



9 May 2008

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Dear Emma

Thank you for the opportunity to respond to Ofgem's letter entitled 'New metering technology in public lighting' issued on 1 April 2008.

ELEXON welcomes any proposals that seek to either remove perceived barriers to any class of market participant or technology, or that would promote the replacement of estimated data with accurate metered data for use in the settlement processes under the Balancing and Settlement Code (BSC) arrangements.

You may be aware of the recent developments under to the BSC to better facilitate the use of data from this type of technology that can be used in the control of Unmetered Supplies apparatus (known as Central Management Systems or CMS). The developments have lead to changes that have been implemented to the procedures that sit under the Code. They allow information from these CMS systems to feed into the settlement processes thereby improving the accuracy of the data under the Unmetered Supplies arrangements. We expand below on these revised arrangements for CMS under the Code.

We note that developments in CMS technology have meant that some, but not all, systems are now available with a measurement capability (albeit without a visual display register). For this response we will refer to CMS with a measurement capability as 'Advanced CMS' and CMS without a measurement capability (or where the data is not used in settlement) as 'Basic CMS'.

We understand Ofgem's proposed interpretation of the European Measuring Instruments Directive (MID) is that Advanced CMS can be used to measure consumption as a meter, as it falls outside the MID, when the supply of electricity is:

- a) to public lighting; and
- b) under an agreement where the maximum quantity > 100kWh.

Furthermore, if these two criteria are met then Advanced CMS can be used to measure consumption and would be classed as a metered supply for the purposes of the Act and therefore constitute a meter. In order to allow this, Ofgem would seek to develop new technical specifications with the National Weights and Measures Authority. By so doing, Ofgem believes it would be removing an apparent barrier to Advanced CMS technology.

We note that Ofgem is inviting comment on its interpretation of the status of Advanced CMS relative to the MID as set out in its letter and therefore ELEXON would like to make the following response in the context of the existing wording in the BSC and any resultant impact on the settlement processes. BSC Section S8.2 (see attached text) states that it is the Licensed Distribution System Operator (LDSO) who determines whether a supply of electricity (to a particular inventory of Apparatus) is to be treated for the purposes of the BSC as an Unmetered Supply. If the LDSO determines that Advanced CMS:

- can be treated as Unmetered Supplies under the Code, then ELEXON is of the view that there would be minimal impact on the BSC, as the data from an Advanced CMS would be handled through modest changes to the current Unmetered Supplies arrangements for Basic CMS; or
- cannot be treated as Unmetered Supplies under the Code then ELEXON believes there would be significant impact on the BSC as a new category between the existing arrangements for Unmetered Supplies and metered supplies would need to be created to accommodate the interpretation of the MID Regulations. A modification to the Code would be required to facilitate this. Furthermore, there could be new barriers to market participants seeking to use this technology, as discussed below.

It is also worth noting that issues may arise where LDSOs determine differently regarding unmetered or metered supplies for customers who have Advanced CMS across geographic regions, such local authorities' and highway authorities' boundaries. Please note that any 'meter' as part of Advanced CMS would be required to meet the standard Ofgem would have developed and published before metering data could be used for settlement purposes.

To put the above views in context, we begin by describing the current BSC processes for Basic CMS and then describe the changes that would be required should an LDSO decide that Advanced CMS cannot be treated as Unmetered Supplies.

#### Existing BSC processes for Basic CMS in Unmetered Supplies arrangements

Currently the BSC allows for the use of Basic CMS systems in the Unmetered Supplies arrangements<sup>1</sup> (UMS). The attached BSC business process diagram for CMS systems in the UMS arrangements illustrates where Unmetered Supply apparatus is controlled by a CMS, enabling the dynamic switching 'on and off' of the apparatus and the dimming of the lighting levels of the apparatus (and therefore lowering the resultant power flows). The switching time and pre-determined (BSC approved) power level information is then fed from the CMS to a Meter Administrator System as part of an approved Equivalent Meter<sup>2</sup> operated by an accredited Meter Administrator (MA).

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<sup>1</sup> CP1196 'Changes to Incorporate Central Management Systems in Unmetered Supplies Arrangements' was implemented in February 2008. This change extended the existing Unmetered Supplies Arrangements (described in BSCP520 'Unmetered Supplies Registered In SMRS' and Unmetered Supplies Operational Information Document see link ([OIDv3.0.pdf](#))) to allow the use CMS in the provision of control information (switching times and dimming power levels) for Unmetered Supplies apparatus.

<sup>2</sup> As defined in BSC Section S8 and BSCP520.



This CMS derived information is then used by the Meter Administrator, along with the agreed inventory of Unmetered Supplies apparatus from the Unmetered Supplies Operator (LDSO), to calculate the pseudo half hourly consumption values. These values are then fed to the Supplier's Half Hourly Data Collector for submission into settlement (via the Half Hourly Data Aggregator to the BSC Agent, the Supplier Volume Allocation Agent).

It is important to note that only pre-determined power levels, which have been approved under the BSC, are allowed to be used. These power levels (a percentage of total power as a result of lamp dimming) are approved before the use of the CMS system through the submission of evidence in the form of load research data. Where the CMS has 'metering chips' installed at the UMS apparatus, i.e. Advanced CMS as defined above, data from these metering chips can only be used as evidence in seeking approval of the predetermined power levels. This data cannot currently be used in real time for Settlement purposes in the determination of half hourly consumption values.

Currently, ELEXON is in discussion with a number of CMS manufacturers who are seeking approval of their CMS systems for use in the BSC Unmetered Supplies Arrangements. Each CMS system will undergo a series of tests (according to an agreed test specification) so that ELEXON, on behalf of BSC Parties, can obtain assurance that they can provide accurate information to the Meter Administrator (MA) system. This enables the MA to construct pseudo half hourly consumption values for submission into settlement.

Revisions required to existing UMS processes should the LDSO determine that Advanced CMS is treated as Unmetered Supplies under the BSC

If the LDSO determines that Advanced CMS is treated as Unmetered Supplies under the BSC, this would require minimal change to existing UMS arrangements under the BSC and would minimise impact on participants who wish to use Advanced CMS. Changes would be required to the procedures that sit under the Code and it is believed that a Modification to the Code would not be required, as amendments would be made to the UMS processes that currently accommodate the Basic CMS functionality.

This approach would require modest changes to the current CMS under UMS arrangements so that 'Advanced CMS' (metering data) would be supported; so that it allows any measurements of consumption via a CMS 'metering chip' to be fed to the MA system (see diagram) which would allow actual dynamic power levels to be used to construct the half hourly consumption values and thereby increase the accuracy of data feeding into the settlement process.

It is envisaged that three types of power level information could be made available:

- i) Spot power values; these could be used with the switching times to determine the power level information (or % dimming of the agreed circuit wattage) which is sent from the CMS to the MA system;
- ii) Meter advances; these could be used by the MA system with the switching times to determine the half hourly consumption values;

- iii) Individual half hourly values; these could be either sent from the CMS system to the MA system (but potentially there is no need for the MA system to derive the half hourly values) or be sent direct to the Half Hourly Data Collector.

With all the above types of power information, the BSC arrangements would need to define accuracy limits and further testing requirements for the metrology part of the Advanced CMS. This would be in line with a specific standard that Ofgem intends to develop as a result of this consultation.

New arrangements should the LDSO determine that Advanced CMS cannot be treated as Unmetered Supplies under the BSC

If the LDSO determines that Advanced CMS cannot be treated as Unmetered Supplies under the BSC, then a new set of arrangements ('Advanced CMS metering arrangements') would be required between Unmetered and metered supplies. The table below sets out the main features of the three categories.

**No Meter-----'Metering Chip'-----Meter**

<b>Existing UMS</b>	<b>New Advanced CMS</b>	<b>Existing Metering</b>
Features: <ul style="list-style-type: none"> <li>• Profiled Unmetered Supplies</li> <li>• Equivalent Unmetered Supplies               <ul style="list-style-type: none"> <li>○ Passive Equivalent Meters</li> <li>○ PECU arrays</li> <li>○ Basic CMS with pre-determined levels only</li> </ul> </li> </ul>	Features: <ul style="list-style-type: none"> <li>• <i>Similar to the Equivalent Unmetered Supplies</i></li> </ul> Implications: <ul style="list-style-type: none"> <li>• <i>New Code of Practice?</i></li> <li>• <i>Change process from Basic CMS to Advanced CMS</i></li> <li>• <i>New compliance testing process</i></li> <li>• <i>Impact on Participants switching from UMS to Advanced CMS</i></li> </ul>	Features: <ul style="list-style-type: none"> <li>• NHH meters</li> <li>• HH meters</li> <li>• Codes of Practice</li> <li>• Accuracy requirements</li> <li>• Compliance requirements</li> </ul>

BSC Parties will need to carefully consider the details of how the BSC should accommodate Advanced CMS to ensure that data used for settlement purposes is consistent with that used by the Supplier and made available to the customer. This may result in CMS systems with a measurement capability being obliged to use the metering data for settlement.

Should the LDSO determine that Advanced CMS systems cannot be treated as Unmetered Supplies under the BSC, this could present issues for existing Suppliers and their customers who are currently using these systems and being settled under the Basic CMS arrangements. Such a decision might compel Suppliers to change the basis of settlement for these systems and present an undue burden on customers. This approach may create barriers to entry and to the efficient operation of the arrangements. Furthermore, it may confuse CMS users and manufacturers about the way the basic CMS and Advanced CMS can be used, i.e. if Basic CMS is settled via the existing UMS route and Advanced CMS is via a new set of BSC arrangements.

Additionally, there may also be implications for CMS manufacturers/users if the conditions of use for Advanced CMS is that it has to be for public lighting and >100kW, as there may be potential users of CMS who wish to use it for other types of street furniture that is not public lighting or >100kW in total, e.g. telephone boxes or customers with smaller loads.

I hope that this response is helpful. Should you require any further information, please do not hesitate to contact me or my colleague Justin Andrews (0207 380 4364).

Yours sincerely

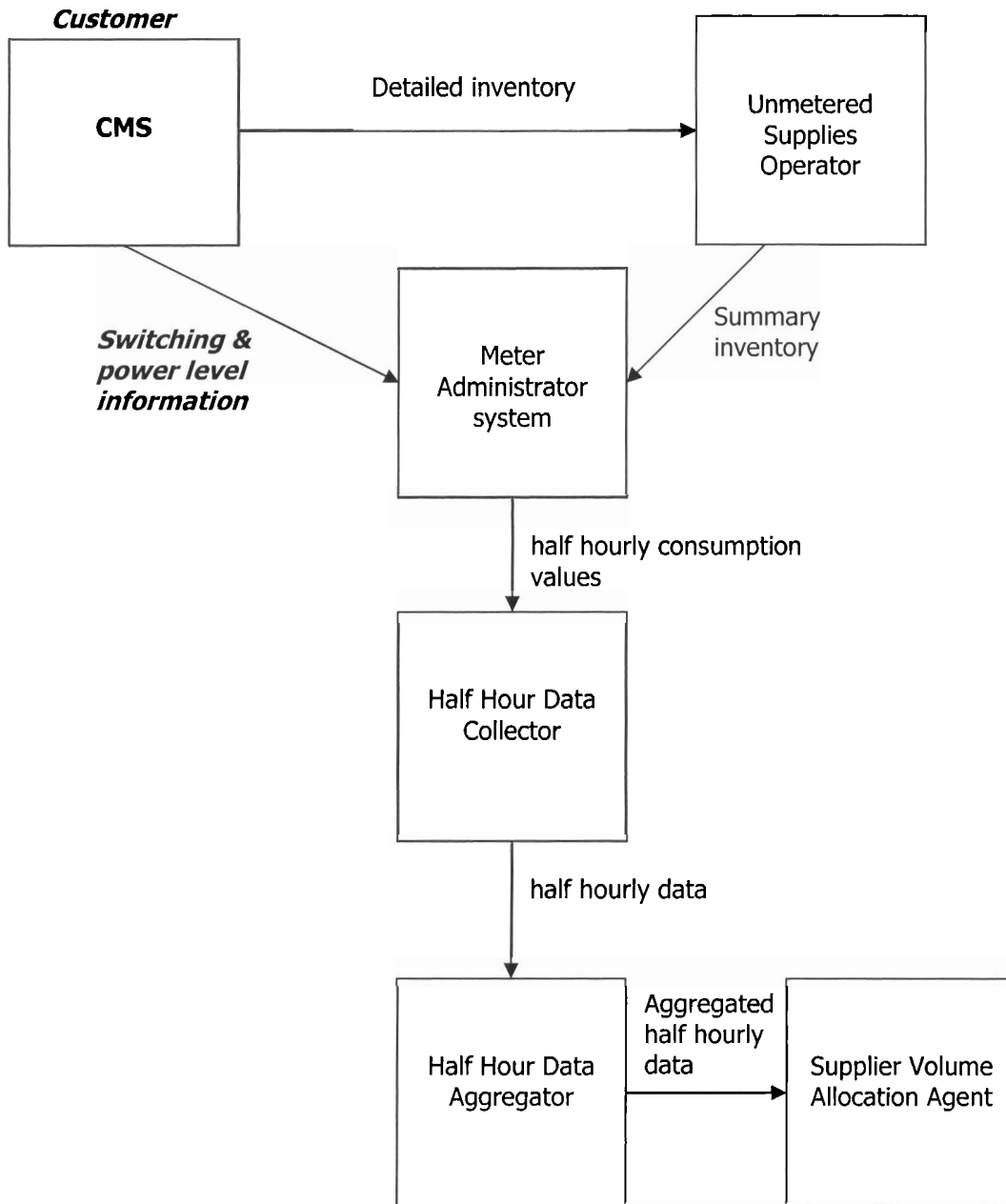
A handwritten signature in cursive script that reads "Peter Davies".

Peter Davies  
**Head of Service Delivery**

**List of Attachments**

1. Process Diagram of existing BSC Unmetered Supplies arrangements with Central Managed Systems
2. Balancing and Settlement Code Section S8

**1. Process Diagram of existing BSC Unmetered Supplies arrangements with Central Managed Systems (CMS)**





## **2. Balancing and Settlement Code Section S8 (8.1 and 8.2 only)**

### **8. UNMETERED SUPPLIES**

#### **8.1 Unmetered Supplies and this Section**

- 8.1.1 The rights and obligations of the Parties in relation to Unmetered Supplies shall be as set out in this paragraph 8, Party Service Line 130 and BSCP520.
- 8.1.2 If there is any inconsistency or conflict between the provisions of this paragraph 8 and any other provisions of the Code in relation to Unmetered Supplies, the provisions of this paragraph 8 shall prevail.
- 8.1.3 The standards of accuracy of data for Unmetered Supplies from time to time shall be no worse than those which at such time apply generally under the Code for metered supplies of electricity.
- 8.1.4 The Panel may at any time and from time to time commission load research programmes in respect of Unmetered Supplies to support changes made or proposed to be made to the relevant Party Service Line or BSC Procedure.

#### **8.2 Licensed Distribution System Operators and Unmetered Supplies**

- 8.2.1 A Licensed Distribution System Operator shall determine in relation to supplies of electricity connected to its Distribution System(s) or its Associated Distribution System(s) (if any) whether a supply of electricity to a particular inventory of Apparatus is to be treated for the purposes of the Code as an Unmetered Supply provided that, if such supply is separately measured and recorded through a SVA Metering System at or near to the point of supply to the Customer, the Licensed Distribution System Operator shall not determine that such supply is an Unmetered Supply.
- 8.2.2 Each Licensed Distribution System Operator acknowledges that, without prejudice to any other factor to which it may choose to have regard in making its determination, it would not expect to determine that a supply of electricity to a particular inventory of Apparatus is to be treated for the purposes of the Code as an Unmetered Supply unless it is technically impractical to install a Meter or to carry out meter readings or the cost of installation of a Meter or of carrying out meter readings is wholly disproportionate or the supply of electricity in question is both small (in kWh terms) and reasonably predictable.