

Attachment A: BSCP520 Extract showing CP1196 Proposed Changes

1.2.1 UMSO Responsibilities

Where an UMS has been agreed, each UMSO shall be responsible for the following:-

- a) where the inventory is subject to HH trading, providing a copy of the summary inventory to the appointed MA of an EM. Agreed updates to the summary inventory will be similarly passed to the appointed MA;
- b) providing Unmetered Supply Certificates;
- c) requesting additional MSIDs from the SMRA where additional inventory items need to be allocated to alternative SSCs and associated Profile Class and passing details of all MSIDs and the associated Meter Timeswitch Code and Profile Class to the Supplier for registration;
- d) where the inventory is subject to NHH trading, calculating initial and revised EACs and submitting them to the appointed Supplier and NHHDC;
- e) ~~nominating~~agreeing with the Supplier the type of EM (i.e. whether passive or dynamic) to be used in the LDSO's area and ~~agreeing~~ the location of any associated photo-electric cell unit (PECU) arrays ~~with the Supplier~~;
- f) informing Suppliers and MA of the weighted average latitude and longitude information for the installed Apparatus for each MSID where an EM is being used;
- g) providing any other additional information required to enable the Supplier to determine the Distribution Use of System (DUoS) charges;
- h) for supporting the Trading Query / Trading Dispute process as required by Section W of the Code;
- i) for responding to any queries raised by the Panel, Supplier, the Supplier Volume Allocation Agent, the Data Collector, the Meter Administrator and / or the BSC Auditor;
- j) providing Suppliers with the data that will enable them to fulfil their obligations under the Code;
- k) notifying Suppliers on discovering that any Settlement data for which the UMSO is responsible is potentially incorrect or missing;
- l) retaining all the data that is necessary for the Supplier to fulfil its Code obligations e.g. history of summary inventories, history of EACs. Data must be retained for a minimum of 40 months;
- m) ensuring that the Customer continues to comply with the conditions for an Unmetered Supply;

- n) issuing an annual spreadsheet containing all UMS EACs for each MSID split by Settlement Register (using the appropriate Average Fraction of Yearly Consumption) to Suppliers each June, and providing confirmation to BSCCo. that this process has occurred; and
- o) resending the correct EAC(s) to the NHHDC upon instruction by the Supplier if Supplier identifies a discrepancy between EACs received from NHHDCs to those received from the UMSO.

1.3.8 Half Hourly Trading

The Supplier shall confirm with the UMSO the type of EM that is to be used in the LDSO's area associated with the MSID and whether this requires photo-electric cell units (PECU) arrays or a Central Management System (CMS) to be used.

The Supplier shall advise the UMSO of the appointed MA. The UMSO shall send a copy of the current summary inventory to the MA of an EM appointed for an MSID. Where the UMSO requires more than one PECU array to be installed for an MSID, the summary inventory shall identify the Apparatus, suitably codified, to be assigned to each PECU array. Where a CMS is required, the UMSO shall create and send a control file to the MA detailing the Apparatus that is to be managed by the CMS, to the MA.

In addition, any agreed updates to the summary inventory or any control file shall be advised to the appointed MA.

1.6 Associated BSC Procedures

- BSCP40 Change Management.
- BSCP501 Supplier Meter Registration Service.
- BSCP502 Half Hourly Data Collection for SVA Metering Systems Registered in SMRS.
- BSCP504 Non-Half Hourly Data Collection for SVA Metering Systems Registered in SMRS.
- BSCP515 Licensed Distribution
- BSCP537 Qualification Process for SVA Parties, SVA Party Agents and CVA MOAs

1.7 Acronyms and Definitions

1.7.1 Acronyms

The terms used in this BSCP are defined as follows:

- | | |
|------|--|
| AFYC | Average Fraction of Yearly Consumption |
| BSC | Balancing and Settlement Code |

BSCCo	Balancing and Settlement Code Company
BSCP	Balancing and Settlement Procedure
CMS	Central Management System
CPC	Change Proposal Circular
DUoS	Distribution Use of System
EAC	Estimated Annual Consumption
EM	Equivalent Meter
GSP	Grid Supply Point
HH	Half Hourly
HHDA	Half Hourly Data Aggregator
HHDC	Half Hourly Data Collector
Id	Identifier
KWh	Kilowatt Hour
LDSO	Licensed Distribution System Operator
LF	Load Factor
LLF	Line Loss Factor
MA	Meter Administrator
METD	Metering Equipment Technical Details
MOA	Meter Operator Agent
MSID	Metering System Identifier
NHH	Non-Half Hourly
NHHDA	Non-Half Hourly Data Aggregator
NHHDC	Non-Half Hourly Data Collector
PECU	Photo Electric Cell Unit
SMRA	Supplier Meter Registration Agent
SMRS	Supplier Meter Registration Service
SSC	Standard Settlement Configuration
SSD	Supply Start Date
SVA	Supplier Volume Allocation
TPR	Time Pattern Regime
TSR	Time Switch Regime
UMS	Unmetered Supplies
UMSO	Unmetered Supplies Operator of the LDSO
UMSUG	Unmetered Supplies User Group
UTC	Co-ordinated Universal Time
W	Watts
WD	Working Day

1.7.2 Definitions

Full definitions of the above acronyms and other defined terms used in this BSCP are, where appropriate, included in [the](#) Code. For clarification, definitions are provided below for terms specifically associated with UMS:-

“Apparatus” means all equipment in which electrical conductors are used, supported or of which they may form part;

“Applicant” means a person applying for Equivalent Meter approval.

“Astronomical Almanac” means the Astronomical Almanac published annually by Her Majesty’s Stationary Office;

“Central Management System” means a system that is able to dynamically control and manage the electrical load used by Apparatus registered as an Unmetered Supply.

“Dawn” means 30 minutes before sunrise;

“Dusk” means 30 minutes after sunset;

“Equivalent Meter” means the hardware and software described in Appendix 4.5;

“FLARE Software” means the software originally owned and licensed by Eastern Group plc to create the Equivalent Meter data;

“LAMP Software” means the centrally developed software owned and licensed by St Clements Services Limited to create the Equivalent Meter data;

“MA System” means, in the context of a CMS-based Equivalent Meter, the software and hardware operated by the Meter Administrator and used to calculate half hourly consumption.

“PECU array” means the hardware described in Appendix 4.5;

“Provisional Code” means a code that has been agreed by the UMSUG chairman and is awaiting formal approval.

“Sub-Meter” means that within an Equivalent Meter there is more than one PECU array or more than one summary inventory associated with an MSID;

“Sunrise” means the time when the suns apparent disc is below and tangential to the horizon at sea level and to the east of the observer;

“Sunset” means the time when the suns apparent disc is below and tangential to the horizon at sea level and to the west of the observer;

“Temporary Code” means a code that the UMSUG chairman believes it is not possible to obtain approval for because there is insufficient information to justify seeking approval.

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3.13 Approval of Equivalent Meter

<u>REF</u>	<u>WHEN</u>	<u>ACTION</u>	<u>FROM</u>	<u>TO</u>	<u>INFORMATION REQUIRED</u>	<u>METHOD</u>
<u>3.13.1</u>	<u>At any time</u>	<u>Submit request for EM approval.</u>	<u>Applicant</u>	<u>BSCCo</u>	<u>Details of EM type, including software and hardware versions.</u>	<u>Email, fax, post</u>
<u>3.13.2</u>	<u>Within 2 WD of 3.13.1</u>	<u>Confirm receipt and request any further details as necessary.</u>	<u>BSCCo</u>	<u>Applicant</u>		<u>Email, fax, post</u>
<u>3.13.3</u>	<u>Within 5 WD of 3.13.2.</u>	<u>Provide example of test schedule and details of EM Test Agents.</u>	<u>BSCCo</u>	<u>Applicant</u>	<u>EM test schedule,</u> <u>EM Test Agents.</u>	<u>Email, fax, post</u>
<u>3.13.4</u>	<u>Within 10WD of receipt of 3.13.3.</u>	<u>Agree test schedule.</u>	<u>Applicant</u>	<u>BSCCo</u>	<u>Re-drafted schedule (if required).</u>	<u>As agreed</u>
<u>3.13.5</u>	<u>Within 10 WD of 3.13.4.</u>	<u>Agree EM Test Agent with BSCCo.</u>	<u>Applicant</u>	<u>BSCCo</u>	<u>Notification of EM Test Agent.</u>	<u>As agreed</u>
<u>3.13.6</u>	<u>Within 10 WD of 3.13.4.</u>	<u>Liaise with EM Test Agent to undertake EM testing.</u>	<u>Applicant</u>	<u>EM Test Agent</u>	<u>Notification of EM Test Agent.</u>	<u>As agreed</u>
<u>3.13.7</u>	<u>As agreed with Applicant.</u>	<u>Undertake testing and submit report to Applicant.</u>	<u>EM Test Agent</u>	<u>Applicant</u>	<u>EM Test Report.</u>	<u>Email, fax, post</u>
<u>3.13.8</u>	<u>Following completion of testing</u>	<u>Submit EM approval request to BSCCo</u>	<u>Applicant</u>	<u>BSCCo</u>	<u>Approval request, EM Test Report and any other supporting information.</u>	<u>Email, fax, post</u>
<u>3.13.9</u>	<u>At next opportune UMSUG meeting</u>	<u>Prepare and present report to UMSUG requesting recommendation for approval of EM.</u>	<u>BSCCo</u>	<u>UMSUG</u>	<u>UMSUG Paper.</u>	<u>Internal process</u>

<u>REF</u>	<u>WHEN</u>	<u>ACTION</u>	<u>FROM</u>	<u>TO</u>	<u>INFORMATION REQUIRED</u>	<u>METHOD</u>
<u>3.13.10</u>	<u>Within 5WD of 3.13.9.</u>	<p><u>Notify Applicant of UMSUG decision.</u></p> <p><u>If EM approval is not recommended, liaise with Applicant and provide details of additional information or testing required. Return to 3.13.7 or 3.13.8 as necessary.</u></p> <p><u>If EM approval is recommended proceed to 3.13.11.</u></p>	<u>BSCCo</u>	<u>Applicant</u>	<u>UMSUG decision and any supporting information.</u>	<u>Email, fax, post</u>
<u>3.13.11</u>	<u>At next opportune Panel meeting</u>	<u>Prepare and present report to Panel recommending EM for approval.</u>	<u>BSCCo</u>	<u>Panel</u>	<u>Panel Paper.</u>	<u>Internal process</u>
<u>3.13.12</u>	<u>Within 5WD of 3.13.11</u>	<p><u>Notify Applicant of Panel decision.</u></p> <p><u>If EM not approved, liaise with Applicant and recommend next steps.</u></p> <p><u>If EM approved, proceed to 3.13.13.</u></p>	<u>BSCCo</u>	<u>Applicant</u>	<u>Panel decision and any supporting information.</u>	<u>Email, fax, post</u>
<u>3.13.13</u>	<u>Within 5WD of 3.13.11</u>	<u>Update Approved EM list on BSC Website with details of approved EM</u>	<u>BSCCo</u>		<u>EM Approval Details.</u>	<u>Internal Process</u>
<u>3.13.14</u>	<u>Within 5WD of 3.13.11</u>	<u>Communicate update to Parties and Party Agents</u>	<u>BSCCo</u>	<u>Parties</u> <u>Party Agents</u>	<u>EM Approval Details.</u>	<u>Email, fax, post</u>

4.5 Equivalent Meter Specification

The specification below is insufficient for a Code of Practice but describes the required functionality of Equivalent Meters used to provide Settlement consumption data for Unmetered Supplies. This is an interim measure until a full specification can be produced at a later stage under the auspices of the Panel.

New hardware and software systems complying with the relevant sections of this Appendix 4.5 may be developed and submitted to the UMSUG and the Panel for approval in accordance with Section 3.13 Approval of New Equivalent Meter. Once approved, a system may be used in conjunction with any other hardware and software so long as there is no material impact on the Equivalent Meter's original approval. Where such impact is believed to be material, further approval should be sought.

A list of approved Equivalent Meter types can be found on the BSC Website.

~~Currently, the only types of EMs approved for providing Settlement consumption data are those systems operating with Lailoken, LAMP and FLARE software, but new hardware and software systems, complying with Appendix 4.5 may be developed in consultation with the UMSUG and submitted to the Panel for approval.~~

4.5.2 Equivalent Meter Functionality

Equivalent meters are of two types:-

- a) ~~Passive meters (e.g. Flare)~~ which allocate the ~~u~~Unmetered consumption across the half hourly periods by a mathematical relationship of annual burning hours to the daily time of sunrise and sunset; and
- b) ~~Dynamic meters (e.g. Lamp, Lailoken)~~ which allocate the ~~u~~Unmetered consumption across the half hourly periods by reference to the operation of a number of actual photoelectric cells, or by making use of actual switching times reported by a Central Management System. In either case tThe equivalent meter defaults to a ~~P~~passive mode using calculated times of switch operation in the event of the actual switching times not being available.

4.5.2.2 Functions of a Dynamic Meter using PECU Data

~~Currently, since the only approved dynamic EMs use PECU arrays, this functional specification refers to PECU arrays. However other dynamic systems may be developed in the future using different dynamic switching data, for example, by telemetry from actual apparatus.~~

In addition to the functions of a ~~P~~passive ~~M~~meter listed above, the following are required for a dynamic meter using PECU data:-

- a) The system shall be able to use any one PECU array for the calculations of more than one MSID.
- b) The system shall be able to use more than one PECU array for the calculations of one MSID.

- c) In the event that a PECU in a PECU array fails to operate, the system shall compensate in its calculations by dividing that portion of load allocated to the faulty cell between the functioning cells of the same type as the failed cell.
- d) If PECU array data is not available for any day then data from an alternative specified array shall be used for the calculations. If that data is not available then default PECU switching regimes shall be used. These regimes will be defined by the MA as offsets from sunrise and sunset, derived as for a Passive Meter.
- e) The system shall maintain details for each PECU in a PECU array relating to location, type, manufacturer, date of manufacture and model number.
- f) The system shall be able to download data from the PECU array.
- g) The system shall monitor PECUs on the array and advise the MA of any failed units.
- h) The system shall monitor the array second counter for time keeping and advise the MA when the deviation exceeds the warning level.
- i) The MA shall be able to produce switching times from a decoded PECU array file.
- j) The system shall provide a facility to apply time switch operations in accordance with a normal distribution about the nominal switching times. The standard deviation of the normal distribution shall be set by the MA.
- k) The system shall provide facilities to retrospectively recalculate data for re-submission to Data Collectors.
- l) The system shall be synchronised to UTC.

4.5.2.3 Functions of a Dynamic Meter using CMS Data

A dynamic meter may use the detailed switching and load information recorded and reported by a Central Management System to allocate Half Hourly consumption data. In this case the CMS itself may be operated by the MA or the Customer, however the MA system (the system that is used to calculate the consumption), must be operated by a Meter Administrator Qualified in accordance with BSCP537, who retains the overall Settlement responsibility for the quality of the data submitted by the Customer via the CMS.

In addition to the functions of a passive meter listed above, the following requirements apply. Each requirement may relate to the CMS, the MA system or both. Where the two systems are combined into a single application, all requirements shall apply unless otherwise stated.

- a) The MA system shall allow the Meter Administrator to add, delete and modify control information for each MSID both manually and electronically. This control file shall be provided to the Meter Administrator by the UMISO in the following format:

File header: HMMMMMMYYYYMMDDVVV

_____ where:

H = header identifier, H

MMMMMMM = Sub-Meter ID (alphanumeric)

YYYYMMDD = effective from date

VVV = version number

File body: UUUUUUUUUUUUNNNNNRRRCCCCC

where:

UUUUUUUUUUU = CMS Unit Reference (alphanumeric)

NNNNN = Number of items

RRR = Switch Regime (999 or 998)

CCCCCC = Charge Code

File trailer: TNNNNN

where:

T = trailer identifier, T

NNNNN = total number of lines including header and trailer

The CMS Unit Reference shall be a 12-digit alphanumeric field that acts as a unique identifier of the unit under CMS control and to which the Charge Code and Switch Regime pertains. The structure of the CMS Unit Reference is to be agreed between the Customer and the UMSO, and may make use of existing information provided in the Detailed Inventory (e.g. National Street Gazetteer road codes) in combination with other data in order to ensure its uniqueness.

The Number of Items is the same as that contained in the Detailed Inventory and shall identify the number of items (e.g. lamps) associated with each CMS Unit Reference.

The Charge Code maintained by the Meter Administrator shall be the normal code for the lamp running at full load. The Switch Regime shall be set to 999 to denote the use of switched equipment (i.e. dusk to dawn), or 998 to denote continuous burning for that MSID.

The control equipment (charge codes commencing with 9) controlling the CMS equipment should be summed and provided as a row(s) within the file body for each different type of control equipment Charge Code with a continuous Switch Regime of 998 and CMS Unit Reference of 'Control'.

- b) The CMS shall record the operational switching times and power levels set for each unit and shall make this data available to the Meter Administrator in the form of an operational event log on a daily basis. The log shall include the CMS Unit Reference, the time and date at which the load was switched and the power level expressed as a

percentage of the circuit watts defined in the Operational Information Document for the relevant Charge Code. Where the CMS is unable to record and report the power level set for any unit, e.g. because of a control failure, it may include the unit in the operational event log but note the failure by use of an information flag.

- c) Where the CMS and MA system are operated as separate applications, the switching time and load information shall be provided to the Meter Administrator in the following standard format text file. Where the CMS and MA system are integrated, the application must be able to produce the file on request for testing and audit purposes, however other methods may be used for transferring data between the two applications on a routine basis:

Filename: mmmmmmyyyymmddvvv.log

where:

mmmmmm = Sub-Meter ID (alphanumeric)

yyymmdd = date to which the events pertain

vvv = version number

log = file extension

with all characters in lower case

File header: HMMMMMMYYYYMMDDVVV

where:

H = header identifier, H

MMMMMM = Sub-Meter ID (alphanumeric)

YYYYMMDD = date to which the events pertain

VVV = version number

File body: UUUUUUUUUUUHHMSSPPP.PPI

where:

UUUUUUUUUUU = CMS Unit Reference (alphanumeric)

HHMSS = time in hours, minutes and seconds, in UTC throughout the year

PPP.PP = percentage of base power i.e. undimmed power level applied to the lamp, to 2 decimal places

I = information flag (alphanumeric)

File trailer: TNNNNN

where:

T = trailer identifier, T

NNNNN = total number of lines including header and trailer

The information flag in the file body shall be used to provide any further information relating to the data contained within operational event log. The codes to be used for this flag, and any other information regarding the population of the operational event log, shall be detailed in the Operational Information document.

Any revisions to previously-reported data (e.g. after repair of a fault or re-establishment of communications) shall be provided either through a complete refresh of the relevant file or through the use of incremental updates containing only that data which has changed or was not previously reported. The approach to be used, and the way in which updated information should be identified, shall be as agreed between the CMS operator and the MA.

- d) The MA system shall calculate, by an approved method, the import kWh and import kVArh consumption in each half hour period in UTC for each MSID using the switching times and power level information reported in the operational event log.
- e) The MA system shall provide an output file in the format shown in 4.5.3 below for collection by the appointed HHDC.
- f) The MA system shall generate an exception list detailing any CMS Unit References reported in the control file but which are not contained in the operational event log. The exception list shall be produced for each day of the report for which any CMS Unit References are missing, and shall be provided to the UMSO and Customer on a monthly basis as a matter of routine, and additionally upon request from the UMSO or Customer.
- g) In the event that all or part of the operational event log is not available for any reason, the MA system shall apply data representative of the Switch Regime indicated in the control file provided by the UMSO (i.e. 999 or 998). This regime shall be applied for each of the affected Settlement Days affected.
- h) The MA system shall recalculate the half hourly consumption once data from previous days becomes available and shall submit this revised data to the HHDC. Furthermore, where any data has been found to be in error, revised data should also be submitted to the HHDC once it becomes available.
- i) The CMS and MA system shall provide secure access for HHDCs, Suppliers and Customers to only that data which is relevant to them.
- j) The CMS and MA system shall provide an audit trail of changes to data held.
- k) The CMS and MA system shall be synchronised to UTC either by connection to internet time servers or a radio clock, accurate to within ± 20 seconds per month.

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