PowerDataAssociates

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Head of GB Markets
Ofgem
9 Millbank
London
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Friday, 9 May 2008

Dear Ms Kelso,

Re: New metering technology in public lighting

Thank you for the opportunity to respond to your consultation. I confirm this is a public response and can be placed on your website.

Power Data Associates Ltd are Certified under the BSC to act in the Party Agent role of a Meter Administrator. A Meter Administrator's role in the settlement process is to generate half hourly data representing the energy consumed by larger unmetered customers, such as county councils, unitary authorities, highways agency's, etc. Meter Administrators contract directly with customers to provide this as a competitive service.

Current Practices

Milton Keynes council is one of our customers that has already invested in technology which can remotely switch and dim the lights. Together we lobbied for the settlement systems to be modified to allow the associated energy data to be used in the settlement calculation. To avoid the complexity of approval under the Metering Instruments Directive (MID), the BSC framework was modified the BSCPs to allow for the data from the Centrally Managed Systems (CMS) lighting systems to enter settlements. This BSC change was approved in September 2007 and implemented in February 2008. Prior to approval, the change went through months of debate with customers, electricity industry representatives and CMS manufacturers.

One objective of the change was to minimise the impact on parties, in the event the only impacts are on:

- the customer/CMS provider – who has the commercial driver to benefit from the greater control and energy savings;
- the Meter Administrator – who is offering a competitive service and can choose to enhance his systems to offer a broader service or win further business; and
- the UMSO/DNO – as a monopoly role who wishes to maintain visibility of connections and how they are used on their networks need to make changes

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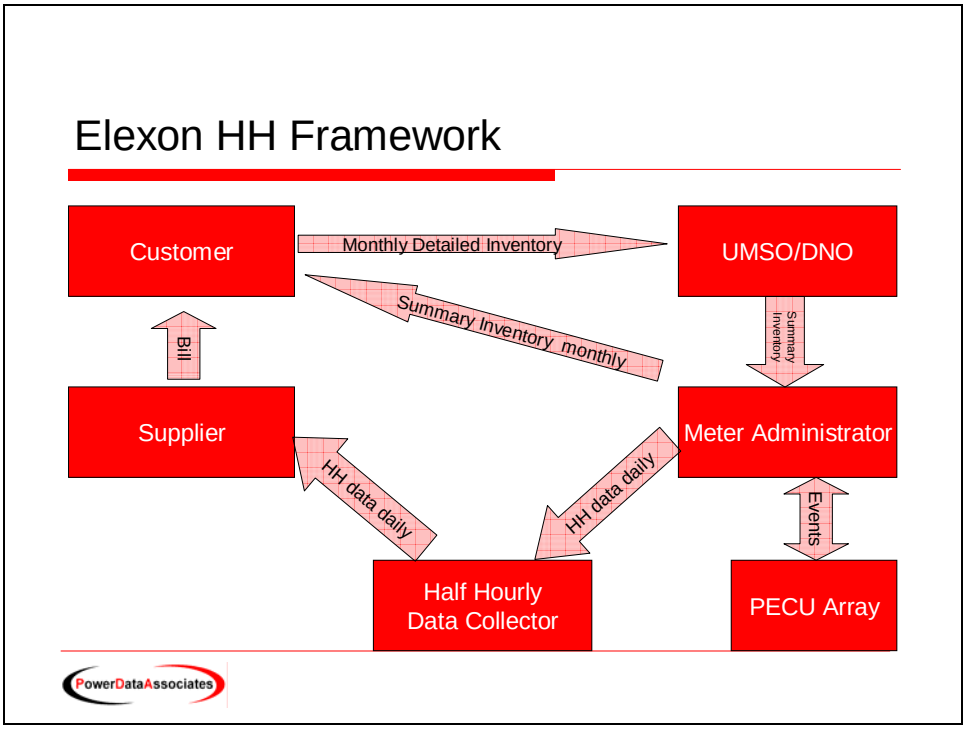
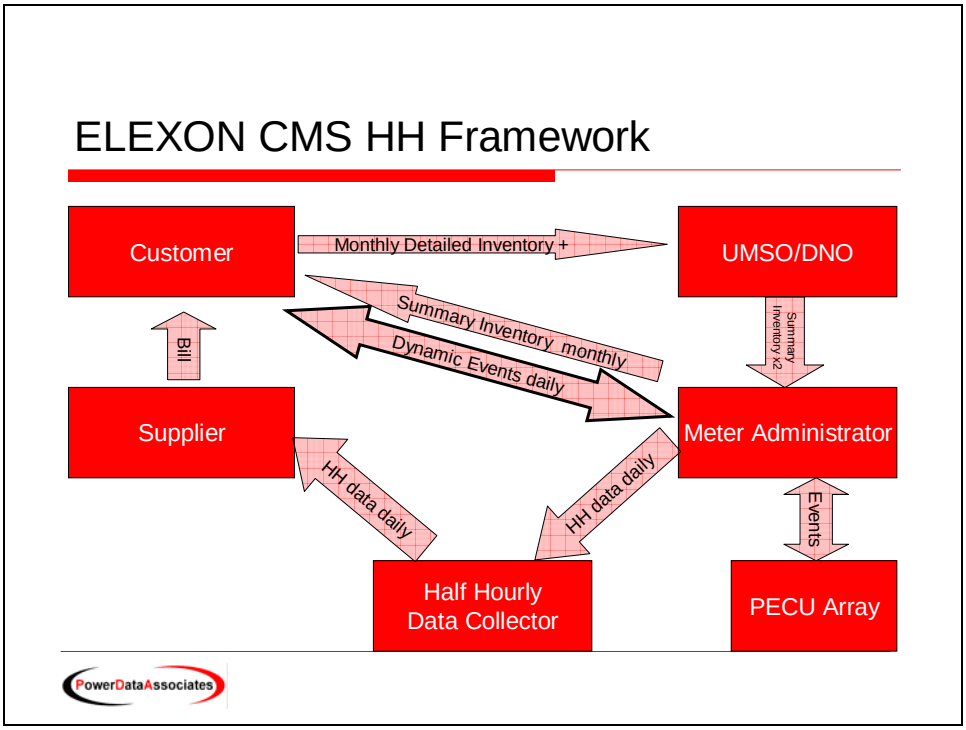
The following diagram indicates the current Half Hourly unmetered data flows in a conventional arrangement using a Photo-Electric Cell (PECU) Array to determine the switching times of the inventory. The principle has been in use since 1995, although the settlement systems and names have changed.



To accommodate the CMS data the interaction between Customer, UMSO and Meter Administrator have been modified.



The key to this approach has been using the "CMS event data", not as meter readings, but as an alternative to event data derived from the PECU Array. For each lamp each 'event' includes a unique identifier, the date, the time (to the second) and the power level (off, on at full power, or any percentage level). The Meter Administrator uses this event data to determine the energy consumption for the portfolio for each half hour of the day, outputting the same standard HH data file to the Half Hourly Data Collector for use in settlements and the billing process.

The rigor of the process is essential for settlement data quality. This has been achieved by using the BSC Certification process to ensure that the Meter Administrator and the CMS Systems are approved by ELEXON.

It is apparent from the letter that Ofgem staff were not aware of the CMS developments within the BSC arrangements over the last two years.

Energy Estimates

The Operational Information published by Ofgem has its origins in 'assumptions' used by Regional Electricity Company lamp consumptions. It is recognised that these are not always accurate. New lamp types entering the market since the mid 1990s have had to submit test data to substantiate their assigned consumption. The BSC documents define the methods of testing, test house standards, including supply voltage and tolerances.

ELEXON have been under pressure from the Unmetered Supplies User Group (UMSUG) for some years to test more of the significant lamp types to improve the quality of data. ELEXON are currently considering the most cost effective method of testing the most common lamps types.

The previous test data indicated that the supply terminal voltage was at the high end of the statutory voltage range. This is not a surprise as most lighting equipment is connected directly to the main in the street and does not suffer the volt drop from a service cable. For lamps with magnetic ballasts this higher voltage causes the lamp to take more power, causing the lamp to burn brighter, although it then has a shorter life and normally 'over lights' the street. New or replacement equipment entering the market in recent years tends to have electronic ballasts, these regulate the power to the lamp irrespective of the supplied voltage, thereby making the power consumption (and light level) at the designed level.

Most of the CMS products on the market are based on the use of an electronic ballast which includes the electronic control and measuring equipment. Simply changing from a magnetic ballast to an electronic ballast saves energy through reduces losses (electronic ballasts convert the energy more effectively than the magnetic), and electronic ballasts operate at near unity power factor. The Highways Agency issued a guidance note in 2007 that all new and replacement schemes had to use electronic ballasts.

Distribution Use of System Methodology charge statements make little, or no, mention of unmetered charges, none mention the 'smearing' referred to in your letter. The level of unmetered Use of System charges vary considerably across the country, from 2.87p/kWh to 0.83p/kWh for a typical small NHH customer and 2.32p/kWh to 0.83p/kWh for a typical HH customer. There is little rational explanation for this difference.

The letter describes equipment burning longer than required. The counter effect is that lamp failures and unrepaired cable faults mean that many lamps in this country are unlit, yet the lighting authority is being incorrectly charged for the 'assumed' energy consumed. CMS technology allows for the failed lamp to be recorded and not operating so consuming zero energy, as well as allowing a prompt repair to be initiated.

It is therefore contended that the 10% estimate and £23m are inappropriate estimates.

Customers have a great incentive to reduce energy costs to save taxpayers money, but also to reduce their Carbon Footprint. Further pressures are emerging from DEFRA's Carbon Reduction Commitment. Many of our customers are expending considerable time and effort developing methods to reduce energy consumption.

Perceived Barriers & the MID

The first section of this letter highlights that the perceived barriers have been overcome by avoiding the MID and using the approach implemented in the BSC.

The MID implementation in the UK, SI1679:2006[1] used the established 100kW threshold as threshold above which the MID did not apply. Meters above this level are required by the BSC framework to have metering compliant with BSC metering CoP 1, 2, 3 or 5, as appropriate.

It is unclear why Ofgem believe the metering of energy above 100kW is not considered as 'trade'. The 108,000 metered customers with demands over 100kW, and accounting for half the electricity consumed in the country, would clearly regard this as 'trade'. So would the suppliers and generators who rely on the settlement processes to 'settle' these energy consumptions between them.

It is also worth noting that SI1679:2006, Part 1, schd 3, states:

> "…(5) A relevant instrument is not an instrument which is used under an agreement providing for the supply of active electrical energy where—
>
> (a) the maximum quantity supplied exceeds 100 kilowatts per hour; and
>
> (b) the instrument provides measurement on a half-hourly basis. …"

So to be outside the scope of SI1679:2006 the meter could not be a half hourly meter. The BSC requires any metered customer over 100kW to be half hourly metered. So we reach a deadlock.

It is also worth noting that unmetered Non HH customers energy is profiled using two standard industry profiles PC1 – domestic, which is used for the Dusk to Dawn lighting equipment – which is the vast majority of lighting. And PC8 – high load factor commercial, which is used for continuous equipment, e.g. sign lights, bollards, underpass lights. Use of these profiles introduces further inappropriate and unnecessary smearing of the energy across customers throughout the day and year.

Half hourly trading, including the CMS data described at the beginning of this letter truly reflects the energy consumed, at the right time of the day/year.

1 http://www.statutelaw.gov.uk/legResults.aspx?LegType=S.I.+(All+UK)&title=energy&Year=2006&searchEnacted=0&extentMatchOnly=0&confersPower=0&blanketAmendment=0&TYPE=QS&NavFrom=0&activeTextDocId=2605789&PageNumber=1&SortAlpha=0

With the current debate regarding 'smart meters' it may be worth considering how the distinction is made between the proposed approach for CMS equipment and why a similar approach could not be adopted for a domestic customer.

Conclusion

CMS technology is a welcome development. The perceived barriers have already been broken through by the February 2008 changes to the BSC arrangements. There is no benefit to 'bend the MID rules' to allow further confusion.

Are there any consequences of proceeding with developing a new standard for CMS technology that we have not considered above?

We do not believe the route described is feasible considering the requirements SI1679:2006 and the current BSC.

Are there any potential impacts of facilitating CMS technology for public lighting which might adversely affect the market? This might include new barriers to entry or any negative impact on market participants or customers.

The BSC processes implemented in February 2008 have been developed to facilitate CMS technology. Introducing another alternative method will add customer confusion.

Organisations that have already invested time, effort and resource to develop and implement the BSC changes may see that investment completely wasted.

Increased use of Non HH data is contrary to the objectives expressed in the letter as it will increase assumptions and smearing of energy across all Non HH customers.

I would welcome the opportunity to meet with you, and your team, to discuss further the issues raised by this consultation.

Yours sincerely

Tom Chevalier

Managing Director