1.4 What is Half Hourly (HH) and Non Half Hourly (NHH) Trading?

Currently Customers can trade their electricity in three ways, either NHH, passive HH or dynamic HH. The main difference between them is the use of dynamic data.

Unmetered inventories are traded either on a NHH or a HH basis. The majority of inventories are traded on a NHH basis, however the BSC requires unmetered 100kW Metering Systems to trade on a HH basis where the LDSO has agreed that the maximum demand is greater than 100kW.

The UMSO (as the LDSO's party agent carrying out its role defined in BSCP520) is responsible for agreeing the inventory of unmetered equipment with the customer. As part of this activity the maximum demand of the unmetered inventory must be determined. If it exceeds 100kW then the UMSO will advise the Customer and Supplier to arrange for the inventory to be traded on a HH basis.

The Distribution Use of System charging statements currently require that unmetered supplies only transfer from non-half hourly to half hourly on the 1st April in any year. In April 2021 the charging arrangements will change and they can transfer at any time.

1.4.1 Calculation of the Maximum Demand of an UMS Inventory

The electrical demand for an inventory will vary during the day as equipment is switched on/off or dimmed. In order to determine the maximum demand it will be necessary to decide the time of day when the peak will occur. In an inventory predominantly for Street Lighting this is likely to be during the Dusk to Dawn period, whereas an inventory for Traffic Signals the maximum demand will more likely occur during the day when the traffic signals will be "bright" rather than dimmed at night.

A Summary Inventory is created when calculating a NHH EAC (para. 4.5 of BSCP520). This should also be used to calculate the maximum demand. Calculate the demand for each Charge Code/Switch Regime combination in the summary inventory by multiplying the Charge Code circuit watts by the number of items and dividing by 1,000 to give the kW demand for each combination. The kW demands for each combination should then be summed by each relevant category shown in the table at para. 4.4 of BSCP520. Because the Dusk to Dawn and Dawn to Dusk categories profiles will never be coincident, only the highest kW demand for one of these two categories should be used in the total for the inventory. Two simple example calculations are shown below.

Street Lighting

Charge Code	Switch Regime	Items	Category	Circuit Watts	kW demand
1100351000100	219	50	C - Half Night	65	3.25
1400701000100	421	750	B - Dusk to Dawn	90	67.50
4201000000100	808	400	B - Dusk to Dawn	100	40.00
9100020000100	219	50	A - Continuous	2	0.10
9200030000100	421	750	D - Dawn to Dusk	3	2.25
9400011000100	808	400	A - Continuous	0.25	0.10
				Max Demand	110.95

In this example the Thermal PECUs kW demand on row 5 of the inventory has been excluded because the total of the Dawn to Dusk category is lower than the total of the Dusk to Dawn

category, i.e. the power being taken by the thermal PECUs will not coincide with the power being taken by the lighting.

Traffic Signals

Charge Code	Switch Regime	Items	Category	Circuit Watts	kW demand	
7906050000100	001	200	A - Continuous	50	10.00	
7902050000100	821	3,000	D - Dawn to Dusk	18	54.00	(Bright)
7902050000100	821	3,000	B - Dusk to Dawn	12	~~36.00~~	(Dimmed)
7904050000100	821	2,000	D - Dawn to Dusk	25	50.00	(Bright)
7904050000100	821	2,000	B - Dusk to Dawn	16	~~32.00~~	(Dimmed)
9400011000100	821	200	A - Continuous	0.25	0.05	
				Max Demand	114.05	

In this example the power used by the Vehicle and Pedestrian Aspects at night (dimmed) has been excluded because it will not coincide with the higher watts (bright) used during the day.

Additionally, note the requirements of 1.4.3 below when allocating demand to a category. If allocating dimming traffic signal equipment to category A, only the bright circuit watts should be used in the maximum demand calculation.

~~Dynamic data is actual recorded data such as the switching times of a representative sample of photocells contained in a Photo Electric Control Unit (PECU) array. Data recorded by a Central Management System (CMS) is also dynamic data, with the switching times of each individual lamp controlled by the system and/or power levels being recorded (see What are Central Management Systems (CMS)?).~~

~~1.4.1~~1.4.2 Half Hourly

HH data is the energy consumption of a Customer in kWh, apportioned into the correct half hour of each day. There are two methods of calculating half hourly consumptions, dynamic and passive HH trading.

Dynamic HH trading achieves this by use of the data obtained from PECU arrays and/or any CMS. Dynamic data is actual recorded data such as the switching times of a representative sample of photocells contained in a Photo Electric Control Unit (PECU) array. Data recorded by a Central Management System (CMS) is also dynamic data, with the switching times of each individual lamp controlled by the system and/or power levels being recorded (see What are Central Management Systems (CMS)?).

Passive HH achieves this by using the calculated Sunrise/Sunset times. Passive HH does not use any dynamic data.

In order to trade HH an MA must be appointed. The MA is appointed by the Supplier and contracted by the Customer (who may have chosen to operate HH).

~~1.4.2~~1.4.3 Non Half Hourly

NHH trading does not use any dynamic data and instead uses an estimated number of annual hours for each type of photocell Switch Regime. These annual hours are published by BSCCo in the Switch

Regime Spreadsheet. The appropriate Category for each Switch Regime is defined in the Switch Regime Spreadsheet. The Category shown in the spreadsheet is not appropriate for certain load types:

- Traffic signal equipment, particularly where dimming is in use, so traffic signal consumption should always be regarded as either Category A – continuous; or split in proportion across Category B – Dusk to Dawn & Category D – Dawn to Dusk.

- Thermal & hybrid photocells daytime load would be allocated to Category D – Dawn to Dusk.

- All other equipment controllers (electronic photocells, time switches, etc.) would be allocated to Category A – continuous.