for whom we receive site-specific consumption data through Settlement
- 2.3 We receive aggregated consumption data through Settlement for:
- Domestic and non-domestic Customers for whom Non-Half-Hourly (NHH) metering data is used in Settlement
 - Customers who are unmetered and not settled as pseudo-Half-Hourly (HH) metered
 - Domestic Customers for whom HH metering data is used in Settlement
 - Non-domestic Customers for whom HH Metering data is used in Settlement and who have whole current (WC) metering
- 2.4 We receive site specific consumption data through Settlement for:
- Customers for whom HH metering data is used in Settlement and which have current transformer (CT) metering (i.e Customers with MPANs which are registered to Measurement Class C or E)
 - Customers which are unmetered and settled as pseudo HH metered (i.e. Customers with MPANs which are registered to Measurement Class D)

Supercustomer Billing and Payment

- 2.5 The Supercustomer approach uses aggregated data obtained from Suppliers using the ‘Aggregated Distribution Use of System (DUoS) Report’ data flow.
- 2.6 Invoices are calculated on a periodic basis and sent to each User for whom we transport electricity through our Distribution System. Invoices are reconciled over a period of approximately 14 months to reflect later and more accurate consumption figures.
- 2.7 The charges are applied on the basis of the LLFC assigned to the Meter Point Administration Number (MPAN) and the units consumed within the time periods specified in this statement. These time periods may not be the same as those indicated by the Time Pattern Regime (TPR) assigned to the Standard Settlement Configuration (SSC). All LLFCs are assigned at the sole discretion of Advanced Electricity Networks, based on the tariff application rules set out in the appropriate charging methodology or within this statement. Please refer to the section ‘Allocation of Charges’ if you think your allocated LLFC or tariff might be incorrect.

Supercustomer Charges

- 2.8 Super customer charges include the following components:
- a fixed charge, pence/MPAN/day; there is only one fixed charge applied to each MPAN

- unit charges, pence/kilowatt-hour (kWh); three separate unit charges will apply depending on the time of day of the usage and the type of tariff which the MPAN is registered with
- 2.9 Users who wish to supply electricity to a Customer for whom we receive aggregated data through Settlement will be allocated the relevant charge structure as set out in Annex 1.
- 2.10 Identification of the appropriate charge can be made by cross reference to the LLFC.
- 2.11 Valid Settlement Profile Class (PC) / Standard Settlement Class (SSC) / Meter Timeswitch Code (MTC) combinations for LLFCs for some customers are detailed in Market Domain Data (MDD). These are Domestic and Non-Domestic NHH metered Customers and Unmetered Customers who are not settled as pseudo-HH metered.
- 2.12 Where an MPAN has an invalid Settlement Combination, the 'Domestic Aggregated' fixed and unit charges will be applied as default until the invalid combination is corrected. Where there are multiple SSC/TPR combinations, the default 'Domestic Aggregated' fixed and unit charges will be applied for each invalid SSC/TRPR combination.
- 2.13 The 'Domestic Aggregated (related MPAN)' and 'Non-Domestic Aggregated (related MPAN)' charges are supplementary to their respective primary MPAN charge.

Site-specific Billing and Payment

- 2.14 The site-specific billing and payment approach makes use of HH metering data at a premises level which is received through Settlement.
- 2.15 Invoices are calculated on a periodic basis and sent to each User for whom we transport electricity through our Distribution System. Where an account is based on estimated data, the account shall be subject to any adjustments that may be necessary following the receipt of actual data from the User.
- 2.16 The charges are applied on the basis of the LLFCs assigned to the MPAN or the Meter System Identifier (MSID) for Central Volume Allocation (CVA) sites, and the units consumed within the time periods specified in this statement. Where MPANs have not been associated, for example when multiple points of connection fed from different sources are used for a single site, the relevant number of fixed charges will be applied.
- 2.17 All LLFCs are assigned at the sole discretion of Advanced Electricity Networks, based on the tariff application rules set out in the appropriate charging methodology or within this statement. Please refer to the section "Allocation of Charges" if you think your allocated LLFC or tariff might be incorrect.

Site-specific Billed Charges

- 2.18 Site-specific billed charges for LV and HV Designated Properties may include the following components:
- a fixed charge in pence/MPAN/day for Supplier Volume Allocation (SVA) sites, or pence/MSID/day for CVA sites
 - a capacity charge in pence/kilovolt-ampere (kVA)/day, for Maximum Import Capacity (MIC) and/or Maximum Export Capacity (MEC)
 - an excess capacity charge in pence/kVA/day if a site exceeds its MIC and/or MEC

- three separate unit charges in pence/kWh, depending on the time of day of the consumption and the type of tariff for which the MPAN is registered
 - a reactive power charge in pence/kilovolt-ampere reactive hour (kVArh), for each unit in excess of the reactive charge threshold
- 2.19 Users who wish to supply electricity to Customers for whom we receive site-specific data through Settlement will be allocated the relevant charge structure dependent upon the voltage and location of the Metering Point.
- 2.20 Fixed charges are normally levied on a pence per MPAN/MSID per day basis.
- 2.21 LV and HV Designated Properties will be charged in accordance with the CDCM and allocated the relevant charge structure set out in Annex 1.
- 2.22 Designated EHV Properties will be charged in accordance with the EHV Charging Methodology of Advanced Electricity Networks Limited and allocated the relevant charge structure as set out in Annex 2.
- 2.23 Where LV and HV Designated Properties or Designated EHV Properties have more than one point of connection (as identified in the Connection Agreement) then separate charges will be applied to each point of connection.

Components of Charges

Application of Residual Charges to Final Demand Sites

- 2.24 Residual charges are recovered through fixed charges for all Final Demand Sites. All Non-final Demand Sites must submit a valid certificate, as described in Section 10, and only upon receipt of a valid certificate will they be allocated to the relevant No Residual Tariff.

Residual Charging Bands

- 2.25 Residual charges are applied to Final Demand Sites on a banded basis, with all sites within a given charge band receiving the same residual charge as applicable for that band. Domestic customers have only a single residual charging band.
- 2.26 There are four sets of non-domestic charging bands, with a set defined for each of the following groups:
- Designated Properties connected at LV, billing with no MIC (whole current metered)
 - Designated Properties connected at LV, billing with MIC (CT metered)
 - Designated Properties connected at HV
 - Designated EHV Properties

- 2.27 All non-domestic Final Demand Customers are allocated into one of four residual charging bands, within the band applicable for the type of supply. It is either the annual consumption or the MIC which determines which of the four residual bands a property will be allocated to (within the set of four bands for the applicable type of property).
- 2.28 The residual charging band boundaries are calculated nationally based upon data from all LDNOs. The method and timing for calculating the residual charging bands are set out in Schedule 32 of DCUSA.
- 2.29 The boundaries (kWh or kVA as applicable) for the residual bands can be found in the 'Schedule of Charges and Other Tables' spreadsheet on our website.

Time Periods

- 2.30 The time periods for the application of unit charges to LV and HV Designated Properties are detailed in Annex 1. We have not issued a notice to change the time bands.
- 2.31 The time periods for the application of unit charges to Unmetered Supply Exit Points are detailed in Annex 1. We have not issued a notice to change the time bands.
- 2.32 The time periods for application of unit charges to Designated EHV Properties are detailed in Annex 2 of this statement.

Application of Capacity Charges

Chargeable Capacity

- 2.33 The chargeable capacity is, for each billing period, the MIC/MEC, as detailed below.
- 2.34 The MIC/MEC will be agreed with Advanced Electricity Networks at the time of connection or pursuant to a later change in requirements. Following such an agreement (be it at the time of connection or later) no reduction in MIC/MEC will be allowed for the subsequent 12-month period.
- 2.35 Reductions to the MIC/MEC are only permitted once in any 12-month period. Where MIC/MEC is reduced the new lower level will be agreed with reference to the level of the customer's maximum demand. The new MIC/MEC will be applied from the start of the next billing period after the date that the request was received. 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 charges.
- 2.36 In the absence of an agreement, the chargeable capacity, save for error or omission, will be based on the last MIC and/or MEC previously agreed by the distributor for the relevant premises' connection. A Customer can seek to agree or vary the MIC and/or MEC by contacting us using the contact details in Section 1.

Exceeded Capacity

- 2.37 Where a Customer takes additional unauthorised capacity over and above the MIC/MEC, the excess will be classed as exceeded capacity. The exceeded portion of the capacity will be charged at the excess capacity charge p/kVA/day rate defined in the tariff allocated to the property, based on the difference between the MIC/MEC and the actual capacity used. This will be charged for the full duration of the billing period in which the breach occurs.

Demand Exceeded Capacity

$$\text{Demand Exceeded Capacity} = \max(2 \times \sqrt{AI^2 + \max(RI, RE)^2} - MIC, 0)$$

Where:

AI = Active import (kWh)

RI = Reactive import (kVArh)

RE = Reactive export (kVArh)

MIC = Maximum import capacity (kVA)

2.38 Only reactive import and reactive export values occurring at times of active import are used in the calculation.

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

Generation Exceeded Capacity

2.40 Generation Exceeded Capacity shall be calculated as:

$$\text{Generation Exceeded Capacity} = \max(2 \times \sqrt{AE^2 + \max(RI, RE)^2} - MEC, 0)$$

Where:

AE = Active export (kWh)

RI = Reactive import (kVArh)

RE = Reactive export (kVArh)

MEC = Maximum export capacity (kVA)

- 2.41 Only reactive import and reactive export values occurring at times of active export are used in the calculation.
- 2.42 This calculation is completed for every half hour and the maximum value from the billing period is applied.

Standby Capacity for Additional Security on Site

- 2.43 Where standby capacity charges are applied, the charge will be set at the same rate as that applied to normal MIC. Should a Customer's request for additional security of supply require the provision of capacity from two different sources, we reserve the right to charge for the capacity held at each source.

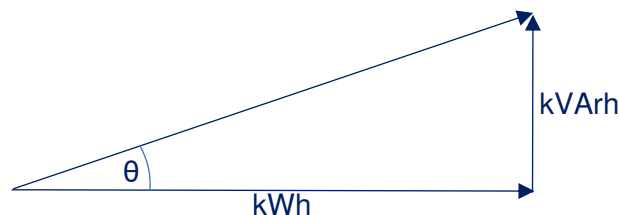
Minimum Capacity Levels

- 2.44 There is no minimum capacity threshold.

Application of Charges for Reactive Power

- 2.45 When an individual HH metered MPAN's reactive power (measured in kVArh) at LV and HV Designated Properties exceeds 33% of its total active power (measured in kWh) in any given half hour period, reactive power charges will apply. This threshold is equivalent to an average power factor of 0.95 during that half hour. Any reactive units in excess of the 33% threshold are charged at the rate appropriate to the particular charge.
- 2.46 Power Factor is calculated as follows:

$\cos \theta = \text{Power Factor}$



Demand Chargeable Reactive Power

- 2.47 The chargeable reactive power for import calculated as follows:

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

Where:

AI = Active Import (kWh)

RI = Reactive Import (kVArh)

RE = Reactive Export (kVArh)

- 2.48 Only reactive import and reactive export values occurring at times of active import are used in the calculation.
- 2.49 The square root calculation will be to two decimal places.
- 2.50 This calculation is completed for every half hour and the values summated over the billing period.

Generation Chargeable Reactive Power

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

Where:

AE = Active Export (kWh)

RI = Reactive Import (kVArh)

RE = Reactive Export (kVArh)

- 2.51 Only reactive import and reactive export values occurring at times of active export are used in the calculation.
- 2.52 The square root calculation will be to two decimal places.
- 2.53 This calculation is completed for every half hour and the values summated over the billing period.

Allocation of Charges

- 2.54 It is our responsibility to apply the correct charges to each MPAN/MSID. The allocation of charges is based upon the voltage of connection, import/export details, metering information and, for some tariffs, the metering point location. Where an MPAN/MSID is used for export purposes in relation to an LV or HV Designated Property, the type of generation (Intermittent or Non-Intermittent) also determines the allocation of charges.
- 2.55 We are responsible for deciding the voltage of connection. Generally, this is determined by where the metering point is located and where responsibility for the electrical equipment transfers from us to the connected Customer.
- 2.56 We are also responsible for allocating non-domestic customers into their residual charging bands. Allocation into residual charging bands is determined by consumption for customers billed under the Supercustomer approach and by the MIC for customers billed under the site-specific approach.
- 2.57 The Supplier determines and provides us with metering information and data. This enables us to allocate charges where there is more than one charge per voltage level. This metering information and data is likely to change over time if, for example, a Supplier changes from a two-rate meter to a single rate meter. When we are notified this has happened, we will change the allocation of charges accordingly.
- 2.58 If it has been identified that a charge may have been incorrectly allocated due to the metering information and/or data, then a correction request should be made to the Supplier.
- 2.59 Where it has been identified that either:
- a charge is likely to have been incorrectly allocated due to the voltage of connection, import/export details or metering location; or

- a connection may be eligible for a Storage Facility or Low Voltage Substation tariff(s)

a request to investigate the applicable charges should be made to us. Requests from persons other than the Customer or the current Supplier must be accompanied by a Letter of Authority from the Customer and the current Supplier must also acknowledge that they are aware a request has been made. Any request must be supported by an explanation of why it is believed that the current charge should be changed, along with supporting information including, where appropriate, photographs of metering positions or system diagrams. Any request to change the current charge that also includes a request for backdating must include justification as to why it is considered appropriate to backdate the change.

2.60 Where a residual charging band allocation cannot be resolved, the process provided within DCUSA Schedule 32 will be followed.

2.61 An administration charge (covering our reasonable costs) may be made if a technical assessment or site visit is required, but we will not apply any charge where we agree to the change request.

2.62 Where we agree that the current LLFC/charge should be changed, then we will allocate the appropriate set of charges for the connection. Any adjustment will be applied from the date of the request back to either:

- the date of the incorrect allocation; or
- the date the connection first became eligible for a Storage Facility or Low Voltage Substation tariff(s); or
- up to the maximum period specified by the Limitation Act (1980) in England and Wales, which covers a six-year period; or
- up to the maximum period specified by the Prescription and Limitation (Scotland) Act 1973, which covers a five year period;

whichever is the shorter.

- 2.63 Any credit or additional charge will be issued to the relevant Supplier(s) effective during the period of the change.
- 2.64 Should we reject the request a justification will be provided to the requesting Party. We shall not unreasonably withhold or delay any agreement to correct the charges applied and would expect to reach agreement within three months from the date of request.

Generation Charges for Pre-2005 Designated EHV Properties

- 2.65 Not used (not applicable to AEN)
- 2.66 Not used (not applicable to AEN)

Provision of Billing Data

- 2.67 Where HH metering data is required for Distribution Use of System (DUoS) charging and this is not provided in accordance with the Balancing and Settlement Code (BSC) or the Distribution Connection and Use of System Agreement (DCUSA), such metering data shall be provided to us by the User of the system in respect of each calendar month within five working days of the end of that calendar month.
- 2.68 The metering data shall identify the amount of energy conveyed across the Metering System in each half hour of each day and shall separately identify active and reactive import and export. Metering data provided to us shall be consistent with that received through the metering equipment installed.
- 2.69 Metering data shall be provided in an electronic format specified by us from time to time and, in the absence of such specification, metering data shall be provided in a comma separated text file in the format of Master Registration Agreement (MRA) data flow D0275 ¹ (or as agreed with us). The data shall be emailed to enquiries@advancedelectricitynetworks.co.uk.
- 2.70 We require details of reactive power imported or exported to be provided for all Measurement Class C and E sites. It is also required for CVA sites and Exempt Distribution Network boundaries with difference metering. We reserve the right to levy a charge on Users who fail to provide such reactive data. In order to estimate missing reactive data, a power factor of 0.95 lag will be applied to the active consumption in any half hour.

Out of Area Use of System Charges

- 2.71 Not applicable

Licensed Distribution Network Operator Charges

- 2.72 Licensed Distribution Network Operator (LDNO) charges are applied to LDNOs who operate Embedded Networks within Distribution Networks.
- 2.73 The charge structure for LV and HV Designated Properties embedded in networks operated by LDNOs will mirror the structure of the 'All-the-way' Charge and is dependent upon the voltage of connection of each embedded network to the host DNO's network. The same charge elements will apply as those that match the LDNO's end customer charges. The relevant charge structures are set out in Annex 4.

¹ MRA Data Transfer Catalogue available from <https://dtc.mrasco.com/>

- 2.74 Where a NHH metered MPAN has an invalid Settlement combination, the ‘LDNO HV: Domestic Aggregated’ fixed and unit charges will be applied as default until the invalid combination is corrected. Where there are multiple SSC/TPR combinations, the default ‘LDNO HV: Domestic Aggregated’ fixed and unit charges will be applied for each invalid SSC/TPR combination.
- 2.75 The charge structure for Designated EHV Properties embedded in networks operated by LDNOs will be calculated individually using Advanced Electricity Networks EHV charging methodology.
- 2.76 For Nested Networks, the relevant charging principles set out in DCUSA Schedule 21 will apply.

Licence Exempt Distribution Networks

- 2.77 The Electricity and Gas (Internal Market) Regulations 2011¹ introduced new obligations on owners of licence exempt distribution networks (sometimes called private networks) including a duty to facilitate access to electricity and gas suppliers for Customers within those networks.
- 2.78 When Customers (both domestic and commercial) are located within a licence exempt distribution network and require the ability to choose their own Supplier, this is called ‘third party access’. These embedded Customers will require an MPAN so that they can have their electricity supplied by a Supplier of their choice.
- 2.79 Licence exempt distribution networks owners can provide third party access using either full settlement metering or the difference metering approach.

Full Settlement Metering

- 2.80 This is where a licence exempt distribution network is set up so that each embedded installation has an MPAN and Metering System and therefore all Customers purchase electricity from their chosen Supplier. In this case there are no Settlement Metering Systems at the boundary between the licensed Distribution System and the exempt distribution network.
- 2.81 In this approach our UoS charges will be applied to each MPAN.

Difference Metering

- 2.82 This is where one or more, but not all, Customers on a licence exempt distribution network choose their own Supplier for electricity supply to their premises. Under this approach the customers requiring third party access on the exempt distribution network will have their own MPAN and must have a HH Metering System.

Shared Metering

- 2.83 This is where one or more Customers on a licence exempt distribution network choose their own Supplier for electricity supply to their premises, and the active import and/or active export meter readings at the boundary are apportioned between the Suppliers. Under this approach, the Customers requiring third party access on the licence exempt distribution network will have their own MPAN and must have a HH Metering System.
- 2.84 In this approach our UoS charges will be applied to each MPAN.

Gross Settlement

- 2.85 Where one of our MPANs (prefixed by the number 38) is embedded within a licence exempt distribution network connected to our Distribution System, and difference metering is in place for Settlement purposes and we receive gross measurement data for the boundary MPAN, we will continue to charge the boundary MPAN Supplier for use of our Distribution System. No charges will be levied by us directly to the Customer or Supplier of the embedded MPAN(s) connected within the licence exempt distribution network.
- 2.86 We require that gross metered data for the boundary of the connection is provided to us. Until a new industry data flow is introduced for the sending of such gross data, gross metered data shall:
- be provided in a text file in the format of the D0036 or D0275 data flow;
 - the text file shall be emailed to enquiries@advancedelectricitynetworks.co.uk;
 - the title of the email should also contain the phrase “gross data for difference metered private network” and contain the metering reference specified by us in place of the Settlement MPAN; and
 - the text file and the title of the email shall contain the metering reference specified by us in place of the Settlement MPAN, i.e. a dummy alphanumeric reference to enable the relating of the gross metered data to a given boundary MPAN; and
 - the text filename shall be formed of the metering reference specified by us followed by a hyphen and followed by a timestamp in the format YYYYMMDDHHMMSS and followed by “.txt”.
- 2.87 For the avoidance of doubt, the reduced difference metered measurement data for the boundary connection that is to enter Settlement should continue to be sent using the Settlement MPAN.

¹ The Electricity and Gas (Internal Market) Regulations 2011 available from <http://www.legislation.gov.uk/uksi/2011/2704/contents/made>

3 Schedule of Charges for Use of the Distribution System

- 3.1 Tables listing the charges for the use of our Distribution System are referred to at the end of this document.
- 3.2 These charges are in a spreadsheet which is published with this statement and can be downloaded from www.advancedelectricitynetworks.co.uk
- 3.3 Annex 1 contains charges applied to LV and HV Designated Properties.
- 3.4 Annex 2 contains the charges applied to our Designated EHV Properties and charges applied to LDNOs for Designated EHV Properties connected within their embedded Distribution System.
- 3.5 Annex 3 contains details of any preserved and additional charges that are valid at this time. Preserved charges are mapped to an appropriate charge and are closed to new Customers.
- 3.6 Annex 4 contains the charges applied to LDNOs in respect of LV and HV Designated Properties connected in their embedded Distribution System.

4 Schedule of Line Loss Factors

Role of Line Loss Factors in the Supply of Electricity

- 4.1 Electricity entering or exiting our Distribution System is adjusted to take account of energy that is lost¹ as it is distributed through the network. This adjustment does not affect distribution charges but is used in energy settlement to take metered consumption to a notional Grid Supply Point so that suppliers' purchases take account for the energy lost within the Distribution System.
- 4.2 We are responsible for calculating the Line Loss Factors (LLFs) and providing these to Elexon; the company that manages the BSC.
- 4.3 LLFs are used to adjust the metering system volumes to take account of losses on the Distribution System.

Calculation of Line Loss Factors

- 4.4 LLFs are calculated in accordance with BSCP128² which sets out the procedure and principles with which our LLF methodology must comply. It also defines the procedure and timetable by which LLFs are reviewed and submitted.
- 4.5 LLFs are calculated for a set number of time periods during a year using either a generic or a site-specific method. The generic method is used for sites connected at LV or HV and the site-specific method is used for sites connected at EHV or where a request for site-specific LLFs has been agreed. Generic LLFs will be applied as a default to all new EHV sites until sufficient data is available for a site-specific calculation. Where the usage profile for a given site contains insufficiently large consumption or generation volumes to enable calculation of realistic Site Specific LLFs then a default calculation, or default replacement process shall be undertaken.
 - 4.5.1 A default replacement process shall be deemed to have been undertaken if a generic methodology is used where the following applies (a) A Site has multiple connections to the total system and the primary connection is at EHV but there is a subordinate connection that is not connected at EHV, then a generic methodology may be used for the subordinate connection (even if a site specific LLF is used for the Site's primary connection) and (b) The connection has a capacity of less than or equal to 1MVA

The definition of EHV used for LLF purposes differs from the definition used for defining Designated EHV Properties in the EDCM. The definition used for LLF purposes can be found in our LLF methodology, which can be found on the Elexon website.³

¹ Energy can be lost for technical and non-technical reasons and losses normally occur by heat dissipation through power flowing in conductors and transformers. Losses can also reduce if a customer's action reduces power flowing in the distribution network. This might happen when a customer generates electricity and the produced energy is consumed locally.

² <http://www.elexon.co.uk/pages/bscp.aspx>

³ The Elexon portal can be accessed from www.elexonportal.co.uk

- 4.6 Advanced Electricity Networks currently replicates the host DNO's calculated losses for LV and HV connected customers. (LLFs for EHV connected customers will match host DNO generic line loss factors where these are published, alternatively they may be calculated by Advanced Electricity Networks on a site specific basis)
- 4.7 The Elexon website contains more information on LLFs¹. This page also has links to BSCP 128 and to our LLF methodology.

Publication of Line Loss Factors

- 4.8 The LLFs used in Settlement are published on the Elexon Portal website, www.elexonportal.co.uk. The website contains the LLFs in standard industry data formats and in a summary form. A user guide with details on registering and using the portal is also available.
- 4.9 BSCP128 sets out the timetable by which LLFs are submitted and audited. The submission and audit occur between September and January in the year prior to the LLFs becoming effective. Only after the completion of the audit at the end of December and BSC approval are the final LLFs published.
- 4.10 At the time that this charging statement is first published, Annex 5 will be intentionally left blank, as this statement is published a complete year before the LLFs have been calculated and audited. We will issue an updated version of this statement with Annex 5 populated with the applicable audited LLFs once they have been calculated and the final BSCP128 Audit Report has been received.
- 4.11 When using the tables in Annex 5, reference should be made to the LLFC allocated to the MPAN to find the appropriate values.

¹ <http://www.elexon.co.uk/reference/technical-operations/losses/>

5 Notes for Designated EHV Properties

EDCM Network Group Costs

- 5.1 We do not currently have any EDCM network group costs for our own systems. EDCM network group costs from host DNO systems are published in their charging statements.

Charges for new Designated EHV Properties

- 5.2 Charges for any new Designated EHV Properties calculated after publication of the current statement will be published in an addendum to that statement as and when necessary. The addendum will include charge information of the type found in Annex 2 and LLFs as found in Annex 5. The charges will be calculated in accordance with the Advanced Electricity Networks Use of System Charging Methodology Statement.
- 5.3 The form of the addendum is detailed in Annex 6 to this statement.
- 5.4 The addendum will also be sent to all relevant DCUSA parties (i.e. the registered Supplier) and, where requested, the Customer.
- 5.5 The new Designated EHV Properties charges will be added to Annex 2 in the next full statement released.

Charges for Amended Designated EHV Properties

- 5.6 Where an existing Designated EHV Property is modified and energised in the charging year, we may revise the EHV charges for the modified Designated EHV Property. If revised charges are appropriate, an addendum will be sent to all relevant parties and published as a revised 'Schedule of Charges and Other Tables' spreadsheet on our website. The modified Designated EHV Property charges will be added to Annex 2 in the next full statement released.

Demand-side Management

- 5.7 New or existing Designated EHV Property Customers may wish to offer part of their MIC to be interruptible by us (for active network management purposes other than normal planned or unplanned outages) in order to benefit from any reduced DUoS charges calculated using the Advanced Electricity Networks EHV charging methodology.
- 5.8 Several options exist in which we may agree for some or the entire MIC to be interruptible. Under the EDCM the applicable demand capacity costs would be based on the MIC minus the capacity subject to interruption.
- 5.9 If you are interested in making part or all of your MIC interruptible as an integral irrevocable feature of a new connection or modification to an existing connection you should in the first instance contact our connections function by email to enquiries@advancedelectricitynetworks.co.uk
- 5.10 You must make an express statement in your application that you have an interest in some or all of the import capacity being interruptible for active network management purposes.
- 5.11 If you are proactively interested in voluntarily but revocably offering to make some or all of your existing connection's MIC interruptible, you should in the first instance contact us at the address in Section 1.11.

6 Electricity Distribution Rebates

6.1 We have neither given nor announced any DUoS rebates to Users in the 12 months preceding the date of publication of this statement.

7 Accounting and Administration Services

7.1 We reserve the right to impose payment default remedies. The remedies are as set out in DCUSA where applicable or else as detailed in the following paragraph.

7.2 If any invoices that are not subject to a valid dispute remain unpaid on the due date, late payment interest (calculated at base rate plus 8%) and administration charges may be imposed.

7.3 Our administration charges are detailed in the following table. These charges are set at a level which is in line with the Late Payment of Commercial Debts Act

Size of Unpaid Debt	Late Payment Fee
Up to £999.99	£40.00
£1,000 to £9,999.99	£70.00
£10,000 or more	£100.00

8 Charges for Electrical Plant Provided Ancillary to the Grant of Use of System

8.1 Currently, Advanced Electricity Networks offers no services under this category.

9 Schedule of Fixed Adders to Recover Supplier of Last Resort and Eligible Bad Debt Pass-through Costs

Supplier of Last Resort

- 9.1 Our charges will recover the amounts payable to upstream network operators as a result of charges which they recover in line with their Standard Licence Condition 38B (SLC38B).

Eligible Bad Debt

- 9.2 Our charges will recover the amounts payable to upstream network operators as a result of charges which will recover the amount of Use of System bad debt the Authority has consented to be recovered.

Tables of Fixed Adders

- 9.3 Tables listing the charges to recover Supplier of Last Resort and Eligible Bad Debt passthrough costs are published in Annex 7 to this document. The charges are shown for information only and are already included in the final charges.

10 Charges for Eligible Electricity Storage Facilities

Storage Facilities

- 10.1 A Storage Facility is charged an import tariff that excludes the residual cost element of charges. If the User wishes for a property to qualify for allocation of these tariffs, the User must submit certification declaring that the property meets the required criteria as per DCUSA.

Process for Submitting Certification

- 10.2 This certification should take the form as set out in Appendix 3 and be submitted to AEN using the contact details in 1.11. We may at our discretion request a signed paper certificate from the user in place of electronic if requested.
- 10.3 Users should undertake reasonable endeavours to ensure the facts attested to in the certification are true. We may request documentation evidencing these endeavours, including where appropriate, photographs of metering positions or system diagrams, following receipt of the certification.
- 10.4 If we determine that the documentation provided does not sufficiently evidence the undertaking of reasonable endeavours, does not support the facts attested to in the certification, or if no documentation is received, we may at our discretion reject the certification as invalid. If the certification is rejected as invalid, then the property will not qualify as a Storage Facility.

Application of Charges for Storage Facilities

- 10.5 A property will only be deemed to qualify as a Storage Facility, and be allocated charges as such, from the date on which we receive valid certification.
- 10.6 If a property that has previously been certified as a Storage Facility no longer satisfies the criteria as per DCUSA, then the User must inform us immediately.
- 10.7 For a property that has been previously certified as a Storage Facility, we will continue to apply the relevant storage import tariff without the requirement for further certification, except in any one of the following circumstances;
- where we have reason to believe that the property no longer qualifies as a Storage Facility; or,
 - significant time has passed since the certification was submitted; or,
 - where there is a change to the connection characteristics i.e. capacity change.

If such circumstances occur, we may request re-certification of the site, or reject the certification as invalid at our discretion.

- 10.8 When a property no longer meets the required criteria to qualify as a Storage Facility, we will change the allocation of charges accordingly from that point.
- 10.9 Please refer to the section 'Allocation of Charges' if you believe the property has been incorrectly not allocated charges as a Storage Facility.

APPENDIX 1 - Glossary

The following definitions, which can extend to grammatical variations and cognate expressions, are included to aid understanding:

Term	Definition
All-the-way Charge	A charge that is applicable to an end user rather than an LDNO. An end user in this context is a Supplier/User who has a registered MPAN or MSID and is using the Distribution System to transport energy on behalf of a Customer.
Balancing and Settlement Code (BSC)	The BSC contains the governance arrangements for electricity balancing and settlement in Great Britain. An overview document is available from www.elexon.co.uk
Balancing and Settlement Code Procedure (BSCP)	A document of that title, as established or adopted and from time to time modified by the Panel in accordance with The Code, setting out procedures to be complied with (by Parties, Party Agents, BSC Agents, BSCCo, the Panel and others) in, and other matters relating to, the implementation of The Code;
Common Distribution Charging Methodology (CDCM)	The CDCM used for calculating charges to Designated Properties as required by standard licence condition 13A of the electricity distribution licence.
Connection Agreement	An agreement between an LDNO and a Customer which provides that the customer has the right for its connected installation to be and remain directly or indirectly connected to that LDNO's Distribution System.
Central Volume Allocation (CVA)	As defined in the BSC
Customer	<p>A person to whom a User proposes to supply, or for the time being supplies, electricity through an exit point, or from whom, a User or any relevant exempt supplier, is entitled to recover charges, compensation or an account of profits in respect of electricity supplied through an exit point; or</p> <p>A person from whom a User purchases, or proposes to purchase, electricity, at an entry point (who may from time to time be supplied with electricity as a Customer of that User (or another electricity supplier) through an exit point).</p>
Data Transfer Catalogue (DTC)	As defined in the MRA
Designated EHV Properties	As defined in standard condition 13B of the electricity distribution licence.

Designated Properties	As defined in standard condition 13A of the electricity distribution licence.
Distribution Connection and Use of System Agreement (DCUSA)	The DCUSA is a multi-party contract between the licensed electricity distributors, suppliers, generators and Offshore Transmission Owners of Great Britain. It is a requirement that all electricity distributors and suppliers become parties to DCUSA.
Distributor IDs	These are set out in the table below

These are unique Distributor IDs that can be used, with reference to the MPAN, to identify your LDNO. The charges for other network operators can be found on their website.

ID	Distribution Service Area	Company
10	East of England	UK Power Networks
11	East Midlands	Western Power Distribution
12	London	UK Power Networks
13	Merseyside and North Wales	Scottish Power
14	Midlands	Western Power Distribution
15	Northern	Northern Powergrid
16	North Western	Electricity North West
17	Scottish Hydro Electric (and embedded networks in other areas)	Scottish Hydro Electric Power Distribution plc
18	South Scotland	Scottish Power
19	South East England	UK Power Networks
20	Southern Electric	Southern Electric Power Distribution plc
21	South Wales	Western Power Distribution
22	South Western	Western Power Distribution
23	Yorkshire	Northern Powergrid
24	All	Independent Power Networks
25	All	ESP Electricity
26	All	Energetics Electricity Ltd
27	All	The Electricity Network Company Ltd

29	All	Harlaxton Energy Networks
30	All	Peel Electricity Networks Ltd
31	All	UK Power Distribution Ltd
32	All	Energy Assets Networks Limited
33	All	Eclipse Power Networks Ltd
34	All	Murphy Power Distribution Ltd
35	All	Fulcrum Electricity Assets Ltd
36	All	Vattenfall Networks Ltd
37	All	Optimal Power Networks Ltd
38	All	Indigo Power Ltd
39	All	Squire Energy Metering Ltd
40	All	Utility Assets Limited
42	All	Advanced Electricity Networks
43	All	IDCS Ltd
Distribution Network Operator (DNO)		An electricity distributor that operates one of the 14 distribution services areas and in whose electricity distribution licence the requirements of Section B of the standard conditions of that licence have effect.
Distribution Services Area		The area specified by the Gas and Electricity Markets Authority within which each DNO must provide specified distribution services.
Distribution System		<p>The system consisting (wholly or mainly) of electric lines owned or operated by an authorised distributor that is used for the distribution of electricity</p> <p>from:-</p> <p>Grid Supply Points or generation sets or other entry points to the points of delivery;</p> <p>to:-</p> <p>Customers or Users or any transmission licensee in its capacity as operator of that licensee's transmission system or the Great Britain (GB) transmission system and includes any remote transmission assets (owned by a transmission licensee within England and Wales) that are operated by that authorised distributor and any electrical plant, electricity meters, and metering equipment owned or operated by it in connection with the distribution of electricity, but does not include any part of the GB transmission system.</p>

EHV Distribution Charging Methodology (EDCM)	The EDCM used for calculating charges to Designated EHV Properties as required by standard licence condition 13B of the Electricity Distribution Licence.
Electricity Distribution Licence	The Electricity Distribution Licence granted or treated as granted pursuant to section 6(1) of the Electricity Act 1989.
Electricity Distributor	Any person who is authorised by an Electricity Distribution Licence to distribute electricity.
Embedded Network	An electricity Distribution System operated by an LDNO and embedded within another Distribution System.
Engineering Recommendation P2/6	A document of the Energy Networks Association, which defines planning standards for security of supply and is referred to in standard licence condition 24 of the Electricity Distribution Licence.
Entry Point	A boundary point at which electricity is exported onto a Distribution System from a connected installation or from another Distribution System, not forming part of the total system (boundary point and total system having the meaning given to those terms in the BSC).
Exit Point	A point of connection at which a supply of electricity may flow from the Distribution System to the Customer's installation or User's installation or the Distribution System of another person.
Extra-High Voltage (EHV)	Nominal voltages of 22kV and above.
Gas and Electricity Markets Authority (GEMA)	As established by the Utilities Act 2000.
Grid Supply Point (GSP)	A metered connection between the National Grid Electricity Transmission system and the licensee's Distribution System at which electricity flows to or from the Distribution System.
GSP Group	A distinct electrical system that is supplied from one or more GSPs for which total supply into the GSP Group can be determined for each half hour.
High Voltage (HV)	Nominal voltages of at least 1kV and less than 22kV.
Intermittent Generation	Defined in DCUSA Schedule 16 as a generation plant where the energy source of the prime mover cannot be made available on demand, in accordance with the definitions in Engineering Recommendation P2/6. These include wind, tidal, wave, photovoltaic and small hydro.
Invalid Settlement Combination	A Settlement combination that is not recognised as a valid combination in market domain data – see https://www.elexonportal.co.uk/MDDVIEWER .
kVA	Kilovolt ampere.
kVArh	Kilovolt ampere reactive hour.
kW	Kilowatt.

kWh	Kilowatt hour (equivalent to one “unit” of electricity).
Licensed Distribution Network Operator (LDNO)	As defined in the DCUSA.
Line Loss Factor (LLF)	The factor that is used in Settlement to adjust the Metering System volumes to take account of losses on the Distribution System.
Line Loss Factor Class (LLFC)	An identifier assigned to an SVA metering system which is used to assign the LLF and Use of System Charges.
Load Factor	$= \frac{\text{annual consumption (kWh)}}{\text{maximum demand (kW)} \times \text{hours in year}}$
Low Voltage (LV)	Nominal voltages below 1kV.
Market Domain Data (MDD)	MDD is a central repository of reference data available to all Users involved in Settlement. It is essential to the operation of SVA trading arrangements.
Maximum Export Capacity (MEC)	The MEC of apparent power expressed in kVA that has been agreed can flow through the entry point to the Distribution System from the Customer’s installation as specified in the Connection Agreement.
Maximum Import Capacity (MIC)	The MIC of apparent power expressed in kVA that has been agreed can flow through the exit point from the Distribution System to the Customer’s installation as specified in the Connection Agreement.
Measurement Class	<p>A classification of metering systems used in the BSC which indicates how consumption is measured, i.e.:</p> <ul style="list-style-type: none"> • Measurement class A – non-half-hourly metering equipment; • Measurement class B – non-half-hourly unmetered supplies; • Measurement class C – half-hourly metering equipment at or above 100kW premises; • Measurement class D – half-hourly unmetered supplies; • Measurement class E – half-hourly metering equipment below 100kW premises with CT; • Measurement class F – half hourly metering equipment at below 100kW premises with CT or whole current, and at domestic premises; and • Measurement class G – half hourly metering equipment at below 100kW premises with whole current and not at domestic premises.
Meter Timeswitch Code (MTC)	MTCs are three-digit codes allowing suppliers to identify the metering installed in Customers’ premises. They indicate whether the meter is single or multi-rate, prepayment or credit, or whether it is ‘related’ to another meter. Further information can be found in MDD.

Metering Point	The point at which electricity that is exported to or imported from the licensee's Distribution System is measured, is deemed to be measured, or is intended to be measured and which is registered pursuant to the provisions of the MRA. For the purposes of this statement, GSPs are not 'metering points'.
Metering Point Administration Number (MPAN)	A number relating to a Metering Point under the MRA.
Metering System	Particular commissioned metering equipment installed for the purposes of measuring the quantities of exports and/or imports at the exit point or entry point.
Metering System Identifier (MSID)	MSID is a term used throughout the BSC and its subsidiary documents and has the same meaning as MPAN as used under the MRA.
Master Registration Agreement (MRA)	The MRA is an Agreement that sets out terms for the provision of Metering Point Administration Services (MPAS) Registrations, and procedures in relation to the Change of Supplier to any premise/metering point.
MRA Agreed Procedures (MAPs)	As defined in the MRA.
Nested Networks	This refers to a situation where there is more than one level of Embedded Network and therefore nested Distribution Systems between LDNOs (e.g. host DNO primary nested DNO secondary nested DNO customer).
Non-Intermittent Generation	Defined in DCUSA Schedule 16 as a generation plant where the energy source of the prime mover can be made available on demand, in accordance with the definitions in Engineering Recommendation P2/6. These include Combined Cycle Gas Turbine (CCGT), gas generators, landfill, sewage, biomass, biogas, energy crop, waste incineration and combined heat and power (CHP)
Ofgem	Office of Gas and Electricity Markets – Ofgem is governed by GEMA and is responsible for the regulation of the distribution companies.
Profile Class (PC)	A categorisation applied to NHH MPANs and used in Settlement to group Customers with similar consumption patterns to enable the calculation of consumption profiles.
Settlement	The determination and settlement of amounts payable in respect of charges (including reconciling charges) in accordance with the BSC.
Settlement Class (SC)	The combination of Profile Class, Line Loss Factor Class, Time Pattern Regime and Standard Settlement Configuration, by Supplier within a GSP group and used for Settlement.
Standard Settlement Configuration (SSC)	A standard metering configuration relating to a specific combination of Time Pattern Regimes.

Supercustomer	The method of billing Users for use of system on an aggregated basis, grouping together consumption and standing charges for all similar NHH metered Customers or aggregated HH metered Customers.
Supercustomer DUoS Report	A report of profiled data by Settlement Class providing counts of MPANs and units consumed.
Supplier	An organisation with a supply licence responsible for electricity supplied to and/or exported from a metering point.
Supplier Volume Allocation (SVA)	As defined in the BSC.
Time Pattern Regime (TPR)	The pattern of switching behaviour through time that one or more meter registers follow.
Unmetered Supplies	Exit points deemed to be suitable as unmetered supplies as permitted in the Electricity (Unmetered Supply) Regulations 2001 and where operated in accordance with BSC procedure 520 ¹ .
Use of System Charges	Charges which are applicable to those parties which use the Distribution System.
User	Someone that has a use of system agreement with the LDNO e.g. a supplier, generator or other LDNO.

¹ Balancing and Settlement Code Procedures are available from <http://www.elexon.co.uk/pages/bscps.aspx>

APPENDIX 2 – Guidance Notes¹

Background

- A.2.1 The electricity bill from your Supplier contains an element of charge to cover electricity distribution costs. This distribution charge covers the cost of operating and maintaining a safe and reliable Distribution System that forms the ‘wires’ that transport electricity between the national transmission system and end users such as homes and businesses. Our Distribution System includes overhead lines, underground cables, as well as substations and transformers.
- A.2.2 In most cases, your Supplier is invoiced for the distribution charge and this is normally part of your total bill. In some cases, for example business users, the supplier may pass through the distribution charge as an identifiable line item on the electricity bill.
- A.2.3 Where electricity is generated at a property your Supplier may receive a credit for energy that is exported on to the Distribution System. These credits are intended to reflect that the exported generation may reduce the need for traditional demand led reinforcement of the Distribution System.
- A.2.4 Understanding your distribution charges could help you reduce your costs and increase your credits. This is achieved by understanding the components of the charge to help you identify whether there may be opportunities to change the way you use the Distribution System.

Meter Point Administration

- A.2.5 We are responsible for managing the electricity supply points that are connected to our Distribution System. Typically, every supply point is identified by a Meter Point Administration Number (MPAN). A few supply points may have more than one MPAN depending on the metering configuration (e.g. a school which may have an MPAN for the main supply and a MPAN for catering).
- A.2.6 The full MPAN is a 21-digit number, preceded by an ‘S’. The MPAN applicable to a supply point is found on the electricity bill from your Supplier. This number enables you to establish who your electricity distributor is, details of the characteristics of the supply and importantly the distribution charges that are applicable to your premise.
- A.2.7 The 21-digit number is normally presented in two sections as shown in the following diagram. The top section is supplementary data which gives information about the characteristics of supply, while the bottom ‘core’ is the unique identifier.

Full MPAN diagram

	Profile Class	Meter Timeswitch Code	Line Loss Factor Class	
S	01	801	A01	Supplementary Data
	38	1234 5678	352	MPAN Core
	Distributor ID	Unique ID	Check Digit	

¹ These guidance notes are provided for additional information and do not form part of the application of charges

A.2.8 Generally, you will only need to know the Distributor ID and LLFC to identify the distribution charges for your premise. However, there are some premises where charges are specific to that site. In these instances, the charges are identified by the MPAN core. The Distributor ID for Indigo Power is 38. Other Distributor IDs can be referenced in the glossary.

A.2.9 Additionally, it can be useful to understand the profile class provided in the supplementary data. The profile class will be a number between 00 and 08. The following list provides details of the allocation of profile classes to types of customers:

- '01' – Domestic customers with unrestricted supply
- '02' – Domestic customers with restricted load, for example off-peak heating
- '03' – Non-domestic customers with unrestricted supply
- '04' – Non-domestic customers with restricted load, for example off-peak heating
- '05' – Non-domestic maximum demand customers with a Load Factor of less than 20%
- '06' – Non-domestic maximum demand customers with a Load Factor between 20% and 30%
- '07' – Non-domestic maximum demand customers with a Load Factor between 30% and 40%
- '08' – Non-domestic maximum demand customers with a Load Factor over 40% or non-half hourly metered generation customers
- '00' – Half-hourly metered demand and generation customers

- A.2.10 Unmetered Supplies will be allocated to profile class 01, 08 and 00 depending on the type of load or the measurement method of the load.
- A.2.11 The allocation of the profile class will affect your charges. If you feel that you have been allocated the wrong profile class, please contact your Supplier as they are responsible for this.

Your Charges

- A.2.12 All distribution charges that relate to our Distributor ID 38 are provided in this statement.
- A.2.13 You can identify your charges by referencing your LLFC, from Annex 1. If the MPAN is for a Designated EHV Property then the charges will be found in Annex 2. In a few instances, the charges may be contained in Annex 3. When identifying charges in Annex 2, please note that some LLFC have more than one charge. In this instance you will need to select the correct charge by cross referencing with the MPAN core provided in the table.
- A.2.14 Once you have identified which charge structure applies to your MPAN then you will be able to calculate an estimate of your distribution charge using the calculator provided in the spreadsheet 'Schedule of charges and other tables' found in the sheet called 'Charge Calculator'. This spreadsheet can be downloaded from www.advancedelectricitynetworks.co.uk

Reducing Your Charges

- A.2.15 The most effective way to reduce your energy charges is to reduce your consumption by switching off or using more energy efficient appliances. However, there are also other potential opportunities to reduce your distribution charges; for example, it may be beneficial to shift demand or generation to a better time period. Demand use is likely to be cheaper outside peak periods and generation credits more beneficial during peaked periods. Although the ability to directly benefit will be linked to the structure of your supply charges.
- A.2.16 The calculator mentioned above provides the opportunity to establish a forecast of the change in distribution charges that could be achieved if you are able to change any of the consumption related inputs.

Reactive Power and Reactive Power Charges

- A.2.17 Reactive power is a separately charged component of connections that are half-hourly metered. Reactive power charges are generally avoidable if 'best practice' design of the properties' electrical installation has been provided in order to maintain a power factor between 0.95 and unity at the Metering Point.
- A.2.18 Reactive Power (kVA_{rh}) is the difference between working power (active power measured in kW) and total power consumed (apparent power measured in kVA). Essentially it is a measure of how efficiently electrical power is transported through an electrical installation or a Distribution System.
- A.2.19 Power flowing with a power factor of unity results in the most efficient loading of the Distribution System. Power flowing with a power factor of less than 0.95 results in much higher losses in the Distribution System, a need to potentially provide higher capacity electrical equipment and consequently a higher bill for you, the consumer. A comparatively small improvement in power factor can bring about a significant reduction in losses since losses are proportional to the square of the current.

- A.2.20 Different types of electrical equipment require some 'reactive power' in addition to 'active power' in order to work effectively. Electric motors, transformers and fluorescent lighting, for example, may produce poor power factors due to the nature of their inductive load. However, if good design practice is applied then the poor power factor of appliances can be corrected as near as possible to source. Alternatively, poor power factor can be corrected centrally near to the meter.
- A.2.21 There are many advantages that can be achieved by correcting poor power factor. These include reduced energy bills through lower reactive charges, lower capacity charges and reduced power consumption and reduced voltage drop in long cable runs.

Site-specific EHV Charges

- A.2.22 A site classified as a Designated EHV Property is subject to a locational based charging methodology (referred to as EDCM) for higher voltage network users. DNOs use two approved EDCM approaches: Long Run Incremental Cost Pricing (LRIC) and Forward Cost Pricing (FCP). Charges levied on us by the Host DNO in the distribution services area will be passed-through by us to the customer, there will also be additional charges levied by us on the customer to reflect the use of system charges applicable for the portion of our network used to supply the customer in accordance with our approved Use of System Charging Methodology. The EDCM will apply to Customers connected at Extra High Voltage (22 kV or more) or connected at High Voltage and metered at a substation which contains a primary voltage of 22 kV or above. (for the full definition of a Designated EHV Property, refer to Condition 13B.6 of the Electricity Distribution License Standard Conditions)
- A.2.23 EDCM charges and credits are site-specific, reflecting the degree to which the local and higher voltage networks have the capacity to serve more demand or generation without the need to upgrade the electricity infrastructure. The charges also reflect the networks specifically used to deliver the electricity to the site as well as the usage at the site. Generators with non-intermittent output and deemed to be providing beneficial support to our networks may qualify to receive payment of credit.
- A.2.24 The charges under the EDCM comprise of the following individual components:
- Fixed charge (pence/MPAN/day) - This charge recovers operational costs associated with those connection assets that are provided for the 'sole' use of the customer. The value of these assets is used as a basis to derive the charge.
 - Capacity charge (pence/kVA/day) - This charge is levied on the MIC, MEC, and any exceeded capacity. You may wish to review your MIC or MEC periodically to ensure it remains appropriate for your needs as you may be paying for more capacity than you require. If you wish to make changes, contact us via the details in paragraph 1.11.
 - Super-red charge or credit (pence/kWh) - For import, this is zero or a positive rate (charge). For export, this is zero or a negative rate (credit). The rate is applied to consumption during the Super-red period as detailed in Annex 2.

A.2.25 Future import charge rates may be affected by consumption during the Super-red period, therefore reducing consumption may be beneficial.

A.2.26 Our costs include direct and indirect operational costs and an amount to ensure recovery of a reasonable return on the assets, in accordance with our approved Use of System Charging Methodology Statement. The fixed and capacity charges recover these costs using the customer usage profile and the relevant assets being used to transport electricity between the source substation and the customer's Metering Point. Charges levied on us by the host DNO are added to our charges as a direct pass-through cost.

A.2.27 Reactive Power -The EDCM does not include a separate charge component for any reactive power flows (kVAr) for either demand or generation. However, the EDCM charges do reflect the effect on the network of the customer's power factor, for example unit charges can increase if your site power factor is poor (lower than 0.95). Improving your site's power factor will also reduce the maximum demand (kVA) for the same power consumed in kW thus providing scope to reduce your agreed capacity requirements.

Additional Notes

A.2.28 Domestic Aggregated (Related MPAN) and Non-Domestic Aggregated (Related MPAN) are supplementary, offpeak, tariffs to their standard, Domestic Aggregated and Non-Domestic Aggregated tariffs, respectively. Related MPAN, off-peak, terms are only available to Metering Points that are already on such terms and where:

- the Customer retains the original off-peak equipment and the circuits from which the off-peak supply is taken are separated from all other circuits;
- the function of the off-peak equipment is not duplicated by other equipment connected to the other circuits; and
- "off-peak equipment" means appliances such as thermal storage heaters, storage water heaters or other equipment as agreed by Advanced Electricity Networks

A.2.29 Generally, Domestic DUoS tariffs are available only to premises:

- used exclusively as a single private residence; or
- comprising more than one private residence where the estimated maximum demand of the supply does not exceed 25 kW

Appendix 3 – Non-Final Demand Certificate

A certificate set out in the exemplar form given below shall be submitted to enquiries@advancedelectricitynetworks.co.uk to justify why it is proposed that a site should be classified as a Non-Final Demand site.

Non-Final Demand Site Certificate of Compliance

This is to certify that the Metering System listed below qualifies as compliant with the criteria of a Non Final Demand Site for the purposes of Use of System charges, and that:

The property is a Single Site at which either or both Electricity Storage and /or Electricity Generation occurs (whether the facility(ies) at the site are operating or being commissioned repaired, or decommissioned), and that:

- a) has an export MPAN and an import MPAN with associated metering equipment which only measures export from Electricity Storage and/or Electricity Generation and import for or directly relating to Electricity Storage and/or Electricity Generation (and not export from another source and/or import for another activity); and
 - i) if registered in an MPAS Registration System, is subject to certification from a Supplier Party that the site meets the criteria in paragraph (a) above, which certificate has been provided to the DNO /IDNO Party; or
 - ii) if registered in CMRS, is subject to certification from the Customer (or its CVA Registrant) that the site meets the criteria in paragraph (a) above, which certificate has been provided to the DNO/IDNO Party.

For the purposes of this declaration the term Non-Final Demand Site has the meaning given to it in the DCUSA.

Metering System Site Address:

Qualifying Import MPAN/MSID(s)

Qualifying Export MPAN/MSID(s)

I declare that I understand the qualification requirements and certify that the above Metering System meets the criteria of a Non-Final Demand Site.

Authorised signatory:

Name and designation:

On behalf of company:

Date:

Annexes

Annex 1	Schedule of Charges for use of the Distribution System by LV and HV Designated Properties	Available as a spreadsheet at www.advancedelectricitynetworks.co.uk
Annex 2	Schedule of Charges for use of the Distribution System by Designated EHV Properties (including LDNOs with Designated EHV Properties/end-users).	Available as a spreadsheet at www.advancedelectricitynetworks.co.uk
Annex 3	Schedule of Charges for use of the Distribution System by Preserved/Additional LLFC Classes	Available as a spreadsheet at www.advancedelectricitynetworks.co.uk
Annex 4	Charges applied to LDNOs with HV/LV end-users	Available as a spreadsheet at www.advancedelectricitynetworks.co.uk
Annex 5	Schedule of Line Loss Factors	Available as a spreadsheet at www.advancedelectricitynetworks.co.uk
Annex 6	Charges for New or Amended Designated EHV Properties	Available as a spreadsheet at www.advancedelectricitynetworks.co.uk
Annex 7	Supplier of last Resort and Eligible Bad Debt Pass-Through Costs	Available as a spreadsheet at www.advancedelectricitynetworks.co.uk