



# Slough Heat and Power

Slough Heat and Power Licence Exempt Private Electricity Network

Use of System Charging Statement

NOTICE OF CHARGES

Effective from 1st April 2021

Version 2.2

## Version Control

Version	Date	Description of version and any changes made
V1.0	24Jan2020	Initial document
V2.2	25Nov2020	Update of Annex 1 schedule of charges to include new 33kV LLFC and zero-charge Generation LLFCs.
V3.0	22Mar2021	Update of Annex 5 schedule of Schedule of line loss factors

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## 1. Introduction

- 1.1. This statement informs customers, suppliers and any other interested stakeholders about the charges relating to the Slough Heat and Power licence exempt private electricity distribution network (SHP Network).
- 1.2. The SHP Network is an unlicensed network that connects to SEPD network and provides electricity connections to around 650 customers at Low Voltage (LV), High Voltage (HV) and Extra High Voltage (EHV).
- 1.3. This statement tells you about our charges and the reasons behind them. It has been prepared in a format consistent with that used by Licensed Network Operators. The main purpose of this statement is to provide our schedule of charges<sup>1</sup> for the use of our Distribution System and to provide the schedule of Line Loss Factors<sup>2</sup> 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.
- 1.4. 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.
- 1.5. The charges in this statement are calculated using the SHP Distribution Use of System (DUoS) charging methodology which has been approved by Ofgem. Our methodology is available on the SHP website here:  
<https://www.sseutilitiesolutions.co.uk/products/slough-heat-and-power/>.
- 1.6. 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.
- 1.7. The application of charges to premises on the SHP Network are 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 premises is provided in the guidance notes in Appendix 2.
- 1.8. All charges in this statement are shown **exclusive** of VAT. Invoices will include VAT at the applicable rate.
- 1.9. The annexes that form part of this statement are also available in spreadsheet format. This spreadsheet contains supplementary information used for charging purposes. This spreadsheet can be downloaded here:  
<https://www.sseutilitiesolutions.co.uk/products/slough-heat-and-power/>.

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<sup>1</sup> Charges can be positive or negative.

<sup>2</sup> Known as adjustment factors in the Distribution Licence and commonly referred to as Loss Adjustment Factors. The schedule of Line Loss Factors will be provided in a revised statement shortly after the Line Loss Factors for the relevant year have been successfully audited by Elexon.

### Validity period

- 1.10. 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.
- 1.11. When using this charging statement, care should be taken to ensure that the relevant statement or statements covering the period that is of interest are used.
- 1.12. Notice of any revision to the statement will be provided to Users of our Distribution System. The latest statements can be downloaded here:

<https://www.sseutilitysolutions.co.uk/products/slough-heat-and-power/>

### Contact details

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

**James Thatcher**

Process Support Manager

Slough Heat & Power

E: SHP\_UoSEnquiries@sse.com

Slough Heat & Power, 342 Edinburgh Ave, Slough, Berks, SL14TU

<https://www.sseutilitysolutions.co.uk/products/slough-heat-and-power/>

[www.sse.com](http://www.sse.com)

- 1.14. If you have any questions about billing, please contact our billing agent (SEPD) directly or contact us at the above address and we shall forward your communication.

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

**Stefanos Spanopoulos**

Networks Manager

Slough Heat & Power

E: SHP\_Connections@sse.com

Slough Heat & Power, 342 Edinburgh Ave, Slough, Berks, SL14TU

<https://www.sseutilitysolutions.co.uk/products/slough-heat-and-power/>

[www.sse.com](http://www.sse.com)

## **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.

### **DUoS Billing**

- 2.2. SHP have an agreement with SEPD to provide billing services on behalf of SHP. More information on how SEPD invoice Users is available in Section 2 of the charging statement published by SEPD which is available on their website [here](#).

### **Time periods for unit charges**

- 2.3. The time periods for the application of unit charges to LV and HV Designated Properties that are HH metered are detailed in Annex 1.

The time periods for the application of unit charges to Unmetered Supply Exit Points that are pseudo HH metered are detailed in Annex 1.

### **Application of capacity charges**

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

#### **Chargeable capacity**

- 2.5. The chargeable capacity is, for each billing period, the MIC/MEC, as detailed below.
- 2.6. 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 12 month period.
- 2.7. Reductions to the MIC/MEC may only be permitted once in a 12 month period. Where the MIC/MEC is reduced the new lower level will be agreed with reference to the level of the Customer's maximum import and/or export respectively. 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.
- 2.8. In the absence of an agreement, the chargeable capacity, save for error or omission, will be based on the last MIC/MEC that we have previously agreed for the relevant premises' connection. A Customer can seek to agree or vary the MIC/MEC by contacting us using the contact details in section 1.

#### **Exceeded capacity**

- 2.9. 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 billing period in which the breach occurs<sup>3</sup>.

#### **Demand exceeded capacity**

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

Where:

AI = Active import (kWh)

RI = Reactive import (kVArh)

RE = Reactive export (kVArh)

MIC = Maximum import capacity (kVA)

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

2.11. 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)

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

2.13. 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**

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

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<sup>3</sup> Unauthorised capacity will be considered to constitute a change in requirements (as per 2.6). To protect the integrity of the SHP network, when a breach occurs, a revised MIC/MEC will need to be agreed.

**Minimum capacity levels**

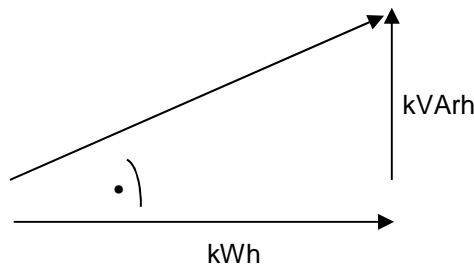
2.15. There is no minimum capacity threshold.

**Application of charges for excess reactive power**

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

2.17. Power Factor is calculated as follows:

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



2.18. The chargeable reactive power is calculated as follows:

**Demand chargeable reactive power**

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

Where:

AI = Active import (kWh)

RI = Reactive import (kVArh)

RE = Reactive export (kVArh)

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

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

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



### Generation chargeable reactive power

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

Where:

AE = Active export (kWh)

RI = Reactive import (kVArh)

RE = Reactive export (kVArh)

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

### Allocation of charges

- 2.25. It is our responsibility to apply the correct charges to each MPAN/MSID. The allocation of charges is based on the voltage of connection, import/export details including multiple MPANs, metering information and, for some tariffs, the metering location. Where an MPAN/MSID is used for export purposes in relation to an LV or HV Designated Property, the type of generation (Intermittent or Non-Intermittent) also determines the allocation of charges.
- 2.26. We are responsible for deciding the voltage of connection. Generally, this is determined by where the metering is located and where responsibility for the electrical equipment transfers from us to the connected Customer.
- 2.27. The Supplier determines and provides our billing agent (SEPD) with the metering information and data. This enables us to allocate charges where there is more than one charge per voltage level. The metering information and data is likely to change over time if, for example, a Supplier changes from a two-rate meter to a single rate meter. When we are notified this has happened, we will change the allocation of charges accordingly.
- 2.28. If it has been identified that a charge may have been incorrectly allocated due to the metering information and/or data, then a request for investigation should be made to the Supplier.
- 2.29. Where it has been identified that either a charge may have been incorrectly allocated due to the voltage of connection, import/export details or metering location or a connection may be eligible for LV Substation tariff then a request to investigate the applicable charges should be made to SEPD in their capacity as billing agent for SHP using the contact details in Section 1. Requests from persons other than the Customer or the current Supplier must be accompanied by a Letter of Authority from the

Customer; the current Supplier must also acknowledge that they are aware a request has been made. Any request must be supported by an explanation of why it is believed that the current charge should be changed, along with supporting information including, where appropriate, photographs of metering positions or system diagrams. Any request to change the current charge that also includes a request for backdating must include justification as to why it is considered appropriate to backdate the change.

- 2.30. An administration charge (covering our reasonable costs) may be made if a technical assessment or site visit is required, but we will not apply any charge where we agree to the change request.
- 2.31. Where we agree that the current LLFC/charge should be changed, we will then allocate the appropriate set of charges for the connection. Any adjustment will be applied from the date of the request, back to either:
- (a) the date of the incorrect allocation; or
  - (b) the date the connection first became eligible for LV Substation tariff; or
  - (c) up to the maximum period specified by [the Limitation Act (1980) in England and Wales, which covers a six year period from the date of request;
- whichever is the shorter.
- 2.32. Any credit or additional charge will be issued to the relevant Supplier(s) effective during the period of the change.
- 2.33. Should we reject the request a justification will be provided to the requesting party. We shall not unreasonably withhold or delay any decision on a request to change the charges applied and would expect to confirm our position on the request within three months of the date of request.

#### **Generation charges for pre-2005 designated EHV properties**

- 2.34. There are no pre-2005 designated EHV properties connected to the SHP Network

#### **Provision of billing data**

- 2.35. Where HH metering data is required for UoS charging and this is not provided to SEPD acting as our billing agent, in accordance with the BSC or DCUSA, such metering data shall be provided to SEPD by the User of the system in respect of each calendar month within five working days of the end of that calendar month.
- 2.36. The metering data shall identify the amount of energy conveyed across the Metering System in each half hour of each day and shall separately identify active and reactive import and export. Metering data provided shall be consistent with that received through the metering equipment installed.
- 2.37. Metering data shall be provided in an electronic format specified by SEPD acting as our billing agent from time to time and, in the absence of such specification, metering data shall be provided in a comma-separated text file in the format of Master Registration

Agreement (MRA) data flow D0275<sup>4</sup> (as agreed with SEPD). The data shall be emailed to [duos.income.billing@sse.com](mailto:duos.income.billing@sse.com).

- 2.38. SEPD acting as our billing agent 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. 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**

- 2.39. Not Used

#### **Licensed distribution network operator charges**

- 2.40. SHP Network does not connect to downstream networks owned by Licensed Distribution Network Operators (LDNOs) and therefore does not calculate and publish charges for LDNOs.

#### **Licence exempt distribution networks**

- 2.41. The SHP Network is a licence exempt distribution network and is fully open to supply competition. SHP calculates and applies DUoS charges for using the SHP Network. These DUoS charges include a charge levied on SHP by SEPD for the proportion of the distribution network which they provide.
- 2.42. SHP levies charges on Users for Customers that they supply who are connected to the SHP Network. The billing of Users is undertaken by SEPD acting as a billing agent on behalf of SHP.

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<sup>4</sup> MRA Data Transfer Catalogue available from <https://dtc.mrasco.com/>

### **3. Schedule of charges for use of the distribution system**

- 3.1. Tables listing the charges for use of our Distribution System are published in annexes to this document.
- 3.2. These charges are also listed in a spreadsheet which is published with this statement and can be downloaded here:  
<https://www.sseutilitiesolutions.co.uk/products/slough-heat-and-power/>
- 3.3. Annex 1 contains the charges applied to LV, HV and EHV Designated Properties.
- 3.4. Annex 2 is not used.
- 3.5. Annex 3 contains details of any preserved and additional charges that are valid at this time. At present there are no preserved charges and this Annex is not used.
- 3.6. Annex 4 is not used

#### 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 lost<sup>5</sup> 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 of the energy lost on the Distribution System.
- 4.2. SHP does not calculate distribution losses across our network. Instead, SHP replicates the distribution losses calculated by SEPD. Under our agency agreement with SEPD, SEPD are responsible for providing the Line Loss Factors (LLFs) for SHP Customers to Elexon.
- 4.3. LLFs are used to adjust the Metering System volumes to take account of losses on the Distribution System.

##### Calculation of line loss factors

- 4.4. SEPD has a methodology in place to calculate LLFCs. This methodology is published and is available from [here](#).
- 4.5. The Elexon website<sup>6</sup> contains more information on LLFs.

##### Publication of line loss factors

- 4.6. The LLFs used in Settlement are published on the Elexon Portal<sup>7</sup>. The website contains the LLFs in standard industry data formats and in a summary form. A user guide with details on registering and using the portal is also available.
- 4.7. BSCP128 sets out the timetable by which LLFs are submitted and audited. The submission and audit occurs between September and December in the year prior to the LLFs becoming effective. Only after the completion of the audit at the end of December and BSC approval are the final LLFs published.
- 4.8. As this statement is published a complete year before the LLFs for the charging year have been produced, Annex 5 is intentionally left blank. This statement will be reissued with Annex 5 populated once the LLFs have been calculated and audited. This should typically be more than three months prior to the statement coming into force.
- 4.9. When using the tables in Annex 5, reference should be made to the LLFC allocated to the MPAN to find the appropriate values.

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<sup>5</sup> 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.

<sup>6</sup> The following page has links to BSCP128 and to our LLF methodology: <http://www.elexon.co.uk/reference/technical-operations/losses/>

<sup>7</sup> The Elexon Portal can be accessed from [www.elexonportal.co.uk](http://www.elexonportal.co.uk)

## 5. Notes for Designated EHV Properties

- 5.1. SHP does not produce site specific charges for Designated EHV properties. The SHP DUoS charging methodology determines voltage level tariffs for sites at EHV in a consistent manner as tariffs generated for LV and HV customers. The SHP DUoS methodology can be downloaded from the SHP website here:

<https://www.sseutilitysolutions.co.uk/products/slough-heat-and-power/>

## **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 version of the statement.

## 7. Accounting and administration services

- 7.1. We reserve the right to impose payment default remedies. The remedies are set out in the SHP Network Standard Terms and Conditions that apply to Suppliers which supply customers on the SHP distribution network 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.;

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



## 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 <a href="http://www.elexon.co.uk/ELEXON Documents/trading_arrangements.pdf">www.elexon.co.uk/ELEXON Documents/trading_arrangements.pdf</a> .
Balancing and Settlement Code Procedure (BSCP)	A document of that title, as established or adopted and from time to time modified by the Panel in accordance with The Code, setting out procedures to be complied with (by Parties, Party Agents, BSC Agents, BSCCo, the Panel and others) in, and other matters relating to, the implementation of The Code;
Common Distribution Charging Methodology (CDCM)	The CDCM used by DNOs to calculate charges to Designated Properties as required by standard licence condition 13A of the Electricity Distribution Licence.
Connection Agreement	An agreement between SHP and a Customer which provides that that Customer has the right for its connected installation to be and remain directly or indirectly connected to that SHP's Distribution System
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.

Term	Definition
Designated Properties	As defined in standard condition 13A of the Electricity Distribution Licence.
Distribution Connection and Use of System Agreement (DCUSA)	The DCUSA is a multi-party contract between the licensed electricity distributors, suppliers, generators and Offshore Transmission Owners of Great Britain. It is a requirement that all licensed electricity distributors and suppliers become parties to the DCUSA.
Distributor IDs	These are unique IDs that can be used, with reference to the MPAN, to identify your LDNO. SHP as a unlicensed network does not have a Distributor ID, but our customers are allocated to the Southern Electric Power Distribution Distributor ID which is 20.
Distribution Network Operator (DNO)	An electricity distributor that operates one of the 14 distribution services areas and in whose Electricity Distribution Licence the requirements of Section B of the standard conditions of that licence have effect.
Distribution Services Area	The area specified by the Gas and Electricity Markets Authority within which each DNO must provide specified distribution services.
Distribution System	The system consisting (wholly or mainly) of electric lines owned or operated by an electricity distributor that is used for the distribution of electricity from: <ul style="list-style-type: none"> <li>• Grid Supply Points or generation sets or other entry points to the points of delivery to:</li> <li>• 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)</li> </ul> that are operated by that electricity 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.
EHV Distribution Charging Methodology (EDCM)	The EDCM used by DNOs 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.

Term	Definition
Embedded Network	An electricity Distribution System operated by an LDNO and embedded within another Distribution System.
Engineering Recommendation P2/6	A document of the Energy Networks Association, which defines planning standards for security of supply and is referred to in Standard Licence Condition 24 of our Electricity Distribution Licence.
Entry Point	A boundary point at which electricity is exported onto a Distribution System from a connected installation or from another Distribution System, not forming part of the total system (boundary point and total system having the meaning given to those terms in the BSC).
Exit Point	A point of connection at which a supply of electricity may flow from the Distribution System to the Customer's installation or User's installation or the Distribution System of another person.
Extra High Voltage (EHV)	Nominal voltages of 22kV and above.
Gas and Electricity Markets Authority (GEMA)	As established by the Utilities Act 2000.
Grid Supply Point (GSP)	A metered connection between the National Grid Electricity Transmission system and the licensee's distribution system at which electricity flows to or from the Distribution System.
GSP group	A distinct electrical system that is supplied from one or more GSPs for which total supply into the GSP group can be determined for each half hour.
High Voltage (HV)	Nominal voltages of at least 1kV and less than 22kV.
Intermittent Generation	Defined in DCUSA Schedule 16 as a generation plant where the energy source of the prime mover cannot be made available on demand, in accordance with the definitions in Engineering Recommendation P2/6.
Invalid Settlement Combination	A Settlement combination that is not recognised as a valid combination in market domain data - see <a href="https://www.elxonportal.co.uk/MDDVIEWER">https://www.elxonportal.co.uk/MDDVIEWER</a> .
kVA	Kilovolt ampere.
kVArh	Kilovolt ampere reactive hour.
kW	Kilowatt.
kWh	Kilowatt hour (equivalent to one "unit" of electricity).

Term	Definition
Licensed Distribution Network Operator (LDNO)	The holder of a Licence to distribute electricity.
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 = 
$$\frac{\dots\dots\dots}{\dots (\dots) \times}$$

Term	Definition
Metering Point	The point at which electricity that is exported to or imported from the licensee's Distribution System is measured, is deemed to be measured, or is intended to be measured and which is registered pursuant to the provisions of the MRA. For the purposes of this statement, GSPs are not 'Metering Points'.
Metering Point Administration Number (MPAN)	A number relating to a Metering Point under the MRA.
Metering System	Particular commissioned metering equipment installed for the purposes of measuring the quantities of exports and/or imports at the exit point or entry point.
Metering System Identifier (MSID)	MSID is a term used throughout the BSC and its subsidiary documents and has the same meaning as MPAN as used under the MRA.
Master Registration Agreement (MRA)	The Master Registration Agreement (MRA) provides a governance mechanism to manage the processes established between electricity suppliers and distribution companies to enable electricity suppliers to transfer customers. It includes terms for the provision of Metering Point Administration Services (MPAS) Registrations.
Non-Intermittent Generation	Defined in DCUSA Schedule 16 as a generation plant where the energy source of the prime mover can be made available on demand, in accordance with the definitions in Engineering Recommendation P2/6.
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.
Supplier	An organisation with a supply licence responsible for electricity supplied to and/or exported from a metering point.

Term	Definition
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 <sup>8</sup> .
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 SHP e.g. a supplier, generator or other LDNO.

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<sup>8</sup> Balancing and Settlement Code Procedures are available from <http://www.elexon.co.uk/pages/bscps.aspx>

## Appendix 2 - Guidance notes<sup>9</sup>

### 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 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 premises 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.

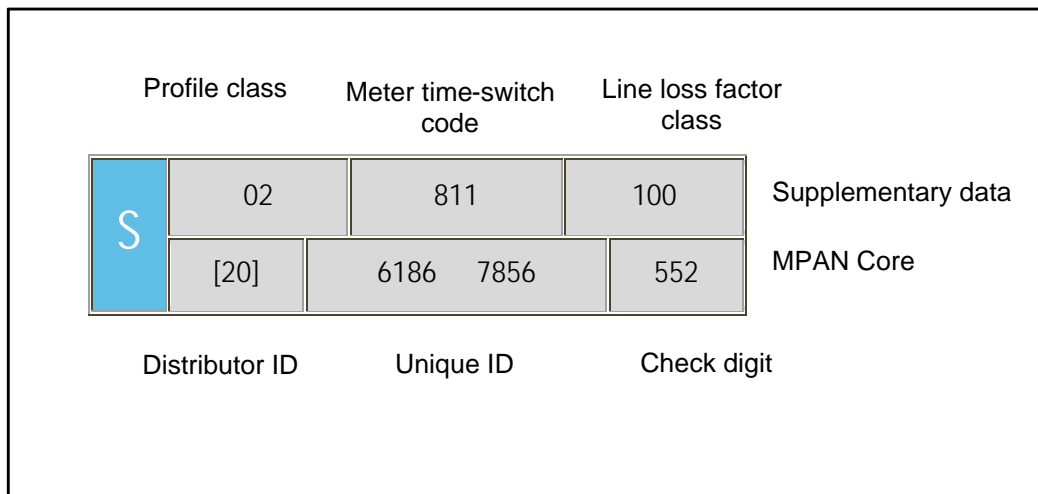
### Meter point administration

- 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 an MPAN for catering).
- 1.6. The full MPAN is a 21 digit number, preceded by an 'S' and includes supplementary data. 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 premises.
- 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.

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<sup>9</sup> These guidance notes are provided for additional information and do not form part of the application of charges.

Full MPAN diagram



- 1.8. Generally, you will only need to know the Distributor ID and LLFC to identify the distribution charges for your premises. However, there are some premises where charges are specific to that site. In these instances, the charges are identified by the MPAN core. As an unlicensed network, SHP does not have a Distributor ID. However, the LLFCs assigned to Customers connected to the SHP Network are allocated to the SEPD Distributor ID which is 20
- 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 or 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 the SHP distribution network are provided in this statement.
- 1.13. You can identify your charges by referencing your LLFC, from Annex 1.
- 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 information provided in the spreadsheet 'Schedule of charges and other tables'. This spreadsheet can be downloaded here:

<https://www.sseutilitiesolutions.co.uk/products/slough-heat-and-power/>

#### **Reactive power and reactive power charges**

- 1.15. 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.
- 1.16. Reactive Power (kVArh) 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.
- 1.17. 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.
- 1.18. 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.
- 1.19. 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.

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

Slough Heat and Power Distribution Network - Effective from 1 April 2021 - Final LV and HV charges

Time Bands for LV and HV Designated Properties			
Time periods	Red Time Band	Amber Time Band	Green Time Band
Monday to Friday (Including Bank Holidays) All Year	16:30 - 19:30	07:00 - 16:30 19:30 - 22:00	00:00 - 07:00 22:00 - 24:00
Saturday and Sunday All Year		09:30 - 21:30	00:00 - 09:30 21:30 - 24:00
Notes	All the above times are in UK Clock time		

Time Bands for Unmetered Properties			
	Black Time Band	Yellow Time Band	Green Time Band
Monday to Friday (Including Bank Holidays) November to February	16:30 - 19:30	07:00 - 16:30 19:30 - 22:00	
Monday to Friday (Including Bank Holidays) March to October		07:00 - 22:00	
Monday to Friday (Including Bank Holidays) April to March			00:00 - 07:00 22:00 - 24:00
Saturday and Sunday All Year		09:30 - 21:30	00:00 - 09:30 21:30 - 24:00
Notes	All the above times are in UK Clock time		

Tariff name	Open LLFCs	PCs	Red/black unit charge p/kWh	Amber/yellow unit charge p/kWh	Green unit charge p/kWh	Fixed charge p/MPAN/day	Capacity charge p/kVA/day	Exceeded capacity charge p/kVA/day	Reactive power charge p/kVAh	Closed LLFCs
Domestic Aggregated	Not used									
Domestic Aggregated (related MPAN)	Not used									
Small LV	166, 473, 474, 475, 479	3, 4 or 5-8	1.953	1.953	0.538	91.69				
Non-Domestic Aggregated (related MPAN)	Not used									
LV	470	0	1.089	1.089	0.124	213.35	7.40	7.40	0.168	
LV Sub	H99	0	0.372	0.372	0.011	213.35	12.41	12.41	0.056	
HV	476	0	0.195	0.195	0.006	1453.29	10.57	10.57	0.030	
HV Sub	H96	0	-	-	-	2906.57	9.04	9.04		
33kV	H66	0	-	-	-	5093.99	7.07	7.07		
Unmetered	586, 587, 588, 589	0, 1 or 8	3.276	3.276	1.861					
LV Generation	79, 80, 477, 993	0				0	0	0		
LV Sub Generation	210, 211	0				0	0	0		
HV Generation	212, 213, 478, H98	0				0	0	0		
HV Sub Generation	H97	0				0	0	0		
33kV Generation	H65	0				0	0	0		

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

NOT USED

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

NOT USED

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

NOT USED

## Annex 5 - Schedule of line loss factors

Slough Heat and Power Distribution Network - LLFs for year beginning 1 April 2021				
Time periods	Period 1	Period 2	Period 3	Period 4
	(Name 1)	(Name 2)	(Name 3)	(Name 4)
Monday to Friday Nov to Feb	16:00 – 19:00	07:30 – 16:00 19:00 – 20:00	20:00 – 00:30	00:30 – 07:30
Saturday and Sunday All Year and Monday to Friday Mar to Oct			07:30 – 00:30	00:30 – 07:30
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 network	1.088	1.082	1.074	1.071	166, 473, 474, 475, 479, 470, 586, 587, 588, 589 / 79, 80, 477, 993
Low-voltage substation	1.044	1.043	1.043	1.047	H99 / 210, 211
High-voltage network	1.028	1.026	1.023	1.02	476 / 212, 213, 478, H98
High-voltage substation	1.019	1.018	1.016	1.015	H96 / H97
33kV generic	1.014	1.013	1.011	1.01	H66 / H65
132/33kV generic					
132kV generic					

## Annex 6 - Charges for New or Amended Designated EHV Properties

NOT USED