

SP DISTRIBUTION PLC

Use of System Charging Statement

FINAL NOTICE

Effective from 1st April 2015

Version 1.0

This statement is in a form approved by the Gas and Electricity Markets Authority.

Version Control

Version	Date	Description of version and any changes made

A change-marked version of this statement can be provided upon request.

Contents

1. Introduction	5
Validity period	6
Contact details	6
2. Charge application and definitions	8
Supercustomer billing and payment	8
Supercustomer charges	8
Site-specific billing and payment	10
Site-specific billed charges	10
Time periods for half-hourly metered properties	11
Time periods for pseudo half-hourly unmetered properties	11
Application of capacity charges	12
Chargeable capacity	12
Exceeded capacity	12
Demand exceeded capacity	12
Generation exceeded capacity	13
Standby capacity for additional security on site	13
Minimum capacity levels	14
Application of charges for excess reactive power	14
Demand chargeable reactive power	14
Generation chargeable reactive power	15
Incorrectly allocated charges	15
Generation charges for pre-2005 Designated EHV Properties	17
Provision of billing data	17
Out of area use of system charges	18
Licensed distribution network operator charges	18
Licence exempt distribution networks	18
Full settlement metering	19
Difference metering	19
3. Schedule of charges for use of the distribution system	21
4. Schedule of line loss factors	22
Role of line loss factors in the supply of electricity	22
Calculation of line loss factors	22
Line loss factor time periods	23
Line loss factor tables	23
5. Notes for Designated EHV Properties	24
EDCM network group costs	24
Charges for new Designated EHV Properties	24
Charges for amended Designated EHV Properties	24
Demand-side management	25
6. Electricity distribution rebates	26
7. Accounting and administration services	26
8. Charges for electrical plant provided ancillary to the grant of use of system	26
Appendix 1 - Glossary	27
Appendix 2 - Guidance notes	33
Background	33
Meter point administration	33
Your charges	35
Reducing your charges	35
Reactive power and reactive power charges	36

Site-specific EDCM charges	37
Annex 1 - Schedule of charges for use of the distribution system by LV and HV Designated Properties	39
Annex 2 - Schedule of charges for use of the distribution system by Designated EHV Properties (including LDNOs with Designated EHV Properties/end-users)	40
Annex 3 - Schedule of charges for use of the distribution system by preserved/additional LLF classes	44
Annex 4 - Charges applied to LDNOs with LV and HV end-users	45
Annex 5 - Schedule of line loss factors	49
Annex 6 - Addendum to charging statement detailing charges for new Designated EHV Properties	53

1. Introduction

- 1.1. This statement tells you about our charges and the reasons behind them. It has been prepared consistent with Standard Licence Condition 14 of our Electricity Distribution Licence. The main purpose of this statement is to provide our schedule of charges¹ for the use of our Distribution System and to provide the schedule of adjustment factors² that should be applied in Settlement to account for losses from the Distribution System. We have also included guidance notes in Appendix 2 to help improve your understanding of the charges we apply.
- 1.2. Within this statement we use terms such as 'Users' and 'Customers' as well as other terms which are identified with initial capitalisation. These terms are defined in the glossary.
- 1.3. The charges in this statement are calculated using the Common Distribution Charging Methodology (CDCM) for Low Voltage and High Voltage (LV and HV) Designated Properties and the Extra-high Voltage (EHV) Distribution Charging Methodology (EDCM) for Designated EHV Properties.
- 1.4. Separate charges are calculated depending on the characteristics of the connection and whether the use of the Distribution System is for demand or generation purposes. Where a generation connection is seen 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 can usually be referenced using the 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 premise is provided in the guidance notes in Appendix 2.
- 1.6. All charges in this statement are shown **exclusive** of VAT. Invoices will include VAT at the applicable rate.
- 1.7. The annexes that form part 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

¹ Charges can be positive or negative.

² Also known as Loss Adjustment Factors or Line Loss Factors

http://www.scottishpower.com/pages/connections_use_of_system_and_metering_services.asp.

Validity period

- 1.8. This charging statement is valid for services provided from the effective date stated on the front of the statement and remains valid until updated 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 or statements covering the period that is of interest are used.
- 1.10. Notice of any revision to the statement will be provided to Users of our Distribution System. The latest statements can be downloaded from http://www.scottishpower.com/pages/connections_use_of_system_and_metering_services.asp.

Contact details

- 1.11. If you have any questions about this statement please contact us at this address:

SP Energy Networks, Regulation and Commercial
Prenton Way
Birkenhead, Merseyside
CH43 3ET
Email: commercial@scottishpower.com
Telephone: 0141 614 5851

- 1.12. All enquiries regarding connection agreements and changes to maximum capacities should be addressed to:

SP Energy Networks
Ochil House
10 Technology Avenue
Hamilton International Technology Park
Blantyre
G72 0HT
Email: capacityq@scottishpower.com
Telephone: 0141 614 1605

1.13. For all other queries please contact our general enquiries telephone number:
0330 10 10 4444.

2. Charge application and definitions

- 2.1. The following section details how the charges in this statement are applied and billed to Users of our Distribution System.
- 2.2. We utilise two billing approaches depending on the type of metering data received. The 'Supercustomer' approach is used for Non-Half-Hourly (NHH) metered, NHH unmetered or aggregated Half-Hourly (HH) metered premises and the 'Site-specific' approach is used for HH metered or pseudo HH unmetered premises.
- 2.3. Typically NHH metered are domestic and small businesses, HH metered are larger businesses and unmetered premises are normally streetlights.

Supercustomer billing and payment

- 2.4. Supercustomer billing and payment applies to metering points registered as NHH metered, NHH unmetered or aggregated HH metered. The Supercustomer approach makes use of aggregated data obtained from Suppliers using the 'Non Half Hourly Distribution Use of System (DUoS) Report' data flow.
- 2.5. 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.
- 2.6. The charges are applied on the basis of the LLFC assigned to a Meter Point Administration Number (MPAN), and the units consumed within the time periods specified in this statement. These time periods may not necessarily be the same as those indicated by the Time Pattern Regimes (TPRs) assigned to the Standard Settlement Configuration (SSC). All LLFCs are assigned at our sole discretion.

Supercustomer charges

- 2.7. Supercustomer charges include the following components:
 - a fixed charge - pence/MPAN/day; there will be only one fixed charge applied to each MPAN; and
 - unit charges, pence/kWh; more than one unit charge may apply depending on the type of tariff for which the MPAN is registered.

- 2.8. Users who supply electricity to a Customer whose metering system is:
- Measurement Class A or B, and settled on Profile Classes (PC) 1 through to 8;
- or
- Measurement Class F or G;
- will be allocated the relevant charge structure set out in Annex 1.
- 2.9. Measurement Class A charges apply to Exit/Entry Points where NHH metering is used for Settlement.
- 2.10. Measurement Class B charges apply to Exit Points deemed to be suitable as Unmetered Supplies as permitted in the Electricity (Unmetered Supply) Regulations 2001³ and where operated in accordance with Balancing and Settlement Code (BSC) procedure 520⁴.
- 2.11. Measurement Class F and G charges apply to Exit/Entry Points where HH aggregated metering data is used for Settlement.
- 2.12. Identification of the appropriate charge can be made by cross-reference to the LLFC.
- 2.13. Valid Settlement PC/SSC/ Meter Timeswitch Code (MTC) combinations for LLFCs where the Metering System is Measurement Class A and B are detailed in Market Domain Data (MDD).
- 2.14. Where an MPAN has an invalid Settlement combination, the 'Domestic Unrestricted' 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 Unrestricted' fixed and unit charges will be applied for each invalid TPR combination.
- 2.15. The time periods for unit charges where the Metering System is Measurement Class A and B are as specified by the SSC. To determine the appropriate charge rate for each SSC/TPR a lookup table is provided in the spread sheet that accompanies this statement⁵.

³ The Electricity (Unmetered Supply) Regulations 2001 available from <http://www.legislation.gov.uk/uksi/2001/3263/made>

⁴ Balancing and Settlement Code Procedures on unmetered supplies are available from <http://www.elexon.co.uk/pages/bscps.aspx>

⁵ SPD - Schedule of charges and other tables – Dec 14.xlsx

- 2.16. The time periods for unit charges where the Metering System is Measurement Class F and G are set out in the table 'Time Bands for Half Hourly Metered Properties' in Annex 1.
- 2.17. The 'Domestic Off-Peak' and 'Small Non-Domestic Off-Peak' charges are additional to either an unrestricted or a two-rate charge.

Site-specific billing and payment

- 2.18. Site-specific billing and payment applies to Measurement Class C, D and E metering points settled as HH metered. The site-specific billing and payment approach to Use of System (UoS) billing makes use of HH metering data at premise level received through Settlement.
- 2.19. 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 adjustment that may be necessary following the receipt of actual data from the User.
- 2.20. 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.
- 2.21. All LLFCs are assigned at our sole discretion. Where an incorrectly applied LLFC is identified, we may at our sole discretion apply the correct LLFC and/or charges.

Site-specific billed charges

- 2.22. Site-specific billed charges may include the following components:
- a fixed charge pence/MPAN/day or pence/MSID/day;
 - a capacity charge, pence/kVA/day, for Maximum Import Capacity (MIC) and/or Maximum Export Capacity (MEC);
 - an excess capacity charge, pence/kVA/day, if a site exceeds its MIC and/or MEC;
 - unit charges, pence/kWh, more than one unit charge may be applied;
- and
- an excess reactive power charge, pence/kVArh, for each unit in excess of the reactive charge threshold.

- 2.23. Users who wish to supply electricity to customers whose metering system is Measurement Class C, D or E or CVA will be allocated the relevant charge structure dependent upon the voltage and location of the metering point.
- 2.24. Measurement Class C, E or CVA charges apply to Exit/Entry Points where HH metering, or an equivalent meter, is used for Settlement purposes.
- 2.25. Measurement Class D charges apply to Exit points deemed to be suitable as Unmetered Supplies as permitted in the Electricity (Unmetered Supply) Regulations 2001⁶ and where operated in accordance with BSC procedure 520⁷.
- 2.26. Fixed charges are generally levied on a pence per MPAN/ MSID basis.
- 2.27. LV and HV Designated Properties will be charged in accordance with the CDCM and allocated the relevant charge structure set out in Annex 1.
- 2.28. Designated EHV Properties will be charged in accordance with the EDCM and allocated the relevant charge structure set out in Annex 2.
- 2.29. 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.

Time periods for half-hourly metered properties

- 2.30. The time periods for the application of unit charges to LV and HV Designated Properties that are HH metered 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 Designated EHV Properties are detailed in Annex 2. We have not issued a notice to change the time bands.

Time periods for pseudo half-hourly unmetered properties

- 2.32. The time periods for the application of unit charges to connections that are pseudo HH metered are detailed in Annex 1. We have not issued a notice to change the time bands.

⁶ The Electricity (Unmetered Supply) Regulations 2001 available from <http://www.legislation.gov.uk/uksi/2001/3263/made>

⁷ Balancing and Settlement Code Procedures on unmetered supplies and available from <http://www.elexon.co.uk/pages/bscps.aspx>

Application of capacity charges

2.33. The following sections explain the application of capacity charges and exceeded capacity charges.

Chargeable capacity

2.34. The chargeable capacity is, for each billing period, the MIC/MEC, as detailed below.

2.35. The MIC/MEC will be agreed with us 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 a period of one year.

2.36. Reductions to the MIC/MEC may only be permitted once in a 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.

2.37. 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 premise's 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

2.38. 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, based on the difference between the MIC/MEC and the actual capacity used. This will be charged for the full duration of the month in which the breach occurs.

Demand exceeded capacity

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

Where:

AI = Active Import (kWh)

RI = Reactive import (kVArh)

RE = Reactive export (kVArh)

MIC = Maximum import capacity (kVA)

- 2.39. Only reactive import and reactive export values occurring at times of active import are used in the calculation. For sites which are importing and exporting in the same HH, i.e. where active import is not equal to zero and active export is not equal to zero, use zero for reactive import and reactive export when calculating capacity taken.
- 2.40. This calculation is completed for every half hour and the maximum value from the billing period is applied.

Generation exceeded capacity

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

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. For sites which are importing and exporting in the same HH, i.e. where active import is not equal to zero and active export is not equal to zero, use zero for reactive import and reactive export when calculating capacity taken.
- 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. Where, at the customer's request, for additional security of supplies requiring sterilisation of capacity at two different

sources of supply, we reserve the right to charge for the capacity held at each source.

Minimum capacity levels

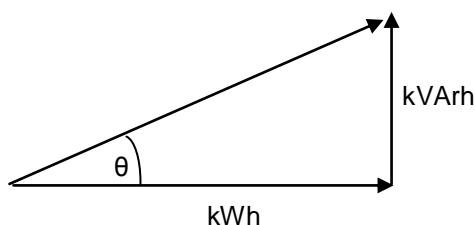
2.44. There is no minimum capacity threshold.

Application of charges for excess 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 total active power (measured in kWh), excess reactive power charges will apply. This threshold is equivalent to an average power factor of 0.95 during the period. 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:

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



2.47. The chargeable reactive power is calculated as follows:

Demand chargeable reactive power

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

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. For sites which are importing and exporting in the same HH i.e. where active import is not equal to zero and active export is

not equal to zero, no calculation for that HH is made and the result for that HH would be zero.

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

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

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. For sites which are importing and exporting in the same HH i.e. where active import is not equal to zero and active export is not equal to zero, no calculation for that HH is made and the result for that HH would be zero.

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.

Incorrectly allocated charges

2.54. It is our responsibility to apply the correct charges to each MPAN/MSID. The allocation of charges is based on the voltage of connection and metering information. We are responsible for deciding the voltage of connection while the Supplier determines and provides the metering information.

2.55. Generally, the voltage of connection is determined by where the metering is located and where responsibility for the electrical equipment transfers from us to the connected customer. This is normally established when the MPAN/MSID is created and will include information about whether the MPAN/MSID is for import or export purposes. Where an MPAN/MSID is used for export purposes the type of generation (intermittent or non-intermittent) will also be determined.

- 2.56. The Supplier provides us with metering information which enables us to allocate charges where there is more than one charge per voltage level. This metering data is likely to change over time if, for example, a Supplier changes from a two rate meter to a single rate meter. When this happens we will change the allocation of charges accordingly.
- 2.57. Where it has been identified that a charge is likely to be incorrectly allocated due to the wrong voltage of connection (or import/export details) then a correction request must be made to us. Requests from persons other than the current Supplier must be accompanied by a Letter of Authority from the Customer; the existing Supplier must also be informed. Any request must be supported by an explanation of why it is believed that the current charge is wrongly applied along with supporting information, including, where appropriate photographs of metering positions or system diagrams. Any request to correct the current charge that also includes a request to backdate the correction must include justification as to why it is considered appropriate to backdate the change.
- 2.58. If it has been identified that a charge has been incorrectly allocated due to the metering data then a correction request should be made to the Supplier.
- 2.59. Where we agree that an MPAN/MSID has been assigned to the wrong voltage level then we will correct it by allocating the correct set of charges for that voltage level. Any adjustment for incorrectly applied charges will be as follows:
- Any credit or additional charge will be issued to the Supplier/s who were effective during the period of the change.
 - The correction will be applied from the date of the request, back to the date of the incorrect allocation 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.
- 2.60. Should we reject the request a justification will be provided to the requesting Party.
- 2.61. 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

2.62. Designated EHV Properties that were connected to the distribution system under a pre-2005 connection charging policy are eligible for exemption from UoS charges for generation unless one of the following criteria has been met:

- 25 years have passed since their first energisation/connection date (i.e. Designated EHV Properties with connection agreements dated prior to 1st April 2005, and for which 25 years has passed since their first energisation/connection date will receive use of system charges for generation from the next charging year following the expiry of their 25 years exemption, (starting 1st April), or
- the person responsible for the Designated EHV Property has provided notice to us that they wish to opt in to UoS charges for generation.

If a notice to opt in has been provided there will be no further opportunity to opt out.

2.63. Furthermore, if an exempt customer makes an alteration to its export requirement then the customer may be eligible to be charged for the additional capacity required or energy imported or exported. For example, where a generator increases its export capacity the incremental increase in export capacity will attract UoS charges as with other non-exempt generators.

Provision of billing data

2.64. Where HH metering data is required for UoS charging and this is not provided in accordance with the 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.

2.65. The metering data shall identify the amount consumed and/or produced 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.

2.66. 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 D0036 (as agreed with us). The data shall be emailed to uosadministrators@scottishpower.com.

- 2.67. 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

- 2.68. We do not operate networks outside our Distribution Service Area.

Licensed distribution network operator charges

- 2.69. Licenced Distribution Network Operator (LDNO) charges are applied to LDNOs who operate Embedded Networks within our Distribution Service Area.
- 2.70. 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.
- 2.71. Where an MPAN has an invalid Settlement combination, the 'LDNO LV: Domestic Unrestricted' 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 LV: Domestic Unrestricted' fixed and unit charges will be applied for each invalid TPR combination.
- 2.72. The charge structure for Designated EHV Properties embedded in networks operated by LDNOs will be calculated individually using the EDCM. The relevant charge structures are set out in Annex 2.
- 2.73. For Nested Networks the relevant charging principles set out in DCUSA Schedule 21 will apply.

Licence exempt distribution networks

- 2.74. The Electricity and Gas (Internal Market) Regulations 2011 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.

- 2.75. When customers (both domestic and commercial) are located within an 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.
- 2.76. Licence exempt distribution networks owners can provide third party access using either full settlement metering or the difference metering approach.

Full settlement metering

- 2.77. 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.
- 2.78. In this approach our UoS charges will be applied to each MPAN.

Difference metering

- 2.79. 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 premise. Under this approach the customers requiring third part access on the exempt distribution network will have their own MPAN and must have a HH Metering System.
- 2.80. Unless agreed otherwise, our UoS charges will be applied using gross settlement.

Gross settlement

- 2.81. Where one of our MPANs (provide details of MPAN prefix relevant to DNO's licence) 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 .

2.82. 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 MRA data flow;
- the text file shall be emailed to uosadministrators@scottishpower.com;
- the title of the email should also contain the phrase “gross data for difference metered private network”.
- 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;
- 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”; and

2.83. 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.

3. Schedule of charges for use of the distribution system

- 3.1. Tables listing the charges for the distribution of electricity for UoS are published in the annexes to this document.
- 3.2. These charges are also listed in a spreadsheet which is published with this statement and can be downloaded from:
http://www.scottishpower.com/pages/connections_use_of_system_and_metering_services.asp
- 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 lost⁸ 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 on the Distribution System.
- 4.2. We are responsible for calculating the Line Loss Factors⁹ (LLFs) and providing these to Elexon. Elexon is the company that manages the BSC. This code covers the governance and rules for the balancing and settlement arrangements.
- 4.3. Annex 5 provides the LLFs that are used to adjust the metering system volumes to take account of losses on the distribution network.

Calculation of line loss factors

- 4.4. LLFs are calculated in accordance with BSC procedure 128 that determines the principles with which we must comply when calculating LLFs.
- 4.5. LLFs are calculated using either a generic method 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.
- 4.6. The definition of EHV used for LLF purposes differs from the definition used for defining Designated EHV Properties that is used in the EDCM. The definition used for LLF purposes can be found in our LLF methodology.
- 4.7. The Elexon website (<http://www.elexon.co.uk/reference/technical-operations/losses/>) contains more information on LLFs. This page also has links to BSC procedure 128 and to our LLF methodology.

⁸ 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.

⁹ Also referred to as Loss Adjustment Factors.

Line loss factor time periods

- 4.8. LLFs are calculated for a set number of time periods during the year and are detailed in Annex 5.

Line loss factor tables

- 4.9. When using the LLF tables in Annex 5 reference should be made to the LLFC allocated to the MPAN to find the appropriate LLF.

- 4.10. The Elexon portal website, <https://www.elexonportal.co.uk>, contains the LLFs in standard industry data format (D0265). A user guide with details on registering and using the portal can be downloaded from:

www.elexonportal.co.uk/Userguide

5. Notes for Designated EHV Properties

EDCM network group costs

- 5.1. A table is provided in the accompanying spreadsheet which shows the underlying FCP network group costs used to calculate the current EDCM charges. This spreadsheet "SPD – Schedule of Charges and Other Tables.xlsx" is available to download from our website.
- 5.2. These are illustrative of the modelled costs at the time that this statement was published. A new connection will result in changes to current network utilisations, which will then form the basis of future prices: the charge determined in this statement will not necessarily be the charge in subsequent years because of the interaction between new and existing network connections and any other changes made to our Distribution System which may affect charges.

Charges for new Designated EHV Properties

- 5.3. 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.
- 5.4. The form of the addendum is detailed in Annex 6 to this statement.
- 5.5. The addendum will be sent to relevant DCUSA parties and published as a revised 'Schedule of Charges and Other Tables' spreadsheet on our website. The addendum will include charge information that under enduring circumstances would be found in Annex 2 and line loss factors that would normally be found in Annex 5.
- 5.6. The new Designated EHV Properties charges will be added to Annex 2 in the next full statement released.

Charges for amended Designated EHV Properties

- 5.7. Where an existing Designated EHV Property is modified and energised in the charging year, we may revise the EDCM charges for the modified Designated EHV Property. If revised charges are appropriate, an addendum will be sent to relevant DCUSA 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

- 5.1. For those premises where use of system is charged under the EDCM, some customers may be able to benefit from entering into a Demand Side Management ("DSM") Agreement with SP Distribution, whereby part or all of your MIC will become interruptible by us for active network management purposes other than normal planned outages.
- 5.2. The DSM Agreement will be based upon a contractual commitment by the customer to materially reduce their MIC in certain time periods (determined by SP Distribution) in return for reduced Use of System Charges. Where a DSM Agreement is entered into, the applicable demand capacity costs will be based on the MIC minus the capacity subject to interruption.
- 5.3. 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 Commercial team:

The Distribution Policy Team
Regulation & Commercial
SP Distribution Plc
Ochil House
10 Technology Avenue
Hamilton International Technology Park
Blantyne
G72 0HT
Email: commercial@sppowersystems.com

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 revision of the 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 which can be viewed on:

<http://www.legislation.gov.uk/ukxi/2002/1674/regulation/2/made>

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. None

Appendix 1 - Glossary

1.1. 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/ELEXON Documents/trading_arrangements.pdf .
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.
Central volume allocation (CVA)	As defined in the BSC.
Customer	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 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).
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.

Term	Definition																																																												
Distributor IDs	<p>These are unique 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.</p> <table border="1" data-bbox="644 405 1378 1473"> <thead> <tr> <th>ID</th> <th>Name</th> <th>Operator</th> </tr> </thead> <tbody> <tr> <td>10</td> <td>Eastern Power Networks</td> <td>UK Power Networks</td> </tr> <tr> <td>11</td> <td>East Midlands</td> <td>Western Power Distribution</td> </tr> <tr> <td>12</td> <td>London Power Networks</td> <td>UK Power Networks</td> </tr> <tr> <td>13</td> <td>Merseyside and North Wales</td> <td>Scottish Power</td> </tr> <tr> <td>14</td> <td>Midlands</td> <td>Western Power Distribution</td> </tr> <tr> <td>15</td> <td>Northern</td> <td>Northern Powergrid</td> </tr> <tr> <td>16</td> <td>North Western</td> <td>Electricity North West</td> </tr> <tr> <td>17</td> <td>Scottish Hydro Electric</td> <td>Scottish Hydro Electric Power Distribution plc</td> </tr> <tr> <td>18</td> <td>South Scotland</td> <td>Scottish Power</td> </tr> <tr> <td>19</td> <td>South Eastern Power Networks</td> <td>UK Power Networks</td> </tr> <tr> <td>20</td> <td>Southern Electric</td> <td>Southern Electric Power Distribution plc</td> </tr> <tr> <td>21</td> <td>South Wales</td> <td>Western Power Distribution</td> </tr> <tr> <td>22</td> <td>South Western</td> <td>Western Power Distribution</td> </tr> <tr> <td>23</td> <td>Yorkshire</td> <td>Northern Powergrid</td> </tr> <tr> <td>24</td> <td>GTC</td> <td>Independent Power Networks</td> </tr> <tr> <td>25</td> <td>ESP Electricity</td> <td>ESP Electricity</td> </tr> <tr> <td>26</td> <td>Energetics</td> <td>Energetics Electricity Ltd</td> </tr> <tr> <td>27</td> <td>GTC</td> <td>The Electricity Network Company Ltd</td> </tr> <tr> <td>29</td> <td>Harlaxton Energy Networks</td> <td>Harlaxton Energy Networks</td> </tr> </tbody> </table>	ID	Name	Operator	10	Eastern Power Networks	UK Power Networks	11	East Midlands	Western Power Distribution	12	London Power Networks	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	Scottish Hydro Electric Power Distribution plc	18	South Scotland	Scottish Power	19	South Eastern Power Networks	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	GTC	Independent Power Networks	25	ESP Electricity	ESP Electricity	26	Energetics	Energetics Electricity Ltd	27	GTC	The Electricity Network Company Ltd	29	Harlaxton Energy Networks	Harlaxton Energy Networks
ID	Name	Operator																																																											
10	Eastern Power Networks	UK Power Networks																																																											
11	East Midlands	Western Power Distribution																																																											
12	London Power Networks	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	Scottish Hydro Electric Power Distribution plc																																																											
18	South Scotland	Scottish Power																																																											
19	South Eastern Power Networks	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	GTC	Independent Power Networks																																																											
25	ESP Electricity	ESP Electricity																																																											
26	Energetics	Energetics Electricity Ltd																																																											
27	GTC	The Electricity Network Company Ltd																																																											
29	Harlaxton Energy Networks	Harlaxton Energy Networks																																																											
Distribution Connection and Use of System Agreement (DCUSA)	<p>The DCUSA is a multi-party contract between the licensed electricity distributors, suppliers, generators and Offshore Transmission Owners of Great Britain.</p> <p>It is a requirement that all licensed electricity distributors and suppliers become parties to the DCUSA.</p>																																																												
Distribution Network Operator (DNO)	<p>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.</p>																																																												
Distribution Services Area	<p>The area specified by the Gas and Electricity Markets Authority within which each DNO must provide specified distribution services.</p>																																																												

Term	Definition
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 from:</p> <ul style="list-style-type: none"> • Grid Supply Points or generation sets or other entry points <p>to the points of delivery to:</p> <ul style="list-style-type: none"> • 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) <p>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 LDNO	This refers to an LDNO operating a distribution network which is embedded within another distribution network.
Embedded Network	An electricity Distribution System operated by an LDNO and embedded within another distribution network.
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.

Term	Definition
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.
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 amperes.
kVArh	Kilovolt ampere reactive hour.
kW	Kilowatt.
kWh	Kilowatt hour (equivalent to one "unit" of electricity).
Licensed Distribution Network Operator (LDNO)	The holder of a licence in respect of distribution activities in Great Britain.
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.

Term	Definition
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 unmetred supplies; • Measurement class C – half-hourly metering equipment at or above 100kW premises; • Measurement class D – half-hourly unmetred supplies; and • Measurement class E – half-hourly metering equipment below 100kW premises, and from 5 November 2015, with current transformer. • Measurement class F – half hourly metering equipment at below 100kW premises with current transformer or whole current, and at domestic premises • Measurement class G – half hourly metering equipment at below 100kW premises with whole current and not at domestic premises
Meter Timeswitch Code (MTC)	<p>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, pre-payment or credit, or whether it is 'related' to another meter. Further information can be found in MDD.</p>
Metering Point	<p>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'.</p>
Metering Point Administration Number (MPAN)	<p>A number relating to a Metering Point under the MRA.</p>
Metering System	<p>Particular commissioned metering equipment installed for the purposes of measuring the quantities of exports and/or imports at the exit point or entry point.</p>
Metering System Identifier (MSID)	<p>MSID is a term used throughout the BSC and its subsidiary documents and has the same meaning as MPAN as used under the MRA.</p>
Master Registration Agreement (MRA)	<p>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.</p>
Nested Networks	<p>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).</p>

Term	Definition
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 ¹⁰ .
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 DNO e.g. a supplier, generator or other DNO.

¹⁰ Balancing and Settlement Code Procedures are available from <http://www.elexon.co.uk/pages/bscps.aspx>

Appendix 2 - Guidance notes¹¹

Background

- 1.1. 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.
- 1.2. 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.
- 1.3. 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.
- 1.4. 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.

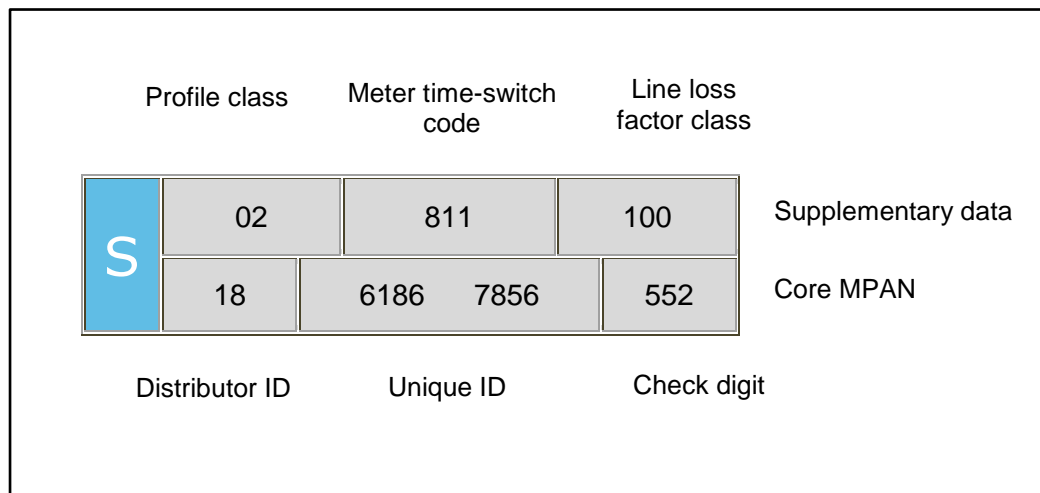
Meter point administration

- 1.5. 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).
- 1.6. 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.

¹¹ These guidance notes are provided for additional information and do not form part of the application of charges.

- 1.7. 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



- 1.8. Generally, you will only need to know the Distributor ID and line loss factor class (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 core MPAN. The Distributor ID for SP Distribution is 18. Other Distributor IDs can be referenced in the glossary.
- 1.9. 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
- 1.10. 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.
- 1.11. 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

- 1.12. All distribution charges that relate to our Distributor ID 18 are provided in this statement.
- 1.13. You can identify your charges by referencing your line loss factor class, 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 maybe contained in Annex 3. When identifying charges in Annex 2, please note that some line loss factor classes have more than one charge. In this instance you will need to select the correct charge by cross referencing with the core MPAN provided in the table.
- 1.14. 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:

http://www.scottishpower.com/pages/connections_use_of_system_and_metering_services.asp

Reducing your charges

- 1.15. 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 where demand use is likely to be cheaper outside peak

periods and generation credits more beneficial, although the ability to directly benefit will be linked to the structure of your supply charges.

- 1.16. 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

- 1.17. 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.
- 1.18. Reactive Power (kVAh) 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.
- 1.19. 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.
- 1.20. 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.
- 1.21. 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 EDCM charges

- 1.22. 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. Distributors use two approved approaches: Long Run Incremental Cost Pricing (LRIC) and Forward Cost Pricing (FCP) and we use the FCP. The EDCM will apply to Customers connected at Extra High Voltage or connected at High Voltage and metered at a high voltage substation.
- 1.23. EDCM charges 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.
- 1.24. The charges under the EDCM comprise of the following individual components:
- a) **Fixed charge** - 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.
 - b) **Capacity charge (pence/kVA/day)** - This charge comprises the relevant FCP component, the National Grid Electricity Transmission cost and other regulated costs.

Capacity charges are levied on the MIC, MEC, or 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 1.12.

The FCP cost is locational and reflects our assessment of future network reinforcement necessary at voltage of connection (local) and beyond at all higher voltages (remote) relevant to the customer's connection. This results in the allocation of higher costs in more capacity congested parts of the network reflecting the greater likelihood of future reinforcement in these areas, and the allocation of lower costs in less congested parts of the network. The local FCP cost is included in the capacity charge.

Our regulated costs include direct and indirect operational costs and a residual amount to ensure recovery of our regulated allowed revenue. The capacity charge recovers these costs using the customer usage profile and the relevant assets being used to transport electricity between the source substation and customer's Metering Point.

c) **Super-red unit charge (pence/kWh)** - This charge recovers the remote FCP component. The charge is positive for import and negative for export which means you can either reduce your charges by minimising consumption or increasing export at those times. The charge is applied on consumption during the Super-red time period as detailed in Annex 2.

1.25. Future charge rates may be affected by consumption during the Super-red period. Therefore reducing consumption in the Super-red time period may be beneficial.

1.26. **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.

Annex 1 - Schedule of charges for use of the distribution system by LV and HV Designated Properties

SP Distribution - Effective from 1 April 2015 - FINAL LV and HV charges

Time Bands for Half Hourly Metered Properties			
Time periods	Red Time Band	Amber Time Band	Green Time Band
Monday to Friday (Including Bank Holidays) All Year	16.30 - 19.30	08.00 - 16.30 19.30 - 22.30	00.00 - 08.00 22.30 - 00.00
Saturday and Sunday All Year		16.00 - 20.00	00.00 - 16.00 20.00 - 00.00
Notes	All the above times are in UK Clock time		

Time Bands for Half Hourly Unmetered Properties			
	Black Time Band	Yellow Time Band	Green Time Band
Monday to Friday (Including Bank Holidays) June to August Inclusive		08.00 - 22.30	00.00 - 08.00 22.30 - 00.00
Monday to Friday (Including Bank Holidays) November to February Inclusive	16.30 - 19.30	08.00 - 16.30 19.30 - 22.30	00.00 - 08.00 22.30 - 00.00
Monday to Friday (Including Bank Holidays) March, April, May and September, October		08.00 - 22.30	00.00 - 08.00 22.30 - 00.00
Saturday and Sunday All year		16.00 - 20.00	00.00-16.00 20.00-00.00
Notes	All the above times are in UK Clock time		

	Open LLFCs	PCs	Unit rate 1 p/kWh (red/black)	Unit rate 2 p/kWh (amber/yellow)	Unit rate 3 p/kWh (green)	Fixed charge p/MPAN/day	Capacity charge p/kVA/day	Reactive power charge p/kVAh	Excess capacity charge p/kVA/day	Closed LLFCs
Domestic Unrestricted	100, 101, 110, 111, 160, 161	1	2.517			4.99				
Domestic Two Rate	114, 115, 118, 119, 120, 121, 162, 163	2	3.109	0.300		4.99				
Domestic Off Peak (related MPAN)	112, 113, 116, 117, 132, 133, 136, 137, 164, 165, 166	2	0.239							130, 134, 135
Small Non Domestic Unrestricted	201, 204	3	2.197			6.39				200, 202, 203, 205
Small Non Domestic Two Rate	221, 224, 260	3&4	3.068	0.366		6.39				220, 222
Small Non Domestic Off Peak (related MPAN)	225, 240, 241, 301, 302	4	0.860							223, 242, 243, 244, 245, 246
LV Medium Non-Domestic	400, 402	5-8	1.937	0.256		29.84				
LV Sub Medium Non-Domestic	404	5-8	1.436	0.175		0.00				
LV Network Domestic	180		14.304	1.272	0.250	4.99				
LV Network Non-Domestic Non-CT	280		13.386	1.166	0.224	6.39				
LV HH Metered	500, 504		11.312	0.883	0.145	25.38	2.50	0.310	2.50	
LV Sub HH Metered	506, 507		9.689	0.588	0.051	8.96	4.57	0.228	4.57	
HV HH Metered	501, 505		7.725	0.416	0.018	135.62	5.00	0.164	5.00	
NHH UMS category A	900	8	1.593							904, 908, 909
NHH UMS category B	901	1	2.086							905
NHH UMS category C	902	1	3.388							906
NHH UMS category D	903	1	1.211							907
LV UMS (Pseudo HH Metered)	910		24.485	1.220	0.620					
LV Generation NHH or Aggregate HH	781, 782, 783, 784, 785	8&0	-0.778							
LV Sub Generation NHH	602	8	-0.684							
LV Generation Intermittent	603, 608		-0.778					0.175		
LV Generation Non-Intermittent	604, 607		-5.225	-0.598	-0.149			0.175		
LV Sub Generation Intermittent	609		-0.684					0.155		
LV Sub Generation Non-Intermittent	610		-4.722	-0.509	-0.121			0.155		
HV Generation Intermittent	611, 612		-0.411			99.03		0.126		
HV Generation Non-Intermittent	605, 606		-3.414	-0.232	-0.029	99.03		0.126		

Annex 2 - Schedule of charges for use of the distribution system by Designated EHV Properties (including LDNOs with Designated EHV Properties/end-users)

SP Distribution - Effective from 1 April 2015 - FINAL EDCM charges

Time Periods for Designated EHV Properties	
Time periods	Super Red Time Band
Monday to Friday (Including Bank Holidays) June to August Inclusive	
Monday to Friday (Including Bank Holidays) November to February Inclusive	16:30 - 19:30
Notes	All the above times are in UK Clock time

Import Unique Identifier	LLFC	Import MPANs/MSIDs	Export Unique Identifier	LLFC	Export MPANs/MSIDs	Name	Import Super Red unit rate (p/kWh)	Import fixed charge (p/day)	Import capacity rate (p/kVA/day)	Import exceeded capacity rate (p/kVA/day)	Export Super Red unit rate (p/kWh)	Export fixed charge (p/day)	Export capacity rate (p/kVA/day)	Export exceeded capacity rate (p/kVA/day)
801	801	1800060004220	MSID 8182	MSID 8182	MSID 8182	Minsca		426.92						
802	802	1800060539962	683	683	1800060539971	Bankend Rig		136.87	3.95	3.95		4579.12	0.05	0.05
803	803	1800060532708	684	684	1800060532717	Barlockhart Moor		177.90	2.10	2.10		8317.96	0.05	0.05
804	804	1800060532726	685	685	1800060532735	Blantyre Muir		344.37	0.80	0.80		5426.66	0.05	0.05
805	805	1800060587850	693	693	1800060587869	Hunterston WF		98.77	0.83	0.83		7372.87	0.05	0.05
806	806	1800060532647	688	688	1800060532656	Middleton Farm		213.58	2.12	2.12		4852.31	0.05	0.05
807	807	1800060532665	689	689	1800060532674	Neilston Community		126.11	2.08	2.08		5952.95	0.05	0.05
808	808	1800053653870	681	681	1800053653880	Garlaff Landfill		109.58	0.79	0.79				
809	809	1800054992968	629	629	1800054992977	Hagshaw Hill Extension		667.99	0.80	0.80		16869.17	0.05	0.05
811	811	1800060328035	671	671	1800060328044	Muirhall		317.64	2.31	2.31		7623.39	0.05	0.05
812	812	1800060372113	672	672	1800060372122	Burnfoot		106.76	0.79	0.79		7450.01	0.05	0.05
813	813	1800060532498	690	690	1800060532503	Westfield WF		56.46	2.03	2.03		6632.80	0.05	0.05
814	814	1800060532683	691	691	1800060532692	Barmoor WF		177.27	2.12	2.12		17726.87	0.05	0.05
815	815	1800060566984	692	692	1800060566993	Nutberry WF		754.31	2.03	2.03		14280.29	0.05	0.05
816	816	1800060652454	695	695	1800060652463	Carcreegh WF		292.40	0.90	0.90		5968.43	0.05	0.05
817	817	1800060567668				Magnox		344.28	1.29	1.29				
818	818	1800060642767	700	700	1800060642776	West Browncastle WF		471.82	0.90	0.90		26708.93	0.05	0.05
819	819	1800060632661	699	699	1800060632670	Viridor (Waste energy)		1380.72	2.13	2.13		8272.79	0.05	0.05
820	820	1800060289486	620	620	1800060289510	Craigengelt		140.54	1.55	1.55		19197.14	0.05	0.05
821	821	1800054865132	621	621	1800054865141	Greenknowes		577.93	0.84	0.84		34675.96	0.05	0.05
822	822	1800060683754	703	703	1800060683763	Ewe Hill Dumfries WF		440.80	2.07	2.07		19886.37	0.05	0.05
823	823	1800060697223	704	704	1800060697232	Langhope Rig (D) WF		39.67	1.69	1.69		1300.95	0.05	0.05
824	824	1800060674253	705	705	1800060674262	Muirhall Extension WF		50.85	2.31	2.31		3030.15	0.05	0.05
825	825	1800060159192	625	625	1800060159208	Aikengall		1397.96				34536.97	0.05	0.05
826	826	1800053646251	626	626	1800053646260	Hagshaw Hill		40.32	2.10	2.10				
827	827	1800053646190	627	627	1800053646206	Gallow Rig		140.59	2.04	2.04				
828	828	1800053646172	628	628	1800053646181	Polwhat Rig		167.23	2.03	2.03				
829	829	1800054738267	624	624	1800054738276	Greenykeside		49.41	2.09	2.09		3467.27	0.05	0.05

830	830	1800053647237	630	630	1800053647246	Dun Law		35.05	2.11	2.11					
831	831	1800053647194	631	631	1800053647200	EPR Scotland Ltd		280.19	3.10	3.10					
832	832	1800053648027	632	632	1800053648036	Bowbeat (Emly Bank)		181.56	3.00	3.00					
833	833	1800053648045	633	633	1800053648054	Bowbeat (Roughsidehill)		126.73	3.01	3.01					
834	834	1800053647380	634	634	1800053647399	Harehill		126.29	2.05	2.05					
835	835	1800053647618	635	635	1800053647627	Shanks & McEwan 3&4		118.41	2.04	2.04					
836	836	1800053647636	636	636	1800053647645	Shanks & McEwan 5		27.79	2.02	2.02					
837	837	1800053653843	637	637	1800053653852	Crystal Rig		648.07	0.79	0.79					
838	838	1800053694167	638	638	1800053694440	Haupland Muir (Ardrossan)		7.33	0.87	0.87		198.36	0.05	0.05	
839	839	1800053950949	639	639	1800053950958	Wetherhill		1141.54							
840	840	1800053434271	640	640	1800053883993	Artfield WF		884.32							
841	841	1800054152982	641	641	1800054152991	Wardlaw Wood		84.55	2.11	2.11					
842	842	1800054198365	642	642	1800054198374	Earisburn		1194.56							
843	843	1800054244570	643	643	1800054244598	Blackhill		1684.12				21078.97	0.05	0.05	
844	844	1800054451603	MSID 8183	MSID 8183	MSID 8183	Dalswinton		470.79	0.82	0.82					
845	845	1800054498470	645	645	1800054498480	Steven's Croft Biomass		4590.32	0.80	0.80					
850	850	1800060251872	650	650	1800060251881	Longpark		838.06				19070.96	0.05	0.05	
851	851	1800035140431				BOC		6953.73	2.71	2.71					
852	852	1800060642702	696	696	1800060642711	Calder Water WF		209.40	0.88	0.88		25531.14	0.05	0.05	
853	853	1800035234188				Babcock Thorn		21627.03	3.40	3.40					
854	854	1800035261359	654	654	1800053946507	Lafarge UK		12167.67	3.79	3.79					
855	855	1800060241304	655	655	1800060241313	Pateshill		21.11	2.35	2.35		1182.43	0.05	0.05	
856	856	1800035239460				Clydeport		28116.61	1.89	1.89					
857	857	1800035313389				Freescale		9931.69	3.10	3.10					
858	858	1800035327257				Tesco		878.60	5.98	5.98					
859	859	1800035320127	697	697	1800060630637	GlaxoSmithKline		28762.89	2.17	2.17		2302.26	0.05	0.05	
861	861	1800035324780				Weir Pumps		1584.84	3.22	3.22					
862	862	1800035317453				Dupont (UK) Ltd		77591.98	2.70	2.70					
863	863	1800060207438	663	663	1800060207447	North Rhins		275.41	2.05	2.05		8277.41	0.05	0.05	
864	864	1800060709038	698	698	1800060709047	Tod Hills Windfarm		69.61	3.36	3.36		7648.03	0.05	0.05	
866	866	1800051523646				Calachem		9168.78	10.04	10.04					
867	867	1800035325436				Norbord		18537.98	1.94	1.94					
873	873	1800060450481	673	673	1800060450490	Millour Hill		187.16	0.81	0.81		13853.93	0.05	0.05	
874	874	1800060441380	674	674	1800060441399	Glenkerie		356.05	2.05	2.05		13792.83	0.05	0.05	
875	875	1800060450524	675	675	1800060450533	Kelburn (A)		164.21	2.08	2.08		8203.21	0.05	0.05	
876	876	1800060450542	676	676	1800060450551	Kelburn (B)		164.21	2.08	2.08		8203.21	0.05	0.05	
877	877	1800060450506	677	677	1800060450515	Little Raith		180.24	0.83	0.83		4956.52	0.05	0.05	
878	878	1800060445640	678	678	1800060445659	Drone Hill		498.19	0.85	0.85		24433.46	0.05	0.05	
879	879		680	680		Andershaw WF		37.89	2.14	2.14		24487.63	0.05	0.05	
880	880	1800060673222	701	701	1800060673231	Earlseat WF		147.39	2.84	2.84		11182.56	0.05	0.05	
881	881	1800060740288	702	702	1800060740297	Dungavel WF		492.05	0.84	0.84		29424.76	0.05	0.05	
882	882		687	687		Burnhead Bathgate WF		14.86	2.07	2.07		4016.97	0.05	0.05	
883	883	1800053647742	636	636	1800053647751	Shanks & McEwan 6		80.37	2.02	2.02					
884	884	1800060683693	679	679	1800060683709	Ardoch & Over Enoch WF		103.21	0.81	0.81		11255.45	0.05	0.05	
886	886		686	686		Sneddon Law WF		452.64	0.82	0.82		27152.25	0.05	0.05	
887	887	1800060749661	706	706	1800060749670	Polmadie (Waste Energy A)		1220.87	2.39	2.39	-0.364	4473.36	0.05	0.05	

868	868		664	664		MuirHall Extension II WF		49.20	2.04	2.04		4439.76	0.05	0.05
800	800		644	644		Rhoaders		243.76	0.86	0.86		4993.71	0.05	0.05
888	888		707	707		Glenchamber		112.69	0.86	0.86		13457.05	0.05	0.05
869	869		709	709		Harehill Extension		222.67	2.06	2.06		7839.62	0.05	0.05
889	889		708	708		Penmansheill		199.08	0.94	0.94		33360.85	0.05	0.05
870	870		710	710		Assel Valley		1439.29	0.90	0.90		44639.87	0.05	0.05
871	871		665	665		Whiteside Hill		196.04	2.23	2.23		17402.87	0.05	0.05
872	872	1800060749680	694	694	1800060749699	Polmadie (Waste energy B)		217.30	2.29	2.29	-0.364	2223.08	0.05	0.05
MSID 8083	MSID 8083	MSID 8083				Dumbarton			3.41	3.41				
MSID 8085	MSID 8085	MSID 8085				Stirling Road			1.69	1.69				
MSID 8334	MSID 8334	MSID 8334	MSID 8334	MSID 8334	MSID 8334	Markinch		8463.78	0.79	0.79		15152.90	0.05	0.05
310	310	1800036579036				Magco		363.32	7.33	7.33				
311	311	1800035324497				Stirling University	0.827	363.32	6.28	6.28				
312	312	1800035324530				Glenochil Distillery		363.32	5.87	5.87				
313	313	1800053648310				Longannet Power Station		363.32	16.14	16.14				
314	314	1800035327674				Cameron Ironworks	0.846	363.32	4.27	4.27				
315	315	1800035313398				Shin-Etsu		14233.15	3.72	3.72				
316	316	1800035344100				United Biscuits		363.32	5.35	5.35				
318	318	1800035337584				Balfours		363.32	2.20	2.20				
319	319	1800035331634				NB Distillery		363.32	3.63	3.63				
320	320	1800035340220				Finnart BP		15545.21	1.88	1.88				
321	321	1800035346589				Texas Instruments		726.63	5.51	5.51				
322	322	1800035346817				Glasgow Airport		363.32	9.34	9.34				
323	323	1800035326848				BP Dalmeny		10824.65	1.76	1.76				
324	324	1800035334227				Edinburgh Dock North		22360.88	2.95	2.95				
326	326	1800053646215	755	755	1800053646224	Bonnington Power Station		3.27	6.06	6.06	-4.440	360.04	0.05	0.05
327	327	1800060613543				SGB Lurgie		4846.84	5.20	5.20				
328	328	1800060586917	750	750	1800060586926	Cathkin Braes Wind Farm		323.74	1.49	1.49		5111.93	0.05	0.05
329	329	1800060397697				New Glasgow South Hospital		9510.09	2.52	2.52				
330	330	1800060614714	752	752	1800060614741	Torrance WF		77.80	1.50	1.50		6640.15	0.05	0.05
331	331	1800060613543	754	754	1800060613552	Scottish Enterprise (Samsung WTTF)	1.503	135.71	2.08	2.08		5001.02	0.05	0.05
332	332	1800060709010	756	756	1800060709029	Torrance Windfarm Extension		118.01	1.50	1.50		6714.65	0.05	0.05

Annex 3 - Schedule of charges for use of the distribution system by preserved/additional LLF classes

SP Distribution - Effective from 1 April 2015 - FINAL LV and HV tariffs										
NHH preserved charges/additional LLFCs										
	Closed LLFCs	PCs	Unit rate 1 p/kWh	Unit rate 2 p/kWh	Unit rate 3 p/kWh	Fixed charge p/MPAN/day				
Domestic Off Peak (related MPAN)	130, 134, 135		0.239							
Small Non Domestic Unrestricted	200, 202, 203, 205		2.197			6.39				
Small Non Domestic Two Rate	220, 222		3.068	0.366		6.39				
Small Non Domestic Off Peak (related MPAN)	223, 242, 243, 244, 245, 246		0.860							
HV Medium Non Domestic	401		1.175	0.051		317.68				
Notes:	<p>Unit time periods are as specified in the SSC.</p> <p>SP Distribution uses a default tariff for invalid settlement combinations these will be charged at the Domestic Unrestricted Rates.</p> <p>The Domestic and Non-Domestic Off Peak (related MPAN) tariffs are supplementary to a standard published tariff and therefore only available under these conditions.</p> <p>Preserved tariffs are only available to existing supplies, subject to certain conditions:</p> <p>a) Suppliers may not normally transfer a meter point from one preserved tariff to another preserved tariff;</p> <p>b) If a supply under a preserved tariff should cease, other than on change of tenancy, the preserved tariff may not normally be restored;</p> <p>c) Any additional load required to be supplied on the preserved tariff must be within the existing supply capacity.</p>									

Annex 4 - Charges applied to LDNOs with LV and HV end-users

SP Distribution - Effective from 1 April 2015 - FINAL LDNO tariffs			
Time Bands for Half Hourly Metered Properties			
Time periods	Red Time Band	Amber Time Band	Green Time Band
Monday to Friday (Including Bank Holidays) All Year	16.30 - 19.30	08.00 - 16.30 19.30 - 22.30	00.00 - 08.00 22.30 - 00.00
Saturday and Sunday All Year		16.00 - 20.00	00.00 - 16.00 20.00 - 00.00
Notes	All the above times are in UK Clock time		
Time Bands for Half Hourly Unmetered Properties			
	Black Time Band	Yellow Time Band	Green Time Band
Monday to Friday (Including Bank Holidays) June to August Inclusive		08.00 - 22.30	00.00 - 08.00 22.30 - 00.00
Monday to Friday (Including Bank Holidays) November to February Inclusive	16.30 - 19.30	08.00 - 16.30 19.30 - 22.30	00.00 - 08.00 22.30 - 00.00
Monday to Friday (Including Bank Holidays) March to May, & September to October, Inclusive		08.00 - 22.30	00.00 - 08.00 22.30 - 00.00
Saturday and Sunday		16.00 - 20.00	00.00-16.00 20.00-00.00
Notes	All the above times are in UK Clock time		

	Unique billing identifier	PCs	Unit rate 1 p/kWh (red/black)	Unit rate 2 p/kWh (amber/yellow)	Unit rate 3 p/kWh (green)	Fixed charge p/MPAN/day	Capacity charge p/kVA/day	Reactive power charge p/kVArh	Excess capacity charge p/kVA
LDNO LV: Domestic Unrestricted		1	1.641			3.25			
LDNO LV: Domestic Two Rate		2	2.027	0.196		3.25			
LDNO LV: Domestic Off Peak (related MPAN)		2	0.156						
LDNO LV: Small Non Domestic Unrestricted		3	1.432			4.17			
LDNO LV: Small Non Domestic Two Rate		4	2.000	0.239		4.17			
LDNO LV: Small Non Domestic Off Peak (related MPAN)		4	0.561						
LDNO LV: LV Medium Non-Domestic		5-8	1.263	0.167		19.45			
LDNO LV: LV Network Domestic			9.324	0.829	0.163	3.25			
LDNO LV: LV Network Non-Domestic Non-CT			8.726	0.760	0.146	4.17			
LDNO LV: LV HH Metered			7.374	0.576	0.095	16.54	1.63	0.202	1.63
LDNO LV: NHH UMS category A		8	1.038						
LDNO LV: NHH UMS category B		1	1.360						
LDNO LV: NHH UMS category C		1	2.208						
LDNO LV: NHH UMS category D		1	0.789						
LDNO LV: LV UMS (Pseudo HH Metered)			15.960	0.795	0.404				
LDNO LV: LV Generation NHH or Aggregate HH		8&0	-0.778						
LDNO LV: LV Generation Intermittent			-0.778					0.175	
LDNO LV: LV Generation Non-Intermittent			-5.225	-0.598	-0.149			0.175	
LDNO HV: Domestic Unrestricted		1	0.847			1.68			
LDNO HV: Domestic Two Rate		2	1.046	0.101		1.68			
LDNO HV: Domestic Off Peak (related MPAN)		2	0.080						
LDNO HV: Small Non Domestic Unrestricted		3	0.739			2.15			
LDNO HV: Small Non Domestic Two Rate		4	1.032	0.123		2.15			
LDNO HV: Small Non Domestic Off Peak (related MPAN)		4	0.289						
LDNO HV: LV Medium Non-Domestic		5-8	0.652	0.086		10.04			
LDNO HV: LV Network Domestic			4.813	0.428	0.084	1.68			
LDNO HV: LV Network Non-Domestic Non-CT			4.504	0.392	0.075	2.15			
LDNO HV: LV HH Metered			3.806	0.297	0.049	8.54	0.84	0.104	0.84
LDNO HV: LV Sub HH Metered			5.273	0.320	0.028	4.88	2.49	0.124	2.49
LDNO HV: HV HH Metered			4.809	0.259	0.011	84.42	3.11	0.102	3.11
LDNO HV: NHH UMS category A		8	0.536						
LDNO HV: NHH UMS category B		1	0.702						
LDNO HV: NHH UMS category C		1	1.140						
LDNO HV: NHH UMS category D		1	0.407						
LDNO HV: LV UMS (Pseudo HH Metered)			8.238	0.410	0.209				
LDNO HV: LV Generation NHH or Aggregate HH		8&0	-0.778						
LDNO HV: LV Sub Generation NHH		8	-0.684						
LDNO HV: LV Generation Intermittent			-0.778					0.175	
LDNO HV: LV Generation Non-Intermittent			-5.225	-0.598	-0.149			0.175	
LDNO HV: LV Sub Generation Intermittent			-0.684					0.155	
LDNO HV: LV Sub Generation Non-Intermittent			-4.722	-0.509	-0.121			0.155	
LDNO HV: HV Generation Intermittent			-0.411					0.126	
LDNO HV: HV Generation Non-Intermittent			-3.414	-0.232	-0.029			0.126	

LDNO HVplus: Domestic Unrestricted		1	0.605			1.20			
LDNO HVplus: Domestic Two Rate		2	0.748	0.072		1.20			
LDNO HVplus: Domestic Off Peak (related MPAN)		2	0.057						
LDNO HVplus: Small Non Domestic Unrestricted		3	0.528			1.54			
LDNO HVplus: Small Non Domestic Two Rate		4	0.738	0.088		1.54			
LDNO HVplus: Small Non Domestic Off Peak (related MPAN)		4	0.207						
LDNO HVplus: LV Medium Non-Domestic		5-8	0.466	0.062		7.18			
LDNO HVplus: LV Sub Medium Non-Domestic		5-8	0.546	0.067		0.00			
LDNO HVplus: HV Medium Non-Domestic		5-8	0.507	0.022		137.15			
LDNO HVplus: LV Network Domestic			3.440	0.306	0.060	1.20			
LDNO HVplus: LV Network Non-Domestic Non-CT			3.219	0.280	0.054	1.54			
LDNO HVplus: LV HH Metered			2.720	0.212	0.035	6.10	0.60	0.075	0.60
LDNO HVplus: LV Sub HH Metered			3.686	0.224	0.019	3.41	1.74	0.087	1.74
LDNO HVplus: HV HH Metered			3.335	0.180	0.008	58.55	2.16	0.071	2.16
LDNO HVplus: NHH UMS category A		8	0.383						
LDNO HVplus: NHH UMS category B		1	0.502						
LDNO HVplus: NHH UMS category C		1	0.815						
LDNO HVplus: NHH UMS category D		1	0.291						
LDNO HVplus: LV UMS (Pseudo HH Metered)			5.688	0.293	0.149				
LDNO HVplus: LV Generation NHH or Aggregate HH		8&0	-0.296			0.00			
LDNO HVplus: LV Sub Generation NHH		8	-0.295			0.00			
LDNO HVplus: LV Generation Intermittent			-0.296			0.00		0.067	
LDNO HVplus: LV Generation Non-Intermittent			-1.988	-0.227	-0.057	0.00		0.067	
LDNO HVplus: LV Sub Generation Intermittent			-0.295			0.00		0.067	
LDNO HVplus: LV Sub Generation Non-Intermittent			-2.039	-0.220	-0.052	0.00		0.067	
LDNO HVplus: HV Generation Intermittent			-0.411			99.03		0.126	
LDNO HVplus: HV Generation Non-Intermittent			-3.414	-0.232	-0.029	99.03		0.126	
LDNO EHV: Domestic Unrestricted		1	0.279			0.55			
LDNO EHV: Domestic Two Rate		2	0.344	0.033		0.55			
LDNO EHV: Domestic Off Peak (related MPAN)		2	0.026						
LDNO EHV: Small Non Domestic Unrestricted		3	0.243			0.71			
LDNO EHV: Small Non Domestic Two Rate		4	0.340	0.041		0.71			
LDNO EHV: Small Non Domestic Off Peak (related MPAN)		4	0.095						
LDNO EHV: LV Medium Non-Domestic		5-8	0.215	0.028		3.31			
LDNO EHV: LV Sub Medium Non-Domestic		5-8	0.252	0.031		0.00			
LDNO EHV: HV Medium Non-Domestic		5-8	0.234	0.010		63.18			
LDNO EHV: LV Network Domestic			1.585	0.141	0.028	0.55			
LDNO EHV: LV Network Non-Domestic Non-CT			1.483	0.129	0.025	0.71			
LDNO EHV: LV HH Metered			1.253	0.098	0.016	2.81	0.28	0.034	0.28
LDNO EHV: LV Sub HH Metered			1.698	0.103	0.009	1.57	0.80	0.040	0.80
LDNO EHV: HV HH Metered			1.536	0.083	0.004	26.97	0.99	0.033	0.99
LDNO EHV: NHH UMS category A		8	0.176						
LDNO EHV: NHH UMS category B		1	0.231						
LDNO EHV: NHH UMS category C		1	0.375						
LDNO EHV: NHH UMS category D		1	0.134						
LDNO EHV: LV UMS (Pseudo HH Metered)			2.713	0.135	0.069				
LDNO EHV: LV Generation NHH or Aggregate HH		8&0	-0.136			0.00			
LDNO EHV: LV Sub Generation NHH		8	-0.136			0.00			
LDNO EHV: LV Generation Intermittent			-0.136			0.00		0.031	
LDNO EHV: LV Generation Non-Intermittent			-0.916	-0.105	-0.026	0.00		0.031	
LDNO EHV: LV Sub Generation Intermittent			-0.136			0.00		0.031	
LDNO EHV: LV Sub Generation Non-Intermittent			-0.939	-0.101	-0.024	0.00		0.031	
LDNO EHV: HV Generation Intermittent			-0.189			45.62		0.058	
LDNO EHV: HV Generation Non-Intermittent			-1.573	-0.107	-0.013	45.62		0.058	
LDNO 132kV/EHV: Domestic Unrestricted		1							
LDNO 132kV/EHV: Domestic Two Rate		2							
LDNO 132kV/EHV: Domestic Off Peak (related MPAN)		2							
LDNO 132kV/EHV: Small Non Domestic Unrestricted		3							
LDNO 132kV/EHV: Small Non Domestic Two Rate		4							
LDNO 132kV/EHV: Small Non Domestic Off Peak (related MPAN)		4							
LDNO 132kV/EHV: LV Medium Non-Domestic		5-8							
LDNO 132kV/EHV: LV Sub Medium Non-Domestic		5-8							
LDNO 132kV/EHV: HV Medium Non-Domestic		5-8							

LDNO 132KV/EHV: LV Network Domestic									
LDNO 132KV/EHV: LV Network Non-Domestic Non-CT									
LDNO 132KV/EHV: LV HH Metered									
LDNO 132KV/EHV: LV Sub HH Metered									
LDNO 132KV/EHV: HV HH Metered									
LDNO 132KV/EHV: NHH UMS category A		8							
LDNO 132KV/EHV: NHH UMS category B		1							
LDNO 132KV/EHV: NHH UMS category C		1							
LDNO 132KV/EHV: NHH UMS category D		1							
LDNO 132KV/EHV: LV UMS (Pseudo HH Metered)									
LDNO 132KV/EHV: LV Generation NHH or Aggregate HH		8&0							
LDNO 132KV/EHV: LV Sub Generation NHH		8							
LDNO 132KV/EHV: LV Generation Intermittent									
LDNO 132KV/EHV: LV Generation Non-Intermittent									
LDNO 132KV/EHV: LV Sub Generation Intermittent									
LDNO 132KV/EHV: LV Sub Generation Non-Intermittent									
LDNO 132KV/EHV: HV Generation Intermittent									
LDNO 132KV/EHV: HV Generation Non-Intermittent									
LDNO 132KV: Domestic Unrestricted		1							
LDNO 132KV: Domestic Two Rate		2							
LDNO 132KV: Domestic Off Peak (related MPAN)		2							
LDNO 132KV: Small Non Domestic Unrestricted		3							
LDNO 132KV: Small Non Domestic Two Rate		4							
LDNO 132KV: Small Non Domestic Off Peak (related MPAN)		4							
LDNO 132KV: LV Medium Non-Domestic		5-8							
LDNO 132KV: LV Sub Medium Non-Domestic		5-8							
LDNO 132KV: HV Medium Non-Domestic		5-8							
LDNO 132KV: LV Network Domestic									
LDNO 132KV: LV Network Non-Domestic Non-CT									
LDNO 132KV: LV HH Metered									
LDNO 132KV: LV Sub HH Metered									
LDNO 132KV: HV HH Metered									
LDNO 132KV: NHH UMS category A		8							
LDNO 132KV: NHH UMS category B		1							
LDNO 132KV: NHH UMS category C		1							
LDNO 132KV: NHH UMS category D		1							
LDNO 132KV: LV UMS (Pseudo HH Metered)									
LDNO 132KV: LV Generation NHH or Aggregate HH		8&0							
LDNO 132KV: LV Sub Generation NHH		8							
LDNO 132KV: LV Generation Intermittent									
LDNO 132KV: LV Generation Non-Intermittent									
LDNO 132KV: LV Sub Generation Intermittent									
LDNO 132KV: LV Sub Generation Non-Intermittent									
LDNO 132KV: HV Generation Intermittent									
LDNO 132KV: HV Generation Non-Intermittent									
LDNO 0000: Domestic Unrestricted		1							
LDNO 0000: Domestic Two Rate		2							
LDNO 0000: Domestic Off Peak (related MPAN)		2							
LDNO 0000: Small Non Domestic Unrestricted		3							
LDNO 0000: Small Non Domestic Two Rate		4							
LDNO 0000: Small Non Domestic Off Peak (related MPAN)		4							

LDNO 0000: LV Medium Non-Domestic		5-8							
LDNO 0000: LV Sub Medium Non-Domestic		5-8							
LDNO 0000: HV Medium Non-Domestic		5-8							
LDNO 0000: LV Network Domestic									
LDNO 0000: LV Network Non-Domestic Non-CT									
LDNO 0000: LV HH Metered									
LDNO 0000: LV Sub HH Metered									
LDNO 0000: HV HH Metered									
LDNO 0000: NHH UMS category A		8							
LDNO 0000: NHH UMS category B		1							
LDNO 0000: NHH UMS category C		1							
LDNO 0000: NHH UMS category D		1							
LDNO 0000: LV UMS (Pseudo HH Metered)									
LDNO 0000: LV Generation NHH or Aggregate HH		8&0							
LDNO 0000: LV Sub Generation NHH		8							
LDNO 0000: LV Generation Intermittent									
LDNO 0000: LV Generation Non-Intermittent									
LDNO 0000: LV Sub Generation Intermittent									
LDNO 0000: LV Sub Generation Non-Intermittent									
LDNO 0000: HV Generation Intermittent									
LDNO 0000: HV Generation Non-Intermittent									

Annex 5 - Schedule of line loss factors

SP Distribution - Effective from 1 April 2015 - FINAL LLF Time Periods				
Time periods	Period 1	Period 2	Period 3	Period 4
	(Name 1)	(Name 2)	(Name 3)	(Name 4)
Monday to Friday March to October	23:30 – 07:30	07:30 – 23:30		
Monday to Friday November to February	23:30 – 07:30	20:00 – 23:30	07:30 – 16:00 19:00 – 20:00	16:00 – 19:00
Saturday and Sunday All Year	23:30 – 07:30	07:30 – 23:30		
Notes	All the above times are in UK Clock time			

Generic demand and generation LLFs					
Metered voltage, respective periods and associated LLFCs					
Metered voltage	Period 1	Period 2	Period 3	Period 4	Associated LLFC
Low Voltage NHH	1.079	1.093	1.104	1.118	100,101,110,111,112,113,114,115,116,117,118,119,120,121,130,132,133,134,135,136,137,160,161,162,163,164,165,166,200,201,202,203,204,205,220,221,222,223,224,225,240,241,242,243,244,245,246,260,400,402,404,602,781,782,783,784,785,900,901,902,903,910
Low Voltage HH	1.078	1.092	1.104	1.118	500,504,506,507,603,604,607,608,609,610
High Voltage Network	1.023	1.027	1.030	1.032	301,302,401,501,505,605,606,611,612
High Voltage Substation	1.013	1.012	1.013	1.013	310,311,312,313,314,315,316,317,318,319,320,321,322,323,324,325,326,327,328,329,330,331,332,333,334,335,336,337,338,339,340,750,751,752,753,754,755,756,757,758,759,760,761,762,763,764,765,862,866,867
33kV Generic (demand)	1.003	1.004	1.005	1.005	
33kV Generic (generation)	1.000	1.000	1.000	1.000	
132kV Generic (demand)					
132kV Generic (generation)					

EHV site specific LLFs					
Demand					
Site	Period 1	Period 2	Period 3	Period 4	Associated LLFC
Minsca	1.000	1.001	1.001	1.002	801
Bankend Rig	1.006	1.010	1.012	1.014	802
Barlockhart Moor	1.000	1.000	1.000	1.002	803
Blantyre Muir	1.000	1.000	1.000	1.001	804
Hunterston WF	1.003	1.004	1.005	1.005	805
Middleton Farm	1.001	1.001	1.002	1.002	806
Neilston Community	1.001	1.002	1.002	1.003	807
Garlaff Landfill	0.999	1.000	1.001	1.019	808
Hagshaw Hill Extension	1.000	1.000	1.000	1.000	809
Muirhall	1.000	1.000	1.000	1.000	811
Burnfoot	1.000	1.000	1.000	1.000	812
Westfield WF	1.000	1.000	1.000	1.000	813
Barmoor WF	1.003	1.004	1.005	1.005	814
Nutberry WF	1.003	1.004	1.005	1.005	815
Carcreegh WF	1.003	1.004	1.005	1.005	816
Magnox	1.001	1.001	1.002	1.003	817

West Browncastle WF	1.003	1.004	1.005	1.005	818
Viridor (Waste energy)	1.003	1.004	1.005	1.005	819
Craigengelt	1.000	1.000	1.000	1.000	820
Greenknowes	1.000	1.000	1.000	1.000	821
Ewe Hill Dumfries WF	1.003	1.004	1.005	1.005	822
Langhope Rig (D) WF	1.003	1.004	1.005	1.005	823
Muirhall Extention WF	1.003	1.004	1.005	1.005	824
Aikengall	1.000	1.000	1.000	1.000	825
Hagshaw Hill	1.006	1.009	1.010	1.013	826
Gallow Rig	1.019	1.026	1.031	1.037	827
Polwhat Rig	1.019	1.026	1.031	1.037	828
Greendykeside	1.000	1.000	1.000	1.001	829
Dun Law	1.003	1.003	1.004	1.006	830
EPR Scotland Ltd	1.000	1.000	1.000	1.000	831
Bowbeat (Emly Bank)	1.015	1.020	1.024	1.029	832
Bowbeat (Roughsidehill)	1.015	1.020	1.024	1.029	833
Harehill	1.019	1.026	1.031	1.037	834
Shanks & McEwan 3&4	1.000	1.000	1.000	1.000	835
Shanks & McEwan 5	1.001	1.001	1.001	1.001	836
Crystal Rig	1.000	1.000	1.000	1.000	837
Hauptland Muir (Ardrossan)	1.003	1.003	1.003	1.003	838
Wetherhill	1.006	1.010	1.012	1.014	839
Artfield WF	1.000	1.000	1.000	1.002	840
Wardlaw Wood	1.010	1.014	1.017	1.021	841
Earlsburn	1.000	1.000	1.000	1.001	842
Blackhill	1.014	1.020	1.024	1.029	843
Dalswinton	1.000	1.000	1.000	1.000	844
Steven's Croft Biomass	1.000	1.000	1.001	1.002	845
Longpark	1.000	1.000	1.000	1.000	850
BOC	1.001	1.001	1.001	1.001	851
Calder Water WF	1.003	1.004	1.005	1.005	852
Babcock Thorn	1.003	1.003	1.005	1.004	853
Lafarge UK	1.003	1.003	1.003	1.003	854
Pateshill	1.000	1.000	1.000	1.000	855
Clydeport	1.000	1.000	1.000	1.000	856
Freescall	1.000	1.000	1.000	1.000	857
Tesco	1.000	1.000	1.000	1.000	858
GlaxoSmithKline	1.008	1.008	1.008	1.008	859
Weir Pumps	1.003	1.004	1.005	1.005	861
North Rhins	1.013	1.017	1.020	1.026	863
Tod Hills Windfarm	1.003	1.004	1.005	1.005	864
MuirHall Extension II WF	1.003	1.004	1.005	1.005	868
Harehill Extension	1.003	1.004	1.005	1.005	869
Assall Valley	1.003	1.004	1.005	1.005	870
Whiteside Hill	1.003	1.004	1.005	1.005	871
Polmadie (Waste energy B)	1.003	1.004	1.005	1.005	872
Millour Hill	1.003	1.003	1.003	1.003	873
Glenkerie	1.011	1.016	1.019	1.023	874
Kelburn (A)	1.020	1.028	1.033	1.042	875
Kelburn (B)	1.021	1.031	1.037	1.047	876
Little Raith	1.000	1.000	1.000	1.000	877
Drone Hill	1.001	1.003	1.003	1.003	878
Andershaw WF	1.003	1.004	1.005	1.005	879
Earseat WF	1.003	1.004	1.005	1.005	880
Dungavel WF	1.003	1.004	1.005	1.005	881

Burnhead Bathgate WF	1.003	1.004	1.005	1.005	882
Shanks & McEwan 6	1.003	1.004	1.005	1.005	883
Ardoch & Over Enoch WF	1.003	1.004	1.005	1.005	884
Sneddon Law WF	1.003	1.004	1.005	1.005	886
Polmadie (Waste energy A)	1.003	1.004	1.005	1.005	887
Rhodders	1.003	1.004	1.005	1.005	800
Glenchamber	1.003	1.004	1.005	1.005	888
Penmansheill	1.003	1.004	1.005	1.005	889
Dumbarton	0.998	0.998	0.998	0.998	MSID 8083
Stirling Road	1.000	1.000	1.000	1.000	MSID 8085
Markinch	0.999	0.999	0.998	0.997	MSID 8334

EHV sites specific LLFs					
Generation					
Site	Period 1	Period 2	Period 3	Period 4	Associated LLFC
Minsca	0.991	0.991	0.989	0.989	MSID 8182
Bankend Rig	0.993	0.995	0.993	0.995	683
Barlockhart Moor	0.998	0.998	0.997	0.997	684
Blantyre Muir	0.997	0.997	0.996	0.996	685
Hunterston WF	1.000	1.000	1.000	1.000	693
Middleton Farm	0.996	0.997	0.995	0.996	688
Neilston Community	0.996	0.996	0.995	0.995	689
Garlaff Landfill	0.997	0.997	0.997	0.997	681
Hagshaw Hill Extension	0.995	0.995	0.994	0.993	629
Muirhall	0.990	0.990	0.988	0.988	671
Burnfoot	0.992	0.993	0.991	0.991	672
Westfield WF	0.998	0.997	0.997	0.997	690
Barmoor WF	1.000	1.000	1.000	1.000	691
Nutberry WF	1.000	1.000	1.000	1.000	692
Carcreegh WF	1.000	1.000	1.000	1.000	695
West Browncastle WF	1.000	1.000	1.000	1.000	700
Viridor (Waste energy)	1.000	1.000	1.000	1.000	699
Craigengelt	0.998	0.998	0.997	0.996	620
Greenknowes	0.991	0.991	0.989	0.988	621
Ewe Hill Dumfries WF	1.000	1.000	1.000	1.000	703
Langhope Rig (D) WF	1.000	1.000	1.000	1.000	704
Muirhall Extension WF	1.000	1.000	1.000	1.000	705
Aikengall	0.996	0.996	0.996	0.996	625
Hagshaw Hill	1.001	1.003	1.003	1.005	626
Gallow Rig	1.008	1.014	1.017	1.022	627
Polwhat Rig	1.007	1.013	1.017	1.021	628
Greendykeside	0.999	0.999	0.999	0.999	624
Dun Law	0.983	0.982	0.977	0.978	630
EPR Scotland Ltd	0.999	0.999	1.000	1.000	631
Bowbeat (Emly Bank)	1.003	1.008	1.008	1.011	632
Bowbeat (Roughsidehill)	1.000	1.004	1.004	1.008	633
Harehill	1.000	1.006	1.008	1.013	634
Shanks & McEwan 3&4	0.999	0.999	0.999	0.999	635
Shanks & McEwan 5	0.997	0.997	0.996	0.996	636
Crystal Rig	1.000	1.000	1.000	1.000	637
Hauptland Muir (Ardrossan)	0.999	0.999	0.999	1.000	638
Wetherhill	0.988	0.991	0.988	0.990	639
Artfield WF	0.999	0.999	0.999	1.000	640
Wardlaw Wood	0.993	0.996	0.995	0.998	641

Earlsburn	0.984	0.984	0.981	0.980	642
Blackhill	1.002	1.007	1.007	1.011	643
Dalswinton	0.995	0.995	0.994	0.994	MSID 8183
Steven's Croft Biomass	0.977	0.977	0.977	0.978	645
Longpark	1.000	1.000	1.000	1.000	650
Calder Water WF	1.000	1.000	1.000	1.000	696
Lafarge UK	1.001	1.001	1.001	1.001	654
Pateshill	1.000	1.000	1.000	1.000	655
GlaxoSmithKline	1.000	1.000	1.000	1.000	697
North Rhins	0.982	0.985	0.981	0.984	663
Tod Hills Windfarm	1.000	1.000	1.000	1.000	698
Millour Hill	0.994	0.995	0.994	0.995	673
Glenkerie	0.965	0.967	0.960	0.961	674
Kelburn (A)	0.999	1.006	1.007	1.013	675
Kelburn (B)	1.000	1.008	1.008	1.015	676
Little Raith	0.999	0.999	0.998	0.998	677
Drone Hill	0.990	0.990	0.987	0.987	678
Andershaw WF	1.000	1.000	1.000	1.000	680
Earlseat WF	1.000	1.000	1.000	1.000	701
Dungavel WF	1.000	1.000	1.000	1.000	702
Burnhead Bathgate WF	1.000	1.000	1.000	1.000	687
Shanks & McEwan 6	0.997	0.997	0.996	0.996	636
Ardoch & Over Enoch WF	1.000	1.000	1.000	1.000	679
Sneddon Law WF	1.000	1.000	1.000	1.000	686
Polmadie (Waste Energy A)	1.000	1.000	1.000	1.000	706
MuirHall Extension II WF	1.000	1.000	1.000	1.000	664
Rhodders	1.000	1.000	1.000	1.000	644
Glenchamber	1.000	1.000	1.000	1.000	707
Harehill Extension	1.000	1.000	1.000	1.000	709
Penmansheill	1.000	1.000	1.000	1.000	708
Assel Valley	1.000	1.000	1.000	1.000	710
Whiteside Hill	1.000	1.000	1.000	1.000	665
Polmadie (Waste Energy B)	1.000	1.000	1.000	1.000	694
Markinch	0.999	0.999	0.998	0.997	MSID 8334

