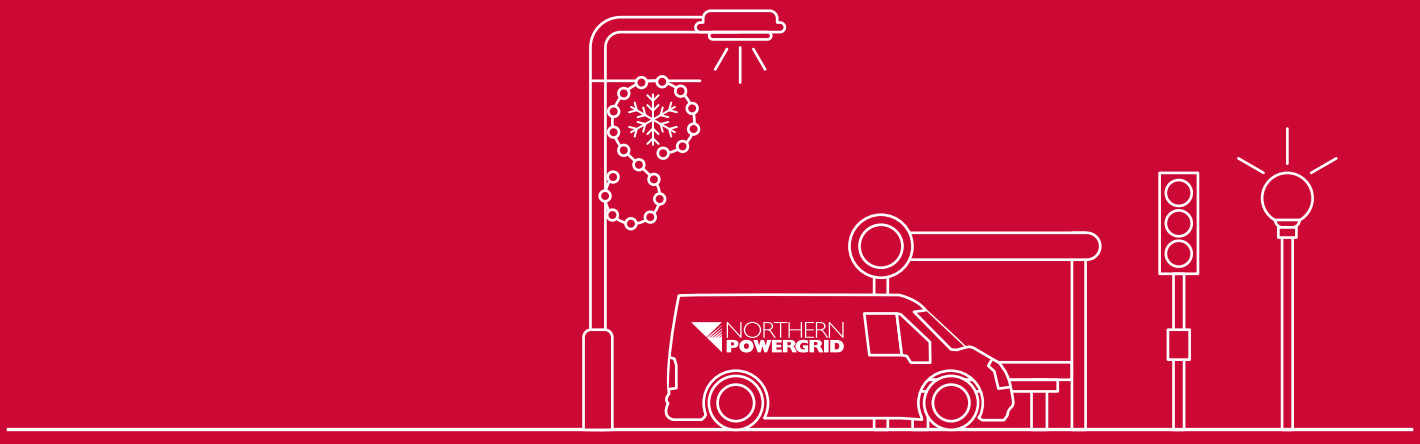
Guidance on managing unmetered supplies



What is an unmetered supply?

An unmetered supply is a supply of electricity to a particular item of equipment that is connected to the distribution network without a meter, including street lights, traffic signals, illuminated road signs, CCTV, and telecom cabinets.

As stated in the current regulatory guidance and industry codes, for an unmetered electrical supply to be connected to the distribution network, it must meet the following criteria:

- the electrical load is of a predictable nature and either;
- the electrical load is less than 500 watts and/or;
- it is not practical for a supply of electricity to be given through an appropriate meter at the premises because:
  - The anticipated metering costs would be significantly higher than the cost of the electricity being used by the equipment installed.
  - There would be significant technical difficulties associated with installing a meter.
  - Operation of law would prohibit or make excessively difficult the provision of a meter.

In addition, and in line with guidance from ELEXON the electricity industry governing body that oversees trading arrangements, an approved charge code must also be in place for each item of equipment that is being connected.

You will be required to sign a connection agreement, which is a formal agreement between you and Northern Powergrid, that will be issued to you and states that you agree with the terms and conditions of an unmetered supply, this must be done before your new connection and the energisation of the equipment is completed.

Types of unmetered supplies

Half-Hourly (HH)

Half-Hourly (HH) data is the energy consumed in each half hour of the day. This method of recording energy is typically used by customers with high levels of consumption and is categorised into two different types:

- Dynamic HH recording – uses the actual data obtained from a Photo-Electric Cell Unit (PECU) array which measures light levels and/or any Central Management Systems (CMS), a system that records accurate consumption profile information.
- Passive HH – uses the sunrise/sunset times to provide on/off times for PECU arrays to calculate the consumption profile information, it is not as accurate as dynamic HH recording in determining the consumption profile.

To record consumption data on a HH basis, a Meter Administrator (MA) must be appointed. The MA is chosen and contracted by the customer and charges may apply for this service. Once the arrangement is in place, the MA will calculate the consumption for each piece of equipment and provide this to the supplier. The supplier will then calculate and issue an invoice to the customer based on the information provided by the MA.

Non-Half-Hourly

Non-Half-Hourly (NHH) recording of consumption uses an estimated number of annual hours that each type of equipment is consuming energy for. These hours are published by ELEXON in its switch regime directory. In contrast to the HH arrangements where the MA is responsible for submitting consumption data, it is Northern Powergrid that is responsible for calculating the NHH consumption information and providing it to the supplier. The supplier would then calculate and issue an invoice to the customer based on the information provided by Northern Powergrid.

Once you have an unmetered supply

Where an application for unmetered supplies has been made, the equipment meets the criteria and a connections agreement has been signed, you will then be required to submit an initial 'detailed inventory' of all unmetered supply equipment. For further information, see the **Managing inventories** section of this guidance.

Changing your trading arrangements from Non – Half Hourly (NHH) to Half-Hourly (HH)

If you would like to change your trading arrangements from NHH to HH, you can contact us, and we will explain the requirements and process.

[1] The Electricity (Unmetered Supply) Regulations 2001 www.legislation.gov.uk/uksi/2001/3263/contents/made

[2] www.elexon.co.uk/

Roles of the different organisations involved in the process

What Northern Powergrid does

For Non-Half Hourly (NHH) customers, Northern Powergrid calculates the Estimated Annual Consumption (EAC) from the detailed inventory you provide us. We will also provide you and your electricity supplier with details of your consumption via an unmetered supplies certificate. This certificate can only be issued by Northern Powergrid and is linked directly to the inventory. Therefore, if the inventory changes due to new equipment being connected or equipment being removed, your EAC will also change. It is vital that the inventories are kept up to date and submitted in line with industry requirements (HH is every month and NHH is a minimum of once a year, subject to agreement) to ensure you receive accurate energy bills. The EAC calculation is based on the formula below:

Wattage of equipment x burning hours/1000 x no. of items = EAC (kWH)

For Half-Hourly (HH) customers, Northern Powergrid verifies the detailed inventory and issues a summary inventory to your Meter Administrator (MA). The MA will then calculate the consumption and this information is then passed to the supplier who uses it to produce your electricity bill.

What role does ELEXON play?

ELEXON are the electricity industry governing body who oversee various trading arrangements. For unmetered supplies, they are responsible for ensuring that the relevant processes contained within the relevant codes of practice are carried out effectively. ELEXON's documentation on unmetered supplies can be found on its website . ELEXON is also responsible for publishing the charge codes and switch regimes (time patterns) to unmetered supplies (UMS) equipment manufacturers and local councils who have an interest in unmetered supplies.

ELEXON impose certain responsibilities on Local Distribution System Operators (LDSOs), including Northern Powergrid. In doing so the LDSO assumes the role of Unmetered Supplies Operator (UMSO) and is bound by ELEXON's governance. To ensure compliance is being met throughout the process, Northern Powergrid in the role of the UMSO is subject to an audit on a regular basis.

What your electricity supplier does

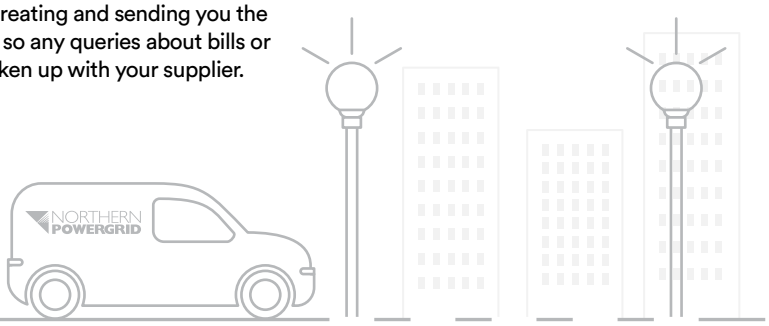
Your electricity supplier will use the EAC stated on your unmetered supplies certificate to invoice you for the electricity the equipment has consumed. Your supplier is responsible for creating and sending you the energy bills, and so any queries about bills or costs must be taken up with your supplier.

Other useful guidance

Managing Unmetered Energy Street Lighting Inventories (MUESLI)

The MUESLI document is endorsed by ELEXON, the Energy Networks Association, Institution of Lighting Professionals, UK Lighting Board and the Local Government Technical Advisors Group and represents best practise in establishing, maintaining and auditing inventories for unmetered street lighting supplies.

As the customer, the electricity supplier and Northern Powergrid to maximise efficiencies through accuracy and compliance under the rules surrounding unmetered supplies, MUESLI allows for audits of inventories to be conducted by Northern Powergrid, following prior notification.



[3] www.elexon.co.uk/operations-settlement/unmetered-supplies/charge-codes-and-switch-regimes/

Managing inventories

A detailed inventory

A detailed inventory itemises the unmetered equipment connected to the distribution network and, in line with ELEXON's specifications (and therefore Northern Powergrid's), each inventory must include the following information for each item of equipment:

- unique reference;
- location;
- address;
- charge code;
- equipment wattage;
- number of items;
- burning hours; and
- control charge code.

The information above is mandatory, without it we will be unable to accept your inventory and you will be requested to resubmit with the full information.

Information and requirements of a detailed inventory are documented by ELEXON.

The ELEXON Operational Information Document (OID) is a reference document that provides useful operational information relating to unmetered supplies, as well as the charge codes and operating hours which may assist you when compiling an unmetered supplies inventory.

If you have any further questions regarding the compilation of a detailed inventory, email **unmetered.supplies.operator@northernpowergrid.com** or call us on **0800 028 2018** and select option 4 then option 1.

Declaring IDNO (Independent Distribution Network Operator) on a DNO inventory

Customers may choose to combine IDNO inventory items on to their DNO inventory. This process reduces the number of Meter Point Administration Numbers (MPANs) required and means they would submit only one inventory to the DNO.

In this process, Northern Powergrid is the Distribution Network Operator, often known as the host DNO.

If you would like to combine IDNO equipment on to your Northern Powergrid DNO inventory, you should first contact the IDNO to confirm your intentions, they will agree the sites with you and approve the inventory that will be submitted to us.

The IDNO items of equipment within your inventory submission must be clearly identifiable with a unique identifier. This should either be the IDNOs market participant ID, or the first two digits of the MPAN you have for each of the IDNOs, see reference table below:

Company	Market Participant ID	MPAN Prefix
Independent Power Networks Ltd	IPNL	24
ESP Electricity Ltd	LENG	25
Last Mile Electricity Ltd	GUCL	26
The Electricity Network Company Ltd	ETCL	27
Harlaxton Energy Network Ltd	HARL	29
Leep Electricity Networks Ltd	PENL	30
UK Power Distribution Ltd	UKPD	31
Energy Assets Networks Ltd	UDNL	32
Eclipse Power Networks Ltd	GGEN	33
Murphy Power Distribution Ltd	MPDL	34
Fulcrum Electricity Assets Ltd	FEAL	35
Vattenfall Networks Ltd	VATT	36
Forbury Assets Ltd	FORB	37
Indigo Power Ltd	INDI	38

When submitting your inventory, please provide one single file and issue it to the DNO and all IDNOs involved in the combining. For help with combining inventories email **unmetered.supplies.operator@northernpowergrid.com** or call **0800 028 2018** and select option 4 then option 1.

Important note

Any changes made to your inventory regarding equipment (adding or removing) or any changes in energy usage will not be reflected on your supply invoice until the changes you have made have been provided to Northern Powergrid, who following confirmation, will submit a revised estimate of annual consumption to your supplier. **It is therefore essential that an updated inventory is submitted regularly and as a minimum on an annual basis.**

[4] www.elexon.co.uk/

[5] www.elexon.co.uk/guidance-note/operational-information-document/

Festive lighting

If you want to temporarily connect lighting on an unmetered basis over the festive period, a detailed inventory must be provided and the normal process, as described in the **What is an unmetered supply?** section of this guidance must be followed.

However, the information you provide to us as part of your detailed inventory requires further detail to ensure you are billed correctly, specifically;

- Unique reference;
- Location;
- Address;
- Charge code;
- Equipment wattage;
- Number of items;
- Burning hours;
- Control and control charge code and,
- Switch on and off dates

We will require an update every year and ask that you provide this to us at your earliest convenience following the end of the festive period.

Important note

Any changes made to your festive inventory regarding equipment (adding or removing), or changes in energy usage will not be reflected on your supply invoice until the changes you have made have been provided to Northern Powergrid who, following confirmation, will submit a revised estimate of annual consumption to your supplier. It is essential therefore that an updated inventory is submitted regularly, as a minimum on an annual basis.

Dimming and power reduction schemes

Some unmetered equipment, like street lights and traffic signals can be 'dimmed'. In periods of the day when full brightness is not required, the wattage of the equipment can be reduced to save energy and lower overall consumption. The table below provides an overview and is taken from Elexon's Operational Information Document (OID):

Fixed Dimming	Central Management System (CMS)
This can be used by both Non-Half Hourly (NHH) customers and Half-Hourly (HH) customers and it can involve part night dimming or multi-level static dimming. Part night dimming allows customers to reduce their energy consumption and carbon emissions for part of the night. The power of the lamp will be reduced typically around midnight, returning to full power at the desired time, usually when traffic volumes increase. Multi-Level Static Dimming (MSLD) - A customer can apply for a multi-level switch regime from ELEXON. The application can have up to eight different dimmed power levels, plus a 100% level in a 24-hour period. Once approved, the equipment must be declared to Northern Powergrid in an updated detailed inventory, using valid combination of switch regimes.	This can only be used by Half-Hourly (HH) customers, having invested in a Central Management System (CMS) and appointed a CMS-capable Meter Administrator (MA). To calculate the consumption, the customer must provide an event log to the MA who will use the data to calculate the consumption, along with a CMS inventory provided to Northern Powergrid.

Important contact details

Northern Powergrid – Unmetered Supplies Operator

Email: unmetered.supplies.operator @northernpowergrid.com

Telephone: 0800 028 2018, select option 4 then option 1

www.northernpowergrid.com/get-connected/unmetered-services

ELEXON

Email: UMSUG.Secretary@elexon.co.uk

Telephone: 020 7380 4100

[6] theilp.org.uk/publication/managing-unmetered-energy-street-lighting-inventories/