



## Profile Class 1 – 4: Mandating HH Settlement Cost Benefit Analysis

### Executive Summary

ELEXON is reviewing the profiling and settlement arrangements for suppliers of domestic and commercial customers. This review began in early 2010 when we felt it was the right time to consider how obligations on Suppliers with regards to metering (Advanced and Smart) would affect Suppliers and the wholesale electricity market under the Balancing and Settlement Code (BSC). We also wanted to identify any improvements or opportunities for all parties, particularly relating to Half Hourly (HH) settlement. This would ensure that the wholesale electricity market and the BSC facilitate the most efficient, effective and economic processes.

From 2014 Suppliers will have an obligation to install smart meters for domestic and smaller commercial customers (Profile Classes 1-4). These meters can record customers' energy usage on a HH basis — where historically meter advances from periodic readings were calculated and settled using profiles, known as Non-Half-Hourly (NHH) settlement.

In Autumn 2010, ELEXON undertook a cost benefit analysis for mandating HH settlement for customers in Profile Classes 5 – 8 (larger commercial customers). This was reviewed by the Profiling and Settlement Review Group (PSRG) (an expert group convened to consider the work of the ELEXON review) and Supplier Volume Allocation Group (BSC Panel committee charged with looking after the wholesale market for domestic and commercial suppliers). This cost benefit analysis concluded that there would be a benefit in mandating HH settlement for Profile Class 5 – 8 customers, although there were currently barriers in terms of Supplier Agent costs and HH Distribution Use of System (DUoS) charging which would need to be addressed. Subsequently, Modification 272 'Mandating Half Hourly Settlement for Profile Classes 5 – 8' was raised in June 2011. Modification P272 is currently undergoing assessment including industry consultations and is due to be submitted to the Authority in February 2012. Work in the distribution business arena is also underway to address HH DUoS charges.

In order to consider the area of smart meters and wholesale settlement, the PSRG agreed that ELEXON should carry out a cost benefit analysis for mandating HH settlement for Profile Classes 1 – 4. We therefore defined a set of requirements for HH settlement for Profile Classes 1 – 4 and issued a consultation document on 18 July 2011 asking for industry participants to provide details of the costs/impacts and pros and cons of introducing such a mandate. This also included the proposal of switching off the current NHH settlement arrangements. 29 responses were received and these have been considered by the PSRG.

The conclusions from the consultation are as follows:

1. There was overall support for the principle of HH settlement. However, the majority of respondents felt that it was too early to consider mandating HH settlement for the 29 million metering systems in Profile Classes 1 – 4, as the structure of the smart rollout and the scope of the Data Communications Company (DCC) were not clear;



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2. The majority of respondents were unable to quantify the costs to their company from such a mandate as the future business process could not be defined in sufficient detail at this stage; therefore it was not possible to carry out a full cost benefit analysis as there is too much uncertainty around the smart metering solution and particularly the scope of the DCC ; and
3. The majority of respondents felt that there could be benefits in using HH data in settlements, particularly in terms of data accuracy and in relation to customers on time of use tariffs. However it was not clear that these benefits would outweigh the costs of mandating HH settlement so a firm conclusion was not possible.

The PSRG agreed that further work should be carried out by ELEXON to ensure there are no barriers to Suppliers electing to settle meters on a HH basis and that the NHH arrangements continue to work effectively during the smart rollout.

ELEXON and the PSRG are keen to ensure that all organisations understand the capabilities and restrictions of the current NHH settlement processes for smart meters and are seeking to establish a 'NHH roadmap' over the coming months. ELEXON will also follow the progress of the smart metering implementation programme so that the issue of mandatory HH settlement can be considered further when sufficient clarity on the smart solution is available.

ELEXON and the PSRG believe that valuable lessons have been learnt from the profiling and settlement review to date, especially with regards to HH DUoS charges; and that further improvements can be identified to ensure we have the right 'meter to bank' process for all parties right through to the end consumer.



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## 1 Introduction

This report considers the costs and benefits of a mandatory move to Half Hourly (HH) settlement for all customers in Profile Classes 1 to 4 (i.e. domestic and small non-domestic customers). The report has been produced by ELEXON on behalf of the Profiling and Settlement Review Group (PSRG), and forms an important element of the PSRG's work assessing the settlement and profiling implications of recent advances in metering.

Since April 2009 Suppliers have been obliged, through their licence conditions, to install Advanced<sup>1</sup> meters when replacing meters at non-domestic premises for customers in Profile Classes 5-8. In addition the license states that from 6 April 2014 the licensee must not supply electricity to any Profile Class 5 – 8 customer except through an Advanced meter. The rollout of these meters is currently well underway.

Further supplier licence changes are expected to be made in 2012 to mandate that smart meters be installed for the remaining gas and electricity customers by December 2019. Mandated rollout of smart meters is due to commence in April 2014 with 53m meters to be replaced (29m electricity meters). These electricity meters will be capable of providing HH data.

ELEXON is carrying out a review of the BSC profiling and settlement arrangements in light of these developments. An expert group has been established, the PSRG, to support ELEXON in this review. We have already undertaken a cost benefit analysis of mandating HH settlement for larger commercial customers (Profile Classes 5-8) who are having their meters replaced with Advanced meters. This cost benefit analysis concluded that there were significant benefits for mandating HH settlement, but that the barriers of HH Distribution Use of System (DUoS) charges needed to be addressed. Work is underway under the Distribution Charging Methodology Forum (DCMF) on working up changes to the Common Distribution Charging Methodology (CDCM) for approval in 2012.

Furthermore under the BSC, Modification P272 'Mandatory Half Hourly Settlement for Profile Classes 5-8' has now been raised<sup>2</sup> which seeks to change the BSC to make HH settlement mandatory for customers assigned to Profile Classes 5-8. To take this work further we are now considering what it would mean to settle the rest of the market (Profile Classes 1-4) on a HH basis.

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<sup>1</sup> The BSC further clarifies the obligation to install Advanced meters across Profile Classes 5-8. The Metering Equipment must be compliant with Code of Practice 10 (CoP10) at least, which is a HH Metering Equipment standard. This requirement was introduced to help to resolve some of the interoperability issues identified via Modification P230 „Enabling Interoperability through the use of CoP10 and CoP5 Metering“. Therefore, all these advanced meters will be capable of recording, storing and providing remote access to HH meter data. Therefore they have the potential to be settled as HH under the BSC.

<sup>2</sup> See the ELEXON website for further details on this Modification, <http://www.elexon.co.uk/Pages/P272.aspx>



## 2 Overview of PC 1-4 Consultation /Impact Assessment

In July 2011 the PSRG decided to consult with industry participants to gain a better understanding of the impacts associated with mandating HH settlement for the rest of the market i.e. Profile Classes 1 - 4. The consultation/ impact assessment document set out the context of the PSRG work, the proposed strawman requirements and the baseline requirements it was comparing them to. It included a set of questions targeted at specific parties. See Attachment A or [PC1 – 4 Impact Assessment](#). It was issued to Suppliers, their agents, Distribution Businesses, MRASCo, National Grid, Consumer Focus and Electralink and published on the [ELEXON website](#).

The questions were set out for the following parties:

1. **Suppliers:** Suppliers were asked to provide one-off and operational costs and information on the benefits of having access to HH data. Views were also sought on when HH settlement should be mandated;
2. **Supplier agents:** Supplier Agents were asked to provide cost and impact information in relation to Meter Operator (MOA), Data Collector (DC) or Data Aggregator (DA) activities;
3. **Distribution Businesses:** Distributors were asked to provide one-off and operational costs and information on the benefits of having access to HH data. Views were also sought on when HH settlement should be mandated;
4. **National Grid:** Cost and impact information was requested regarding the process for calculating Transmission Network Use of System (TNUoS) charges and whether any changes would be required to the TNUoS charging methodology; and
5. **MRASCo:** Cost and impact information was requested and if there were any issues relating to registration processes governed by the Master Registration Agreement (MRA).
6. **Electralink:** Cost and impact information was requested, together with information on any concerns regarding the potential increase in file size/data flows.

The impact assessment document was issued on 18 July 2011, with responses requested by 12 September 2011.

At the same time ELEXON undertook an impact assessment on the BSC arrangements and its internal processes.

We received 29 responses to the impact assessment, and were very pleased that responses came from across the industry - from small and large Suppliers, Supplier Agents (Meter Operators, Data Collectors, Data Aggregators), Distributors, Electralink, National Grid and Consumer Focus.

The main themes from the consultation responses were as follows (see Attachment B for individual responses and Attachment C for details of responses by question):



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## Suppliers

- The majority of Suppliers' felt that it was too early to consider mandating HH settlement for Profile Classes 1 – 4 and that they were not able to provide cost estimates for implementing the change. These Suppliers felt that the structure of the rollout and the scope of the Data Communications Company (DCC) was still undecided and that this was key in determining how the market would work during and after the smart rollout;
- A minority of Suppliers (particularly small Suppliers) felt that HH Settlement should be mandated as early as possible i.e. mandatory HH Settlement from the start of the smart rollout;
- Most Suppliers agreed that once the majority of meters were being settled HH, the NHH settlement systems and processes should be switched off. Although it was noted that not all customers would have a smart meter installed, therefore a process to estimate HH data for these sites would be required;
- A number of Suppliers raised concerns regarding the Change of Supplier (CoS) process and the potential for gaming if Suppliers were able to elect to settle HH without a mandate (i.e. if the current baseline were to remain); and
- Most Suppliers agreed that there were benefits to customers settling HH, particularly in terms of tariff innovation and accuracy of data. However they were cautious that the costs of moving to HH settlement would outweigh these benefits.

## Supplier Agents

- Most Supplier Agents stated that they would need to make significant changes to their systems and processes in order to manage the increased volume of data. Supplier Agents were not able to provide actual cost estimates as the scope of the DCC has not yet been determined; and
- The preference of Supplier Agents was to implement the mandate as late as possible e.g. December 2020 so that issues with the smart rollout could be resolved and the scope of the DCC would be known. They also noted that it would be costly to run two systems in parallel while there are still a significant number of NHH meters.

## Distributors

- The majority of Distributors supported a HH settlement mandate effective from April 2015/2017. These Distributors felt that 2014 was too early as the industry would be dealing with the transition to smart and DCC;
- A number of Distributors raised concerns with elective HH settlement (i.e. the current baseline) as they would have no control over the number of meters being settled HH. Therefore they would need to run two systems in parallel which would be capable of dealing with significant volume of customers;



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- The majority of Distributors provided costs for implementing the change, which ranged from £50k to £3m depending on the size of the company. All Distributors stated that they would need to make significant changes to systems and processes; and
- Distributors noted that there would be benefits in terms of the accuracy of DUoS and settlement charges and better utilisation of time of use tariffs. They also noted that there may be network management benefits. However, these benefits should be measured against the additional costs.



## 3 Consultation/Impact Assessment Responses by Question

The following section details the responses that we received to each question in the impact assessment document.

### 3.1 Supplier Questions

**Question 1: When do you think Profile Class 1 – 4 customers with a smart (or Advanced) meter should be mandated to be settled HH:**

- *Scenario 1: By April 2014. This is when the DCC service is expected to go live;*
- *Scenario 2: By April 2017. This is estimated to be 12 months after the date when 50% of smart meters have been installed;*
- *Scenario 3: [12] months after date when at least [50]% of the customers in the existing NHH market are being settled HH (electively) via a smart or Advanced meter;*
- *Scenario 4: By April 2018. This is estimated to be when 80% of smart meters have been installed;*
- *Scenario 5: By 31 Dec 2019 on the projected completion of the smart meter rollout;*
- *Scenario 6: By 31 Dec 2020, 12 months after the completion of the smart meter rollout;*
- *Not at this time: It is too early in the implementation of smart metering for it to be determined; or*
- *When a smart (or Advanced) meter is installed?*

Number	Theme	
5	Too early to say: <ul style="list-style-type: none"><li>• The structure of the smart rollout and DCC scope are not yet defined;</li><li>• Increased agent costs would outweigh benefits;</li><li>• Only elective during the smart rollout;</li><li>• Although potentially scenario 5 Dec 2019 could be considered.</li></ul>	Good, SSE, RWE, EON, SP
3	Scenario 1 April 2014: <ul style="list-style-type: none"><li>• Any later and the costs won't change but benefits will be delayed;</li><li>• It has worked in Texas;</li><li>• Concern regarding bulk change therefore mandate with smart rollout will spread the change over time.</li></ul>	Smartest, Emeter <sup>3</sup> , Spark
1	Scenario 4 April 2018.	Ecotricity
1	Elective HH settlement only - driven by customers with time of use tariff.	BG

<sup>3</sup> Emeter are a smart software manufacturer that responded to Supplier and Supplier Agent questions





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**Question 2: Do you support the approach of switching off the NHH Settlement processes at some date after the mandated date and agree with the approach of the Central SVA Costs of NHH Settlement recovered only from Suppliers settling NHH?**

## **Switching off NHH Settlement**

Number	Response/Rationale	
6	Yes – provided sufficient HH data is available. We need to think about those customers who refuse to have a smart meter.	Ecotricity, Smartest, EON, E-meter, RWE, Spark
2	No: <ul style="list-style-type: none"> <li>Not all premises will have HH meters;</li> <li>Do not support mandating HH settlement and should focus on the profiling review.</li> </ul>	Good, BG
2	Not clear how this would work – we need to consider NHH UMS further.	Good, SSE
1	No need to specify a particular date for switching off NHH settlement - it will happen with the mandate.	SP

## **Cost Recovery Mechanism**

Number	Response/Rationale	
6	Yes to recovering costs just from NHH Suppliers.	Ecotricity, Smartest, EON, SP, Spark
1	No to recovering costs just from NHH Suppliers – Central SVA costs should be shared amongst all Suppliers.	Good
1	No idea how many legacy meters there will be – there may be disproportionate costs so it should be considered further.	RWE



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**Question 3: What do you think are the pros and cons of an alternative approach of mandating HH settlement for Profile Class 3 – 4 first, then at a later date mandating Profile Class 1 - 2?**

Number	Response/Rationale	
4	No: <ul style="list-style-type: none"> <li>Little benefit as Suppliers are not likely to rollout smart metering for Profile Class 3 – 4 first;</li> <li>It should be up to the Supplier;</li> <li>The same issues will apply to both sets of Profile Class;</li> <li>It would be more costly to run two parallel systems.</li> </ul>	Good, EON, SSE, E-meter
3	Yes: <ul style="list-style-type: none"> <li>This approach would spread the costs;</li> <li>Would mean business premises would move to HH settlement first without affecting domestic customers (i.e. the bulk of customers).</li> </ul>	Ecotricity, Smartest, SP
2	N/A: <ul style="list-style-type: none"> <li>Do not support the mandate;</li> <li>Too many unknown issues in the market structure irrespective of Profile Class.</li> </ul>	BG, RWE
Other	Pros – could be a cleaner set of data for data transfer. Cons – mandating Profile Classes 1 – 2 after 3 – 4 could swamp the settlement systems.	Spark

**Question 4: What is the impact on you of not maintaining the Profile Class Identifier for your Profile Class 1-4 customers who are now settled HH? What are the implications for your systems with regards to the Profile Class component of the Meter Point Administration Number (MPAN) being '00'?**

Number	Response/Rationale	
4	No / small impact – just change of measurement class.	Smartest, E-meter, SP, Spark
2	Suppliers will still need identifiers to classify customers therefore we may need to create a new set of Profile Classes e.g. domestic with solar.	Good, Ecotricity
2	Potentially significant impact: <ul style="list-style-type: none"> <li>New functionality to handle HH data;</li> <li>New functionality to decide whether to use HH data;</li> <li>New functionality to handle a mixture of HH and NHH;</li> <li>New cost structures for DUoS, TNUoS and metering costs; and</li> <li>Upgrading of servers.</li> </ul>	SSE, BG
1	Suppliers should be able to prepare their systems if given sufficient time.	EON
1	Too early to assess as the smart solution has not been defined.	RWE



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## Question 5: What are your views on setting the PARMS serial for SP08c to 99% at R1?

Number	Response/Rationale	
4	Too early to consider PARMS Serials as performance levels for DCC and service providers have not yet been agreed.	EON, SSE, RWE, BG
3	Yes 99% at R1 – this would be consistent with current HH performance standards.	Ecotricity, Smartest, Spark
2	99% at R2 would be preferable: <ul style="list-style-type: none"> <li>Allows suppliers to dial meters monthly;</li> <li>Only where there is remote data collection capability;</li> <li>Cost of data collection needs to reduce;</li> <li>Could have phased approach – move to R1 after 6 to 9 months.</li> </ul>	Good, SP
1	Current Advanced metering performance is no better than conventional performance.	EON
1	Smart meter rollout could shorten timescales and improve accuracy without HH mandate.	RWE

## Question 6: What issues do you see if the settlement of customers in Profile Classes 1-4 (and PCs 5-8) was left optional (elective)?

Number	Response/Rationale	
2	Elective is preferable: <ul style="list-style-type: none"> <li>The right commercial signals will lead to Suppliers moving customers to HH settlement without the need for a mandate;</li> <li>This would be driven by customers choosing time of use tariffs.</li> </ul>	RWE, BG
2	Issues with Change of Supplier process which could: <ul style="list-style-type: none"> <li>Limit customer choice; and</li> <li>Increase risk of Settlement Error.</li> </ul>	Good, Smartest
1	Many suppliers will choose not to switch except for customers with time of use tariff.	Good
1	More accurate data would not be fully utilised.	Ecotricity
1	Many issues other than BSC costs will affect suppliers' decisions.	EON
1	Residual NHH profiling accuracy needs to be considered.	SSE
1	This would lead to large scale segmentation of the market which would limit competition. All suppliers should be involved in order to realise full benefits.	SP
1	Would result in gaming if Suppliers chose to settle HH for customers with low peak usage and NHH for customers with high peak usage.	Emeter
1	There would be increased levels of poor data quality in the NHH market.	Spark



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**Question 7: What are the additional set up costs, impacts, and associated lead times in settling all your Profile Class 1-4 customers HH for each of the implementation scenarios:**

***It is assumed that a smart or Advanced meter has been installed. Please break down your costs by MPAN (or per portfolio) for:***

- a) *Internal process and systems;*
- b) *Supplier Agency costs, Meter Operation, Data Collection, Data Aggregation;*
- c) *Transaction costs for changing the measurement class from NHH to HH;*
- d) *Any changes to your BSC settlement costs, e.g. undergoing qualification to become a HH Supplier or any re-qualification costs due to increased volumes of HH settled meters;*
- e) *Any processes to support the increased HH volumes for settlement, DUoS and TNUoS charging; and*
- f) *Others.*

Number	Response/Rationale	
6	Unable to provide costs: <ul style="list-style-type: none"> <li>• DCC and service provider scope and costs unknown;</li> <li>• Not clear that Suppliers will have access to data;</li> <li>• Smart business processes and changes to regulatory framework not yet agreed; and</li> <li>• Rollout timescales may change.</li> </ul>	Ecotricity, EON, SSE, SP, RWE, Spark
2	Costs would be significant/ prohibitive: <ul style="list-style-type: none"> <li>• Internal processes and systems would need to change to handle HH data in domestic billing system;</li> <li>• Additional costs for Data Aggregators and Data Collectors due to larger volume of reads being processed, although no impact expected for Meter Operator costs;</li> <li>• Transaction costs for bulk change of Measurement Class;</li> <li>• BSC Re Qualification costs; and</li> <li>• Processes to support HH volumes for settlement, DUoS and TNUoS.</li> </ul>	Good, BG
1	No/ minimal costs or impacts – 12 months lead time if new measurement class required.	Smartest
1	Costs would be lower in 2014 as inflation would increase the costs with a later implementation.	Emeter



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**Question 8: Provide ongoing operational costs by MPAN or per portfolio for settling all your Profile Class 1-4 customers HH.**

Number	Response/Rationale	
10	As per question 7	All

**Question 9: What do you believe to be the likely impact in % terms in agency costs (MO (incl. MAP and MAM), DC, and DA) to serve an MPAN as HH against the existing costs to serve as NHH, taking into account economies of scale and the performance requirements for <100kW HH meters (SP08c)?**

Number	Response/Rationale	
8	As per question 7	
1	It will be more expensive but agents will develop arrangements that are cheaper than the current HH market.	Smartest
1	Cost of handling HH data will be no more expensive than NHH.	Emeter

**Question 10: Taking into account any increased costs, is there a benefit for a Supplier's processes in HH settlement (and HH data) for a Profile Class 1-4 customer? For example:**

- **Demand Forecasting.** With increased availability of HH data for these sites, demand forecasting should be more accurate;
  - **Product Innovation:** Parties should be able to construct more cost reflective tariffs with the increased resolution in metered data from HH;
  - **Customer Invoicing and more accurate billing:** Benefits can be achieved with more accurate and timely bills for the customer as the costs can be based on actual consumption;
  - **Reduced Agency Costs:** there is the potential for economies of scale and reduction in HH agency costs;
- Settlement Cashflows:** Parties should be able to plan their settlement cashflows more accurately and thereby reduce processing and financing costs

Number	Response/Rationale	
5	Benefits in some / all areas highlighted in the consultation document although there are also costs which are unclear at present.	EON, SSE, SP, Smartest, Emeter
2	Cannot answer as we do not know how volatile the smart consumption market will be.	Ecotricity, RWE
1	<b>Demand Forecasting</b> HH data collection will allow suppliers to create profiles for their own customers which are more accurate than national profiles although benefits are likely to be outweighed by increased agent costs.  <b>Product Innovation</b>	Good



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Number	Response/Rationale	
	<p>Tariff innovation although Ofgem are looking to limit choice of tariffs.</p> <p><b>Customer Invoicing</b></p> <p>Can already be achieved with remote monthly readings and customers are unlikely to be billed more often than monthly.</p> <p><b>Reduced Agency Costs</b></p> <p>Can only see agency costs increasing significantly.</p>	
1	Can only see benefits for customers on time of use tariff.	BG
1	Cost savings through the reduction in back office staff chasing agents for data and improved Energy Management with more accurate and up to date data.	Spark

## Question 11: What are the benefits and other implications for your customers if settled HH?

Number	Response/Rationale	
3	Benefits as per consultation document.	EON, SSE, SP
2	Education to consumers about energy consumption.	Good, Spark
2	More accurate customer billing which will lead to winners and losers.	BG, Spark
1	Customers will face greater costs with little benefit.	Good
1	Benefits only realised if Suppliers are able to bill customers using HH data.	Smartest
1	Cost transparency, cost reflectivity, cost control, risk management, and responsiveness to changes in energy behaviour.	RWE
1	Supplier will develop more tailored tariff options.	Spark

## Question 12: What are the impacts, costs and timescales for closing down NHH Settlement.

Number	Response/Rationale	
4	<p>Too early to say:</p> <ul style="list-style-type: none"> <li>Timescales should not be set while there is a need for NHH settlement and HH settlement costs are prohibitive;</li> <li>Need to consider DCC functionality, ability to support time of use tariffs and a single data processing and aggregation agent.</li> </ul>	Good, SSE, RWE, BG
2	No / minimal costs and impacts provided sufficient time is given to prepare	Smartest, EON
1	This should not be seen as separate from the mandate, therefore costs should be factored in as part of the move to HH Settlement.	SP



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## Question 13: Do you have any other comments you wish to add?

Number	Response/Rationale	
1	Consultation does not cover impact on consumers.	Good
1	Support HH settlement mandate as the industry should make use of the more accurate HH data.	Ecotricity
1	Support movement to HH settlement however suppliers should choose when and there should be sufficient time to prepare. In addition we need to remove barriers to elective transfer and consider wider implications of removing profile class definitions.	EON
1	Current systems are not scalable to cope with additional 29m customers and the consultation is premature considering the level of uncertainty in the market.	RWE

## PSRG discussion

The PSRG discussed the responses and:

- Noted the varied responses from Suppliers; with large Suppliers generally stating that it is too early to consider timescales for mandating HH settlement and some small Suppliers stating that HH settlement should be mandated in April 2014 once the smart meter rollout begins;
- Commented that HH settlement for Profile Classes 5 to 8 could be accommodated within the existing settlement systems whereas adding 29 million Profile Class 1 – 4 meters would require a radical redesign of the settlement processes in line with changes being introduced with the smart rollout. ELEXON did note that central settlement deals only with aggregated data so there would be limited impact on central processes;
- Noted that changes to Supplier Agent and Distributor systems would be required for Profile Class 5 – 8, therefore the industry should consider the costs and impacts of moving all 29 million customers to HH settlement before mandating any changes. This would avoid two lots of system changes being needed;
- Considered whether gaming would be an issue if Suppliers were left to choose which customers should be settled HH. The group believed that Suppliers would elect to settle HH when the customer had chosen a time of use tariff. Therefore it may be possible to mandate HH settlement for customers with a time of use tariff to remove the ability for gaming in the NHH market. The group noted that ELEXON intend to undertake analysis looking at whether gaming is an issue and what the impacts would be on Suppliers;
- Noted that if the Profile Class Identifier is removed, Suppliers and Distributors will require an alternative means of classifying customers. Therefore this issue should be considered further before any solution is implemented;
- Noted that the majority of Suppliers felt that performance standards should be set as 99% of actual meter readings submitted at R2 rather than R1 to allow meters to be read on a monthly basis. However the group



also agreed that it was too early to decide on appropriate performance standards as the service levels for the DCC had not been agreed;

- Noted the comment from one respondent that the impact on consumers had not been considered. The group agreed that the effect on consumers was implicitly covered as the settlement costs and benefits should be reflected in the costs to customers. The group also noted that any solution that is developed should be mindful of the impact on consumers; and
- Noted that Suppliers had not been able to quantify costs and impacts at this stage. The group considered whether they could make reasonable assumptions about the smart solution that would enable them to continue work on the cost benefit analysis. However the group did not believe this approach was appropriate and it was therefore agreed that a full cost benefit analysis could not be completed at this time.

## 3.2 Supplier Agents and Meter Providers<sup>4</sup>

**Question 14: What issues do you believe there will be for agents to service an extra 29m customers as HH by the 'mandated date' for Profiles Classes 1-4?**

Number	Response/Rationale	
3	Significant costs: <ul style="list-style-type: none"><li>• New software and hardware required to process increased volume of HH sites;</li><li>• HHDC capacity would need to increase by 250x current capacity;</li><li>• DC/DA data handling would need to increase by more than 2000x based on consumption data items;</li><li>• Re-Qualification required under the BSC;</li><li>• Need to ensure sufficient lead times,</li><li>• May not be worth it as DCC likely to take over the role.</li></ul>	Siemens, Imserv, UPL
2	Too early to say - It is unclear how DA and DC will interact with DCC.	EON, SSE
1	No issues for Meter Operators. DA and DC systems and process would need to be scaled to include additional customers.	EON
1	It is not clear how many NHH only agents would be able to become HH.	UPL
1	It is most cost effective to treat all customers the same – the costs of exceptions are minimised with standard processing.	Emeter

<sup>4</sup> We received one confidential response which has not been included in this summary.





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## Question 15: What are your views on:

- *changes in charging structures;*
- *the economies of scale for processes or costs;*
- *contractual relationships with customers and Suppliers;*
- *system or data volume transfer issues*
- *associated with an extra 29m HH metering systems*

Number	Response/Rationale	
1	Need to understand whether the DC/DA role will be performed centrally by the DCC.	EON
1	Costs should not outweigh the benefits.	SSE
1	Costs for implementing new systems will outweigh the benefit.	Siemens
1	MOAs would still want to contract with the Supplier, not directly with the customer like current HH.	Siemens
1	Customers should have choice of agent – with supplier selection where the customer does not wish to choose.	UPL
1	Change of Measurement Class process is currently hard to co-ordinate. These problems will increase significantly with large scale change of Measurement Class.	Siemens
1	HHDC, HHDA, DTN, Supplier and Distributor systems will all see massive increase in volume of data – except BSC central systems which processes aggregated data.	Imserv
1	No significant change to charging structure for current NHH customers.	UPL
1	It is most cost effective to treat all customers the same – the costs of exceptions are minimised with standard processing.	Emeter

## Question 16: What do you think are the implications for you of when a smart or Advanced meter is mandated to be settled HH:

- *Scenario 1: By April 2014. This is when the DCC service is expected to go live;*
- *Scenario 2: By April 2017. This is estimated to be 12 months after the date when 50% of smart meters have been installed;*
- *Scenario 3: [12] months after date when at least [50]% of the customers in the existing NHH market are being settled HH (electively) via a smart or Advanced meter;*
- *Scenario 4: By April 2018. This is estimated to be when 80% of smart meters have been installed;*
- *Scenario 5: By 31 Dec 2019 on the projected completion of the smart meter rollout;*
- *Scenario 6: By 31 Dec 2020, 12 months after the completion of the smart meter rollout.*

Number	Response/Rationale	
3	Scenario 6 – Dec 2020 preferred: <ul style="list-style-type: none"> <li>• Early adoption would be a barrier to entry for new NHH entrants and affect NHH only agents contractually;</li> </ul>	EON, Siemens, Imserv



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Number	Response/Rationale	
	<ul style="list-style-type: none"> <li>Scenarios 1 – 4 would require replacement of HH systems whilst still running NHH for significant numbers;</li> <li>There are likely to be a number of issues raised during the rollout and many meters that take longer to get changed;</li> <li>Mandating HH settlement for Profile Classes 5 – 8 should be completed first.</li> </ul>	
2	Too early to determine: <ul style="list-style-type: none"> <li>Need to consider customer choice;</li> <li>Hard to foresee any overall reduction in agent costs.</li> </ul>	SSE, UPL
1	Scenario 1 – April 2014 <ul style="list-style-type: none"> <li>Lowest risk option.</li> </ul>	Emeter
1	Consideration should be given to market readiness of suppliers and agents, not just where the rollout activities are at.	Imserv

**Question 17: What is the impact on you of not maintaining the Profile Class Identifier for your Profile Class 1-4 customers who are now settled HH? What are the implications for your systems with regards to Profile Class component of the MPAN being '00'?**

Number	Response/Rationale	
5	No significant impact: <ul style="list-style-type: none"> <li>Provided sufficient notice is given, the system implications could be managed;</li> <li>Profile Class Identifier is used to determine site information e.g. domestic/business. Parties would have to find another way to derive this information.</li> </ul>	EON, Siemens, Imserv, UPL, Emeter
1	Meter Operators do not hold Profile Class Identifier as a data item in their systems, therefore no impact.	SSE

**Question 18: What issues do you see if the settlement of customers in Profile Classes 1-4 (and PCs 5-8) was left optional (elective)?**

Number	Response/Rationale	
1	None.	EON
1	Costs per head would increase.	SSE
1	There would be an increase in elective HH customers whilst agents would still maintain NHH systems, which would become increasingly expensive.	Siemens
1	Profiling activities could still cease by freezing the underlying data and stopping sampling.	Siemens
1	Planning would be difficult as you could not predict the size of the uptake.	Imserv



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Number	Response/Rationale	
1	Transition would take place based on benefits to the customer and supplier.	UPL
1	Would result in gaming if Suppliers chose to settle HH for customers with low peak usage and NHH for customers with high peak usage.	Emeter

## Question 19: Do you have any other comments you wish to add?

Number	Response/Rationale	
1	Supportive of eventual move to HH settlement, however this should be at the discretion of the supplier. In the meantime we need to remove barriers to elective transfer. Also need to consider the wider implications of removing profile class definitions.	EON
1	Measurement Class description needs further explanation e.g. what is the difference between A and H.	Siemens
1	Switching times/TPRs are not used in HH market. If these are still used when NHH meters switch to HH this could be a problem.	Siemens
1	There may be a short term reduction in data quality on SP08a.	Siemens
1	Need to make a distinction between HH settlement benefits and smart metering benefits – the business case for HH settlement for Profile Class 1 – 4 has not been proven. We need to focus on improving the current profiling system.	Imserv
1	Believe there will be higher costs to suppliers and agents. Consideration should be given to the impact on competitive markets for energy services where consumers are forced into HH settlement.	UPL
1	HH data would need to be classified as a regulated use. Suppliers would not be able to use data for other reasons and must ensure data is not misused.	UPL

## Other Responses

### BGlobal

New entrants in the domestic market are exploring innovative tariffs and pricing, however this is restricted due to the way energy is settled, as the shapes that are agreed between counterparties must be capable of settlement on a profiled basis.

In addition, extended settlement timescales introduces accounting uncertainty, cash flow risk and portfolio misalignment between trading and retail volumes. The current NHH regime is therefore a barrier to entry and innovation.



## PSRG discussion

The PSRG discussed the responses and:

- Noted that the majority of agents would have to make significant changes to their systems and processes to accommodate the increased volumes of data. However agents had not been able to quantify costs and impacts at this stage as it was not clear what the scope of the DCC would be;
- Noted that some agents felt it was too early to consider timescales for mandating HH settlement, whilst the majority stated a preference for December 2020 i.e. the latest date proposed. This would allow smart rollout issues to be addressed before the mandate; and
- Noted that there was some support for HH settlement eventually and in the meantime there was a need to improve current NHH processes. It was also noted that industry participants would need to make system changes when registration Data Collection and Data Aggregation activities move to the DCC. Therefore it would make sense to change systems to cope with HH settlement at the same time as this transition.

## 3.3 Distribution Businesses

**Question 20: When do you think Profile Class 1 – 4 customers with a smart (or Advanced) meter should be mandated to be settled HH:**

- *Scenario 1: By April 2014. This is when the DCC service is expected to go live;*
- *Scenario 2: By April 2017. This is estimated to be 12 months after the date when 50% of smart meters have been installed;*
- *Scenario 3: [12] months after date when at least [50]% of the customers in the existing NHH market are being settled HH (electively) via a smart or Advanced meter;*
- *Scenario 4: By April 2018. This is estimated to be when 80% of smart meters have been installed;*
- *Scenario 5: By 31 Dec 2019 on the projected completion of the smart meter rollout;*
- *Scenario 6: By 31 Dec 2020, 12 months after the completion of the smart meter rollout;*
- *Not at this time: It is too early in the implementation of smart metering for it to be determined; or*
- *When a smart (or Advanced) meter is installed?*

Number	Theme	
2	<p>Between Scenario's 1 and 2 April 2015:</p> <ul style="list-style-type: none"><li>• After DCC go live and P272 implementation date, whilst allowing 6 – 12 months for suppliers to carry out controlled migration to HH trading;</li><li>• Transition from NHH to HH should be one way – not allowed to revert back to NHH;</li><li>• Need firm date to aim for, not one based on percentages of smart meters;</li><li>• Need two dates – April 2015 for companies to be ready and April 2016</li></ul>	UKPN, ENW



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Number	Theme	
	for newly installed smart meters to be settled HH immediately. This avoids mass migration on a single mandated date.	
1	<p>Scenario 2 April 2017:</p> <ul style="list-style-type: none"> <li>• April 2014 is too early as the focus will be on transferring Profile Class 5 – 8 customers to HH settlement and moving registrations to DCC;</li> <li>• Needs to be a clear understanding of risks associated with the rate of transfer before the deadline is imposed;</li> <li>• April 2017 allows time to plan and change systems and processes to deal with significant volumes off HH customers plus remaining NHH customers;</li> <li>• Should consider a moratorium preventing elective move to HH until an agreed start date and limiting the rate of transfers.</li> </ul>	CE
1	<p>Supportive of HH settlement as more accurate and equitable, however no view on when it should be mandated.</p> <p>Currently HH sites are billed for DUoS on site specific basis. This would not be possible for all Profile Class 1-4 sites. Therefore we need to resolve DUoS issues under DCP103 first.</p>	WPD
1	System and process changes will be the same regardless of the date. DCP103 is considering extending the use of site specific DUoS for Profile Classes 1 – 4 or using aggregated data. Support use of aggregated data.	IPNL
1	Do not support mandatory date as there are significant issues to be resolved and insufficient information available.	SP
1	<p>Should consider the following scenarios:</p> <p>Scenario 1 – where a customer's consumption is HH settled, if the customer moves, is the consumption for the new customer at the old property obligated to be HH settled even if they have not elected to do so?</p> <p>Scenario 2 – where a customer's consumption is HH settled and that customer changes Supplier, is the new Supplier obligated to settle that consumption HH even if they have not elected to settle Profile Class 1 – 4 HH?</p> <p>Scenario 3 – where a customer has not given permission for access to HH data (or even has declined a smart meter at all), how will the customer be settled if there is a mandate for full HH settlement?</p>	CE

**Question 21: Do you support the approach of switching off the NHH Settlement processes at some date after the mandated date and agree with the approach of the Central SVA Costs of NHH Settlement recovered only from Suppliers settling NHH?**

## **Switching off NHH Settlement**



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Number	Response/Rationale	
5	<p>Yes to switching off NHH Settlement:</p> <ul style="list-style-type: none"> <li>• Would only need to maintain one system;</li> <li>• Would need to close NHH Settlement so all consumption is HH settled then switch off NHH systems after all reconciliation runs have taken place (28 months for DF);</li> <li>• Would suggest December 2019 i.e. smart meter rollout completion.</li> </ul>	CE, WPD, UKPN, ENW, IPNL
1	N/A as don't support mandate.	SP
1	Need to consider NHH UMS further.	ENW

## Cost Recovery Mechanism

Number	Response/Rationale	
2	N/A - recovery of NHH costs is a Supplier issue.	WPD, ENW
1	Yes in principle to recovering costs just from NHH Suppliers – however one or two Suppliers should not pick up all the costs particularly one off run down or dismantling costs.	UKPN

## Question 22: What do you think are the pros and cons of an alternative approach of mandating HH settlement for Profile Class 3 – 4 first, then at a later date mandating Profile Class 1 - 2?

Number	Response/Rationale	
2	<p>Yes:</p> <ul style="list-style-type: none"> <li>• Issues which occur during the transfer of Profile Class 3 – 4 can be addressed and applied to the subsequent transfer of Profile Class 1 – 2.</li> </ul>	CE, IPNL
1	<p>No:</p> <ul style="list-style-type: none"> <li>• This would just add more confusion with two sets of requirements and potentially sites moving between Profile Classes.</li> </ul>	WPD
2	<p>Moving Profile Class 3 – 4 sites would increase accuracy of settlement as a greater volume of energy would be settled HH, however:</p> <ul style="list-style-type: none"> <li>• This is counterintuitive to the smart meter programmes focus on domestics and could delay transfer of Profile Class 1 – 2 customers to HH settlement;</li> </ul>	UKPN, ENW



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Number	Response/Rationale	
	<ul style="list-style-type: none"> <li>The benefit is small; and</li> <li>Rollout should be for suppliers to determine.</li> </ul>	
1	N/A as don't support mandate	SP

**Question 23: What issues do you see if the settlement of customers in Profile Classes 1-4 (and PCs 5-8) was left optional (elective)?**

Number	Response/Rationale	
4	Would need to have two billing systems to manage a high volume of customers who may elect to move to HH settlement.	CE, WPD, UKPN, ENW
1	Managing registrations to ensure metering systems are only settled once is a challenge where suppliers can move between HH and NHH.	CE
1	Full benefits of smart metering programme would not be achieved.	UKPN,
1	May need a specific Measurement Class for 'hard to do' sites.	ENW
1	Would like an agreed timetable for mandate so implementation can be planned. Elective approach would lead to resourcing issues.	IPNL
1	Existing processes allow aggregated settlement billing for Profile Classes 1- 8 and site specific for Profile Class 0 (HH). This can continue whilst benefitting from improved accuracy of settlement data. Any move to HH settlement would result in a significant overhaul of existing arrangements.	SP

**Question 24: What is the impact on you of not maintaining the Profile Class Identifier for your Profile Class 1-4 customers who are now settled HH? What are the implications for your systems with regards to the Profile Class component of the Meter Point Administration Number (MPAN) being '00'?**

Number	Response/Rationale	
2	Profile Class Identifier is used to identify specific groups of customer e.g. domestic versus non domestic for reporting etc. May be able to use separate Measurement Class but this needs to be considered further.	CE, WPD
2	No impact of Profile Class component being 00.	CE, IPNL
2	System changes will be required to report/act on new Measurement Class:	WPD, ENW



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Number	Response/Rationale	
	<ul style="list-style-type: none"> <li>Allows a move away from settlement based billing to a delinking solution;</li> <li>Should consider definition of Measurement Class e.g. is there a metering equipment solution rather than 100kW trigger.</li> </ul>	
1	New Measurement Classes would replace need for Profile Class information	UKPN
1	Do not support losing Profile Class identifier as this would lead to a loss of information regarding high level customer base.	SP

**Question 25: What are the additional costs/reductions and impacts if all Profile Class 1-4 customers are settled HH for each of the implementation scenarios:**

**Please break down your costs (one off and ongoing operational), timescales and impacts for:**

**a) Internal process and systems;**

**b) Supplier Meter Registration Service (incl. level of transactions, constraints);**

**c) DUoS Charging; and**

**d) Others.**

Number	Response/Rationale	
1	<p>Significant system and process impact (£500k – 1m)</p> <ul style="list-style-type: none"> <li>Managing registration data for bigger volume of customers in HH billing system;</li> <li>Increase in time taken for billing system to produce invoices;</li> <li>Standing data changes in billing system for new tariffs;</li> <li>Performance issues with systems (internally and externally e.g. DTN);</li> <li>More accurate DUoS charging;</li> <li>Small impact on Supplier Meter Registration Service (SMRS) with initial set up of new Measurement Class if scenario 1 is chosen ahead of DCC taking over registration;</li> <li>There may be a cost reduction if a moratorium is agreed which would allow deferral of new systems.</li> </ul>	CE
1	Significant impact:	WPD





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Number	Response/Rationale	
	<ul style="list-style-type: none"> <li>£50k - £100k to deal with loss of Profile Class identifier;</li> <li>£100k to upgrade hardware to support bulk change of Measurement Class with concurrent Bulk Change of Agent;</li> <li>Too early to consider impact on DUoS system – will depend on data storage and processing requirements.</li> </ul>	
1	<p>Significant system and process impact (£3m and 24 months):</p> <ul style="list-style-type: none"> <li>Would need to retain supercustomer billing system for NHH run off period;</li> <li>IT network would need to be enhanced to handle increased volumes;</li> <li>A new HH billing system (or multiple instances of the current system) would be required to handle billing calculations, invoicing and automation of current manual processes;</li> <li>Mandatory e billing of suppliers and mandatory e-remittance of HH DUoS by suppliers is required;</li> <li>Significant changes to bespoke contract, capacity and management system to accommodate increased numbers;</li> <li>The development of aggregated billing arrangements between DNOs and suppliers should be considered;</li> <li>Changes to SMRS to accommodate new Measurement Classes.</li> </ul> <p>In the absence of a migration plan from suppliers it will be necessary to front load the changes.</p>	UKPN
1	<p>Significant IT costs to cater for both NHH and HH processes during migration. Need to understand the impact on SMRS with registration moving to the DCC.</p>	ENW
1	<p>Significant impact for small distributor (£50k - £90k 6-9 months)</p> <ul style="list-style-type: none"> <li>If aggregated data is not available then the increased number of HH sites will increase the number of flows and volume of data in the D0036, REG02, D0275 and D2026 flows. Hardware impacts of this increase will need to be investigated;</li> <li>Will need to re write existing validation routines and overhaul current reporting functionality.</li> </ul>	IPNL
1	<p>Significant increase in IT and admin costs to deal with increased volume of HH</p>	SP



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Number	Response/Rationale	
	<p>D0036 flows (expected factor of x1000).</p> <p>Cost impact in 6 figures and implementation timescales in years.</p> <p>Smart metering data could be used to improve the accuracy of the D0030 settlement flows while allowing existing systems and tariffs to continue.</p>	

**Question 26: What benefits would you consider there to be from having HH data for these 29m customers, at what frequency (e.g. monthly) and in what format (e.g. aggregated)?**

Number	Response/Rationale	
3	Aggregating the data would be beneficial from a DUoS perspective and is the only viable option although this loses network management benefits.	WPD, IPNL, SP
2	More accurate settlement and DUoS charges, plus data anomalies can be easily identified and resolved.	CE, UKPN
2	Better utilisation of time of use tariffs.	CE, SP
2	Modest reduction in data collection costs as distributors and suppliers could share the costs of uploading consumption data from smart meters.	CE, WPD
2	Network management benefits if accurate reactive and active consumption data is available (smart benefit regardless of HH settlement).	WPD, UKPN
1	Benefits will only be realised if suppliers can 'correct' meter readings.	CE
1	Benefits should be measured against additional costs of retention, storage and analysis.	SP
1	<p>Wider smart meter benefits:</p> <ul style="list-style-type: none"> <li>• Network cost reductions through improved network planning;</li> <li>• Low Carbon energy infrastructure through increased renewable generation;</li> <li>• Customer service improvements through faster fault rectification, fault avoidance and improved information provision.</li> </ul>	UKPN
1	<p>Aggregated data required for billing and reconciliation for Measurement Classes F and G. Site specific data for Measurement Classes C, D and E. Measurement Class H needs to be considered further.</p> <p>Assume Measurement Classes A and B will no longer exist. Need to</p>	ENW



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Number	Response/Rationale	
	understand proposal for Measurement Class B.	

**Question 27: Recognising the work being undertaken on Issue 22 by the Methodology Issue Group (on HH and NHH DUoS Charges), what other changes do you believe are necessary to the Common DUoS Charging Methodology to address HH DUoS charges for customers currently in Profile Classes 1-4 with smart or Advanced meters?**

Number	Response/Rationale	
1	<p>Currently two Low Voltage (LV) network HH tariffs for measurement Class C, D and E customers. Remaining LV network tariffs are mandated within Schedule 16 of the DCUSA to apply by Profile Class.</p> <p>Need the following tariffs by April 2014:</p> <p>C – fundamentally the same as LV network tariff now;</p> <p>D – fundamentally the same as pseudo HH UMS tariff now;</p> <p>E – as developed by the DCMF MIG HH/NHH subgroup;</p> <p>F – a new time of day tariff for small commercial customers;</p> <p>G – a new time of day tariff for domestic customers; and</p> <p>H – a new time of day tariff spanning domestic and non domestic with risk premium for the uncertainty of the shape.</p>	UKPN
1	DCP103 proposed implementation date April 2012 is looking at requirements to facilitate billing NHH customers in HH market. DCMP Issues 12 and 22 are looking to address inconsistencies between NHH and HH tariffs. The MIG change is looking at de linking DNO tariffs from supplier time periods.	CE
1	Need an aggregated approach for billing Profile Class 1 – 4 customers.	WPD
1	Tariffs need to be delinked from settlement combinations.	ENW
1	Current HH tariffs reflect the cost of supply to large sites and are not applicable to the domestic market. A new tariff structure is required or smart meters should stay within current Profile Classes using more accurate data.	SP

**Question 28: Do you have any other comments you wish to add?**



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Number	Response/Rationale	
2	HH UMS needs further consideration: <ul style="list-style-type: none"><li>• Will all customers have to appoint and pay a Meter Administrator?</li><li>• Meter Administrator costs of £3 – 4k are only appropriate for larger local authority lighting inventories;</li><li>• It may be better for UMSOs to provide a service straight to HHDC or HHDC to convert UMSO data to HH consumption.</li></ul>	WPD, UKPN
1	Assume existing HH data flows (D0275 and D0036) will continue to be used for supplier validation and distributor billing purposes for elective HH customers.	CE
1	DCUSA Issues – contractual relationship between Distributors and Network Users is governed by the DCUSA therefore need parallel debates to cover: <ul style="list-style-type: none"><li>• Mandatory e billing of HH DUoS;</li><li>• Mandatory e remittance of HH DUoS;</li><li>• Common billing approach where Distributors aggregate HH data for domestic and small commercial customers to produce aggregated e bills to suppliers; and</li><li>• Development/replacement of Distributor billing systems to facilitate the above.</li></ul>	UKPN
1	Any solution based on Line Loss Factor Class will be problematic due to the limited length of this field and the shortage of spare codes	IPNL

## PSRG discussion

The PSRG discussed the responses and:

- Noted that the majority of Distributors favoured introducing the HH settlement mandate between April 2015 and April 2017. This allows for initial problems with the smart rollout to be resolved first with the DCC go-live in April 2014. Distributors were particularly keen for the mandate to occur on a specific date rather than continuing with elective HH settlement indefinitely. This would give Distributors certainty on when system changes would be required and to ensure the transition is carried out in a controlled manner;
- Noted that Distributors all quoted the need for changes to systems and processes which would incur significant costs. These ranged from £50k to £3m depending on the size of the party. However, these impacts are based on the current requirements of individual HH DUoS billing which many believed was not feasible so there would need to be an aggregated data solution;



- Noted the benefits of having HH data as DUoS charges would be more accurate, there could be better calculation and reporting of losses and more cost effective system planning and network reinforcement. However concerns were raised that the costs of moving to HH settlement may outweigh these benefits;
- Noted that if the Profile Class Identifier is removed, Suppliers and Distributors will require an alternative means of classifying customers. Therefore this issue should be considered further before any solution is implemented; and
- Noted that a number of Distributors raised concerns with the requirement that treatment of unmetered supplies (UMS) would all become HH. The group agreed that the actual process for managing this HH UMS would need to be discussed further as it would not be appropriate to use the current HH Meter Administrator process due to cost issues for smaller customers.

## 3.4 National Grid

The following response was received from National Grid:

*'National Grid fully supports the pursuit of Half Hourly Settlement for domestic Customers and sees this as necessary and complementary to delivering the UK's energy needs and achieving renewable and green house gas targets in an affordable and secure manner.'*

*National Grid is committed to playing its part in addressing climate change. They believe the deployment of smart metering is a key component of meeting the emissions targets and is a key facilitator to support a number of energy efficiency and renewable targets set by the Government.*

*Smart metering provides end consumers with additional information, tariffs and services to enable them to make informed choices regarding energy consumption. NG envisages it will encourage and enable efficient use of energy, and where appropriate, providing flexibility to consumers over when energy is used.*

*Given the scale of the energy challenge ahead NG believe they need to ensure the benefits of smart technologies are realised as soon as possible and would welcome the proposal to mandate Half Hourly settlement for BSC Customers in Profile Classes 1-4 as soon as is feasibly possible. They see this as crucial in developing time of use tariffs to end consumers.'*

## PSRG discussion

The PSRG noted the response received from National Grid which re-iterated their support for HH settlement.

## 3.5 Electralink

Electralink's response was centred around the impacts on the data flows and volumes from HH settlement.

*'Electralink determined a NHH and HH metering system footprint based on the current flows transferred across the Data Transfer Network (DTN) during the period August 2010 to July 2011. Where a flow is not metering system specific a 50-50 volumetric split has been assumed.'*



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- *NHH MPAN Footprint 14.22KB per annum*
- *HH MPAN Footprint 2675.67KB per annum*

*There would therefore be a 200 times increase in volume if all NHH metering systems became HH based on the current HH flow structure and rules.'*

## PSRG discussion

The PSRG noted the significant increase in volume of data that would be transmitted across the DTN if the current NHH sites were simply converted into HH sites with the same file structure and rules. The group felt that a significant re-engineering of the HH settlement processes (particularly the supplier hub) would be required in order to settle all 29 million Metering Systems on a HH basis as it would not be feasible to simply migrate all NHH metering systems into the current HH market. However, one member of the group noted that the figures quoted were not that big compared to other markets such as broadband where significant amounts of data are transferred in very short timescales for small costs.

## 3.6 Consumer Focus

Consumer Focus' response referred to some of the benefits cited in the consultation document as follows:

- **Innovation** – Consumers find current tariffs confusing so introducing more complex tariffs may not benefit consumers
- **Demand Forecasting** – Current NHH settlement based on tariffs protects suppliers from unusual events, although the need for residual balancing is socialised across market participants and therefore customers. Settling on HH exposes Suppliers to increased forecasting risk and unexpected events may result in increased imbalance exposure. In addition, this increased forecasting risk may favour large suppliers.
- **Credit** – Mandatory HH settlement could get quality data into settlement quicker allowing the first payment run to take place sooner and reducing the window over which credit cover is required.
- **Reducing Back Billing Windows** – Significant consumer benefit if the ability to get accurate data into settlement earlier can increase the accuracy of consumer invoicing.
- **Performance Assurance** – In the medium to long term Smart meters could increase the quality of data in settlement and improve reporting and resolution of errors. Although in the short term more assurance may be required to address potentially large data errors.
- **Reduced Number of Settlement Runs** – Final Settlement could happen earlier with less Settlement Runs in between.
- **Cherry Picking** – Potential gaming should suppliers be able to elect HH settlement.
- **Availability of Meter Reads** – It is not clear how frequently meters will be read. Issues such as communication failures will affect availability of data and therefore performance assurance targets and defaulting rules to be applied.



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- **100% Rollout** – Technical, economic and social constraints mean it is unlikely that all homes will have smart meters. What would happen if only 80% moved to smart?
- **GSP Group Correction**– As the number of Metering System settling NHH decreases the level of Group Correction should reduce. If these values do not correlate certain suppliers/consumer would be disproportionately impacted.

## PSRG Discussion

The PSRG noted the concerns raised by Consumer Focus:

- Several members of the group felt that the main benefit in HH settlement was for sites where the consumer chose to have a time of use tariff, therefore the issue of tariff complexity should be considered further;
- The group agreed that improved accuracy of settlement data should lead to a reduced settlement timetable and that the earlier accurate data should feed into more accurate billing. The specific timescales required could not be agreed until the scope of the DCC is available;
- The group also noted the concern regarding the number of consumers who may refuse to have a smart meter installed, although it was not clear at this stage how high this figure would be; and
- Finally the group noted the concern regarding cherry picking. Some members of the group did think that this would be a problem. Whereas others felt that time of use tariffs were chosen by consumers and that gaming would not happen. One member suggested that you could link the time of use tariff with a requirement to settle HH so that settlement would simply reflect the customer's choice. ELEXON noted that it was intending to do some analysis on the issue of gaming.





## 4 ELEXON Impact Assessment

ELEXON's internal impact assessment identified a number of potential central costs and operational reductions. These equated to a one off (implementation) cost of up to £500k, but with a potential ongoing annual reduction of £500k. These are:

- A significant number of changes to the BSC and Code Subsidiary documents will be required. Some of these changes may be quite straightforward i.e. the removal of NHH only BSCPs. The cost of implementing these changes and managing any changes to the BSC Central Systems is estimated at approximately **£26k**;
- The removal of NHH settlement will mean that profiles are no longer required and therefore the Profile Administrator (PrA) contract can be terminated. The current contract costs approximately **£270k**;
- The requirement to use HH settlement for all customers will potentially lead to current Supplier Agents who only participate in the NHH market choosing to participate in the HH market as well. These agents will have to go through HH Qualification. Based on the current number of NHH only agents central costs for this additional Qualification is approximately **£200k**;
- The increase in the number of HH customers will potentially require some Supplier Agents to Re Qualify e.g. if they implement new systems and processes to manage the increased volumes. Based on the current number of HH agents the central costs for this Re Qualification could be up to **£250k** (this figure is based on all agents Re Qualifying which is unlikely);
- With the move to HH settlement there will either be a gradual removal of all NHH roles from the BSC Audit or a big bang removal of all NHH roles. There would also be an increase in the number of HH audited roles in the scope of the BSC Audit. Based on current costs approximately £390,000 could be removed from the BSC Audit costs from the NHH roles whilst approximately £142,500 could be added to the costs from HH roles (this is based on the assumption that HH costs will double). This is a potential **net reduction of £248k** from the BSC Audit costs;
- The move from NHH to HH settlement would potentially change the impact/probability of existing settlement risks and/or create new settlement risks. These risks would be assessed and monitored through existing processes for maintaining the Risk Evaluation Register (RER). In addition the removal of NHH settlement would allow all NHH Settlement Risks to be removed from the register;
- The requirement to collect 99% of actual data for the first or second Reconciliation Run (R1 or R2) would require changes to the PARMS system and associated BSC Procedures. In addition a number of NHH PARMS Serials would become redundant. This change is believed to be minimal (**£10k - £87k**); and
- The straw man assumes that Measurement Class 'E' would remain outside the scope of Technical Assurance checks. However, this is something the Performance Assurance Board (PAB) would probably want to keep under review. The cost implications of any change to the application of this technique would be considered by PAB at the time.

## PSRG Discussion

The PSRG noted the impact assessment provided by ELEXON and that this provided the central costs only; Supplier Agents would incur costs to Qualify and Re Qualify in addition to those quoted above. The group discussed the





requirement for HH agents to Re Qualify. It was felt that not all agents would be required to Re Qualify if their number of HH sites increased gradually and this may reduce some the costs quoted above.

## 5 Central Service Provider Impact Assessment

**Implementation costs are expected to be less than £100k. In addition to this cost savings would be sought as part of the contract renegotiation process due to the reduced scope of the service.**

In detail the impacts are as follows.

Application Management and Development (AMD) impacts due to NHH settlement being removed:

- Common Scheduler System receives all files – this may be impacted to prevent Supplier Purchase Matrix files being loaded into SVAA
- ISRA Daily Profile Production – front end program impacted to avoid user from initiating Daily Profile Production run
- ISRA Run Settlement – will be impacted to initiate Volume Allocation Run without the Supplier Purchase Matrix data and Daily Profile Production run

Business Process Outsourcing (BPO) impacts due to NHH settlement being removed:

- The contract with the Met Office for temperature data would no longer be required which would lead to savings;
- Sunset data is obtained from a publicly available website so no impact on removing this requirement;
- Minimal operational saving from not running the Daily Profile Production runs - (<30 man minutes per day);
- Daily Profile Production run generates the D0018 and D0039 which account for 7.6GB of the 26.59GB of data sent by SVAA i.e. approx 28%;
- The role of SVAA would be substantially reduced although access to archive data would be required for some time – it may be possible to decommission SVAA if the CVA system is enhanced to receive HH data from an alternative source e.g. HHDA;
- Any reduction in the number of settlement runs would have negligible impact on SVAA operational costs although there would be a substantial reduction in the amount of data being sent via D0030 and D0082 flows; and
- Regression coefficients could be removed from D0269 and D0270 reports sent for each MDD publish which would allow removal of the 'with regression' flow type.

## PSRG Discussion

The PSRG noted the response from the Central Service Providers.



## 6 Conclusions and Way Forward

The majority of respondents were unable to provide cost estimates as there is too much uncertainty around the smart metering solution and particularly the scope of the DCC. Therefore the PSRG agreed that it would not be possible to complete a full cost benefit analysis at this time. The group concluded that although there did appear to be a benefit in HH settlement at some point in the future for Profile Classes 1 – 4, currently the case for mandating HH settlement had not been proven. They felt that 'intuitively' HH settlement was the right decision for the wholesale market as HH settlement would allow more accurate allocation of costs and would enable the wider benefits highlighted in the consultation document to be realised.

The group agreed the following actions:

- To conclude the cost benefit analysis report by summarising the industry responses to the impact assessment within this report, together with ELEXON's impact assessment and the PSRG's consideration thereof;
- To continue the profiling and settlement review work by assessing the current BSC arrangements to ensure that any barriers to elective HH settlement are removed and that the accuracy of the NHH processes is not reduced;
- To ensure that all organisations understand the capabilities and restrictions of the current NHH settlement processes for smart meters and establish a 'NHH roadmap' for smart meters; and
- To continue to support other areas of work outside the BSC on HH barriers, e.g. HH DUoS charging.

The SVG are responsible for agreeing the terms of reference for future PSR work and the role of the PSRG and these decisions will be transparent to the industry. The PSRG and SVG will continue to follow the developments in the smart metering implementation programme, so that the issue of mandatory HH settlement can be considered further when sufficient clarity on the smart solution is available. Specifically the group felt that they needed:

- Confirmation that the data privacy issues would not prevent HH data being available; and
- Details of the costs and scope of the DCC.



## 7 Glossary

### 100kW market

Those Metering Systems that are 100kW Metering Systems (as defined in the BSC) and must therefore be registered to Measurement Class C (HH metered in 100kW Premises) and settled through HH processes.

### 100kW Metering System

A 100kW Metering System is:

- (i) any Metering System where the average of the maximum monthly electrical demands in the three months of highest maximum demand in:
  - (a) the previous twelve months; or
  - (b) the period since the most recent Significant Change of Demand (whichever is shorter) exceeds 100kW; or
- (ii) any Metering System where the Profile of a Customer's electrical demand implies an average of the maximum monthly electrical demands in the three months of highest maximum demand either in:
  - (a) the previous twelve months; or
  - (b) the period since the most recent Significant Change of Demand (whichever is shorter) exceeding 100kW; or
- (iii) any CVA Metering Systems; or
- (iv) an Unmetered Supply where the relevant Distribution System Operator has agreed that the maximum demand is above 100kW; or
- (v) any Metering System which is for the time being declared by a Supplier in accordance with the relevant BSC Procedure to have a maximum demand in excess of 100kW.

### Advanced meter

As defined in the standard conditions of the electricity supply licence:

'12.19 For the purposes of this condition, an advanced meter is an Electricity Meter that, either on its own or with an ancillary device, and in compliance with the requirements of any relevant Industry Code, is able:

- (a) to provide measured electricity consumption data for multiple time periods, and at least half-hourly; and
- (b) to provide the licensee with remote access to such data.'

### Consumption Component Class (CCC)

There are 35 CCCs and each CCC represents a unique combination of attributes including distinguishing between NHH, HH, import, export, metered/unmetered, actuals/estimates, EAC/AAs and line losses.



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## Elective HH or <100kW market

Those Metering Systems that are not 100kW Metering Systems (as defined in the BSC), but which the Supplier voluntarily chooses to settle through HH processes. Note that a customer in the Elective HH Market might be registered under Measurement Class C (HH metered in 100kW Premises) or E (HH metered not 100kW Premises). This is because the BSC does not force Suppliers to use E for customers below 100kW.

## Measurement Class C

Is the identifier used to signify a metering system that is HH metered for a 100kW Premise.

## Measurement Class E

Is the identifier used to signify a metering system that is HH metered for < 100kW Premise.

## Non Half-hourly Meter

Means a Supplier Volume Allocation (SVA) meter, which provides measurements other than on a half-hourly basis for Settlement purposes.

## Profile Class 1 - Domestic Unrestricted Customers

Customers at a domestic premises, as defined in the terms of the Supply licence, that are typically on an unrestricted tariff.

## Profile Class 2 - Domestic Economy 7 Customers:

Customers at a domestic premises, as defined in the terms of the Supply licence, that are on a Domestic Economy 7 or similar tariff that have a metering system that is capable of switching load, e.g. Storage and Immersion Heating.

## Profile Class 3 - Non-Domestic Unrestricted Customers

Customers at non-domestic premises, as defined in the terms of the Supply licence, that are typically on an unrestricted tariff.

## Profile Class 4 - Non-Domestic Economy 7 Customers

Customers at a non-domestic premises, as defined in the terms of the Supply licence, that are on a Non-Domestic Economy 7 or similar tariff that have a metering system that is capable of switching load, e.g. Storage and Immersion Heating.

## Profile Class 5 - Non-Domestic Maximum Demand Customers with a Peak Load Factor between 0-20%

Non-Domestic customers, as defined in the terms of the Supply licence, that have a metering system that records maximum demand and have a calculated peak load factor of between 0-20% based on the annual consumption and annual peak demand that are recorded on the metering system.



## Profile Class 6 - Non-Domestic Maximum Demand Customers with a Peak Load Factor between 20-30%

Non-Domestic customers, as defined in the terms of the Supply licence, that have a metering system that records maximum demand and have a calculated peak load factor of between 20-30% based on the annual consumption and annual peak demand that are recorded on the metering system.

## Profile Class 7 - Non-Domestic Maximum Demand Customers with a Peak Load Factor between 30-40%

Non-Domestic customers, as defined in the terms of the Supply licence, that have a metering system that records maximum demand and have a calculated peak load factor of between 30-40% based on the annual consumption and annual peak demand that are recorded on the metering system.

## Profile Class 8 - Non-Domestic Maximum Demand Customers with a Peak Load Factor of over 40%

Non-Domestic customers, as defined in the terms of the Supply licence, that have a metering system that records maximum demand and have a calculated peak load factor of over 40% based on the annual consumption and annual peak demand that are recorded on the metering system.

## Smart Meter

A meter of the type that the Government proposes to mandate for all domestic customers and smaller non domestic customers by 2020 (except for Profile Class 3-4 customers with an Advanced Meter already installed). Although the technical specifications for such meters are still to be finalised, the Government has indicated that they will allow a Supplier to take remote readings/information and provide a customer with access to information, broken down into multiple time periods, based upon data from those readings and support a range of time of use tariffs.

We anticipate that smart meters will be required to be remotely configurable, and so require two-way communications to and from the meter, have import/export capability, have capacity to communicate with a micro-generator (and store generation information for billing), have load management capability, provide real-time information to an in-home display and a remote switching capacity for electricity.



## 8 Appendices

### **Appendix 1. Impact Assessment Requirements and Assumptions**

#### **A1.1 Strawman Scenario**

To understand the advantages and disadvantages of requiring Half Hourly Settlement for customers in Profile Classes 1 - 4 the following strawman scenario was developed.

No.	Requirement	Requirement Detail
1	<p>All customers in Profile Classes 1-4 with HH capable meter shall be settled as HH from [date].</p> <p>There are key events that can drive this date, see requirement detail.</p>	<p>A mandatory deadline would be set and the BSC would require the use of HH settlement for customers in Profile Classes 1 to 4 with HH capable (smart or advanced) meters installed.</p> <p>On Change of Supplier (CoS) mandatory HH settlement would still apply.</p> <p>Prior to this date Suppliers can choose NHH or HH settlement for their customers in these Profile Classes.</p> <p>There are a number of scenarios for setting this [date] as follows:</p> <ul style="list-style-type: none"><li>• Scenario 1: By April 2014. This is when the DCC service is expected to go live;</li><li>• Scenario 2: By April 2017. This is estimated to be 12 months after the date when 50% of smart meters have been installed;</li><li>• Scenario 3: [12] months after the date when at least [50]% of the customers in the existing NHH market are being settled HH (electively) via a smart or Advanced meter;</li><li>• Scenario 4: By April 2018. This is estimated to be when 80% of smart meters have been installed;</li><li>• Scenario 5: By 31 Dec 2019 on the projected completion of the smart meter rollout; and</li><li>• Scenario 6: By 31 Dec 2020, 12 months after the completion of the smart meter rollout.</li></ul> <p>All of the dates above are based on the DECC March 2011 SMIP response.</p> <p>NHH settlement is allowed to continue past this date (for meters that have not been replaced with a smart or Advanced meter or where meters installed during the foundation stage have not been adopted by the DCC) until the closure of NHH settlement. However, NHH settlement will cease from a future date determined by Requirement 2 below.</p> <p>Suppliers moving their customers to HH would not have the ability to 'elect' to go back to NHH Settlement.</p>



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No.	Requirement	Requirement Detail
2	<p>Central SVA Costs of NHH settlement recovered only from Suppliers settling NHH until closure of NHH settlement at a [date] after the 'mandation' date:</p> <p>After this date:</p> <ul style="list-style-type: none"> <li>• Profiles 1-4 discontinued (and frozen)</li> <li>• No profiling of any energy at all</li> <li>• Mandatory HH settlement for Unmetered Supplies</li> <li>• Mandatory HH settlement for export</li> </ul>	<p>With the assumption that Profile Classes 5-8 are already mandatory HH settlement, Profile Classes 1 to 4 would fall into disuse<sup>5</sup>.</p> <p>After the 'mandation' date in Requirement 1 the costs of the SVA NHH settlement processes (incl. profiling, Teleswitch, NHH software, etc) would only be recovered from Suppliers settling their customers NHH. This 'with-on the vine' approach should be considered further to avoid NHH costs being recovered from just one supplier as the numbers of customers being settled NHH reduces. For example, one approach may be the apportionment of costs over a BSC Year pro-rated by energy volume and the number of months in that year a Supplier has used NHH settlement for its customers.</p> <p>Consideration will need to be given to the run off of the NHH arrangements, for example the reconciliation run timetable and support to the disputes process.</p> <p>When NHH settlement is closed new estimating/ defaulting requirements and processes will be put in place to produce HH data for customers who either do not have a HH capable meter or remote reading is not in place.</p> <p>The Profile Administrator would discontinue load research completely (as it was only concerned with Profile Classes 1 to 4). The regression equations and other profiling deliverables would therefore be 'frozen'. Currently HHDCs use the Default Period Profile Class Coefficients (DPPCC) and the regression data behind these DPPCCs would remain frozen but would be updated to reflect calendar days in each new Settlement year. This data would be used for estimation purposes of missing data by Half Hourly Data Collectors.</p> <p>All UMS would be settled HH with the Supplier's Meter Administrator Agent submitting HH data to the HHDC.</p>
3	<p>Transition to HH settlement prior to the 'mandated' date: Supplier choice and elective HH prior to the mandate</p>	<p>Suppliers can choose how or when they phase in the new HH requirements prior to mandatory deadline. For example, some Suppliers might choose to switch customers to HH settlement as soon as they install smart or Advanced metering; others might choose to perform a bulk Change of Measurement Class some time before the mandatory deadline.</p> <p>For the avoidance of doubt Suppliers of customers in all Profile Classes can choose at any time to switch them to HH settlement.</p> <p>It should be noted that there is a risk of undertaking a bulk CoMC during the foundation stage under Scenario 1 (from Requirement 1 above) that the registering Supplier may not be the operating Supplier.</p>

<sup>5</sup> Where the Supplier "has been unable to install or arrange for the installation of appropriate metering at the relevant premises in question despite taking all reasonable steps to do so", it will estimate HH consumption on the basis of other HH data from similar customers.





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No.	Requirement	Requirement Detail
4	<p>New and changed Measurement Class definitions for:</p> <ul style="list-style-type: none"> <li>NHH and HH</li> <li>Domestic</li> <li>Non Domestic</li> <li>&gt;100 kW</li> </ul> <p>NHH Measurement Classes would become redundant once NHH settlement is switched off.</p> <p>Profile Class set to '0' for HH meters.</p>	<p>The current Measurement Classes are:</p> <ul style="list-style-type: none"> <li>A Non Half Hourly Metered</li> <li>B Non Half Hourly Unmetered</li> <li>C HH metered in 100kW Premises</li> <li>D Half Hourly Unmetered</li> <li>E HH metered not 100kW Premises</li> </ul> <p>New definitions would be required:</p> <ul style="list-style-type: none"> <li>A Non Half Hourly Metered</li> <li>B Non Half Hourly Unmetered</li> <li>C HH metered in 100kW Premises</li> <li>D Half Hourly Unmetered</li> <li>E HH <b>Non Domestic I&amp;C</b> metered not 100kW Premises</li> <li><b>F HH Non Domestic SME metered not 100kW Premises</b></li> <li><b>G Half Hourly Domestic Metered</b></li> <li><b>H Half Hourly Settled with a Non Half Hourly Meter</b></li> </ul> <p>Any customers who are currently registered in Measurement Class C or E that now fall in the other Measurement Classes would need to be moved.</p> <p>Potentially new Consumption Component Classes would also be required to provide the relevant data split by these Measurement Classes for Suppliers and Distribution Businesses. Furthermore, these splits may also be required in settlement for applying GSP Group Correction Factor to certain quantities.</p> <p>The Profile Class identifier will not be used after the change to HH. It would be set to '0' as currently for HH settled meters.</p>
5	<p>Revised PARMS serials:</p> <p>SP08c</p> <p>(no change to SP08a and SP08b)</p>	<p>SP08a= 97% of NHH meters to be settled on AAs at RF. No change but would either 'wither on the vine' or a date would be chosen when there this serial is removed.</p> <p>SP08b = 99% of HH meters to be settled on actuals at SF for HH &gt;100kW: No change.</p> <p>SP08c = 99% at of HH meters to be settled on actual at R1 for HH &lt; 100kW. This would require Suppliers to achieve 99% of energy settled on actual data by the First Reconciliation (R1).</p> <p>SP08c would be amended so that it would also apply to all other HH Measurement Classes (E, F, G and H).</p> <p>Originally it was 99% at RF and applied only to elective HH y (Measurement Class E).</p>





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No.	Requirement	Requirement Detail
6	<p>Removal of redundant Code of Practices</p> <p>The BSC would refer to the meter requirements in Smart Energy Code (SEC) for smart meters.</p>	<p>The NHH Codes of Practice 6,7,8,9 would be frozen and would fall into disuse:</p> <ul style="list-style-type: none"> <li>CoP6: Code Of Practice For The Metering Of Energy Imports Via Low Voltage Circuits Fused At 100 Amps Or Less Per Phase For Settlement Purposes</li> <li>CoP7: Code Of Practice For The Metering Of Energy Imports Via Low Voltage Circuits Fused At 100 Amps Or Less Per Phase For Settlement Purposes</li> <li>CoP8: Code Of Practice For The Metering Of Import Active Energy Via Low Voltage Circuits For Non-Half Hourly Settlement Purposes</li> <li>CoP9: Code Of Practice For The Metering Of Import And Export Active Energy Via Low Voltage Circuits For Non-Half Hourly Settlement Purposes</li> </ul> <p>The BSC would refer to the existing CoPs for &gt;100kW market and for Advanced meters (currently CoP10 compliant). For smart metered &lt;100kW the BSC would reference the SEC for compliance against the agreed meter technical specification</p> <p>The SEC defined commissioning and proving requirements would be sufficient for BSC.</p>
7	No Technical Assurance of smart meters or Advanced meters in Measurement Classes E to H: No change	Smart or Advanced Metering Systems would not be subject to the Technical Assurance process. This process is defined in BSCP27 ('Technical Assurance of Half Hourly Metering Systems for Settlement Purposes') and is currently only applied to >100kW market (Measurement Class C).
8	Site Visits for smart or Advanced meters: No change	<p>No change to existing requirements for site visits every 2 years.</p> <p>Smart or Advanced Metering Systems would still require a site visit every two years<sup>6</sup> (to check the state of the Metering Equipment).</p>
9	<p>Supplier Agents: HH Meter Operator Agents (MOAs), Data Collectors (HHDCs) and Data Aggregators.</p> <p>HH MOAs: No changes</p> <p>HHDCs:</p> <ul style="list-style-type: none"> <li>New requirements for data estimation and defaults</li> <li>Different</li> </ul>	<p><b>HHMOs:</b> No changes to the existing requirements at this stage (BSCP514). However, there may be changes that are required through the SEC for installing and maintaining a smart meter.</p> <p>No changes to specific requirements such:</p> <ul style="list-style-type: none"> <li>Investigation of inconsistencies (BSCP 514, section 5.4.1);</li> <li>Changing a metering system; or</li> <li>Introducing a difference for domestic/non domestic split.</li> </ul> <p><b>HHDCs:</b></p> <ul style="list-style-type: none"> <li>&gt;100kW and Advanced meters: no change to requirements</li> </ul>

<sup>6</sup> Note, the licence permits a supplier to request from the Authority a derogation from the 'must inspect' obligations.



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No.	Requirement	Requirement Detail
	requirements for data validation for smart meters read by the DCC and Advanced meters read by the HHDC  HHDA: No changes	including estimation and defaulting; <ul style="list-style-type: none"><li>New estimation and default processes will be required to introduce differences for domestic and non domestic customers to allow the HHDC to produce HH data for customers who do not have a smart or Advanced meter or where data has not been collected for a particular meter.</li></ul>
10	DTC flows: Increased resolution for HH meter data to 0.001kWh from 0.1kWh	The relevant DTC flows that contain HH meter data (D0003, D0010, D0022, D0036, and D0275) will need increased resolution. Currently the format is 7,1 resulting in 0.1kWh resolution. It is proposed that this is changed to 7,3 to avoid any rounding errors. Increased resolution is required to avoid energy being inaccurately accounted for in settlement.

## ***A1.2 Rationale for the Strawman Requirements.***

No.	Requirement	Rationale
1	All customers in Profile Classes 1-4 with HH capable meter shall be settled as HH from [date].  There are key events that can drive this date, see requirement detail.	We believe that using the HH meter data available from the smart meter will enable a Supplier's settlement bills to accurately reflect the customer's true consumption. HH settlement is more accurate and will avoid the smearing effects of profiling NHH meter data. The mandatory deadline date can be set based on a number of different points, as defined in the following scenarios.  There are a number of scenarios for this [date] as follows: <ul style="list-style-type: none"><li>Scenario 1: By April 2014. This is when the DCC service is expected to go live. Mandating HH settlement when DCC services go live would provide a clean set of processes (no NHH) for the DCC and SEC to govern. It should be noted that the DCC will still have to handle NHH registration for 'dumb' meters not yet replaced with smart or Advanced meters when it takes over registration for all SVA meters;</li><li>Scenario 2: By April 2017. This is estimated to be 12 months after the date when 50% of smart meters have been installed. Under this scenario the trigger point will be when a certain percentage of smart meters have been installed (e.g. 50%). This will reflect the tipping point for when profiles are no longer accurate for customers with smart/Advanced meters due to their change in consumption patterns. Providing 12 months notice give Suppliers and their agents sufficient time to change their systems and processes to process HH data;</li><li>Scenario 3: [12] months after date when at least [50]% of the customers in the existing NHH market are being settled HH (electively) via a smart or Advanced meter. This scenario is</li></ul>



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No.	Requirement	Rationale
		<p>similar to 2 above but is based on the driver that Suppliers (or their customers) have elected to be settled HH. This does mean that the date is more fluid and indeed may never happen as the drivers for HH settlement may be more commercially driven by a Supplier's business;</p> <ul style="list-style-type: none"> <li>Scenario 4: By April 2018. This is estimated to be when 80% of smart meters have been installed. This gives a definite date for market participants to prepare for prior to the completion of the mandated rollout in 2019;</li> <li>Scenario 5: By 31 Dec 2019 on the projected completion of the smart meter rollout. This is the date when smart meters should have been installed at all Profile Class 1 – 4 premises. Under this scenario it should be possible to switch off NHH settlement at the same time as mandating HH settlement.</li> <li>Scenario 6: By 31 Dec 2020, 12 months after the completion of the smart meter rollout. This scenario has the benefit that it will allow a 'bedding down' period after the mandated completion of smart meter rollout. It would allow for other smart issues to have been identified and/or resolved before the HH mandate comes into effect.</li> </ul>
2	<p>Central SVA Costs of NHH settlement recovered only from Suppliers settling NHH until closure of NHH settlement at a [date] after the 'mandated' date:</p> <p>After this date:</p> <ul style="list-style-type: none"> <li>Profiles 1-4 discontinued (and frozen)</li> <li>No profiling of any energy at all</li> <li>Mandatory HH settlement for Unmetered Supplies</li> <li>Mandatory HH settlement for export</li> </ul>	<p>The requirement to discontinue profiling and remove NHH settlement processes will require changes to Unmetered Supplies (UMS) This should lead to more accurate settlement of UMS.</p> <p>Recovering NHH SVA costs from only those Suppliers that settling NHH would provide a commercial incentive on Suppliers to switch to HH settlement. The costs applied to each Supplier would be calculated in the same way as currently i.e. based on metered energy volume. However it may be necessary to consider this further if it results in one or two Suppliers paying the full costs of NHH settlement once the majority of meters have been switched to HH.</p> <p>There would be cost savings from the ultimate removal of NHH settlement:</p> <ul style="list-style-type: none"> <li>No Profile Administration service;</li> <li>No Teleswitch agent<sup>7</sup>;</li> <li>No need for NHH EAC/AA and NHHDA software;</li> <li>Removal of NHH parameters in Market Domain Data;</li> <li>Reduced scope of performance assurance techniques resulting in lower costs (e.g. NHH operational Audit); and</li> <li>Reduced Reconciliation Run timetable as more accurate HH data will be provided at an earlier stage.</li> </ul>

<sup>7</sup> This would remove a current risk associated with the Teleswitch service discontinuing when the contract expires.



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No.	Requirement	Rationale
		With the assumption that Profile Classes 5-8 are already mandatory HH settlement, Profile Classes 1 to 4 would fall into disuse <sup>8</sup> .
3	Transition to HH settlement prior to the 'mandated date: Supplier choice and elective HH prior to the mandate	This gives Suppliers the flexibility to choose how to manage their portfolio and the switch to HH settlement. There may be a risk that all Suppliers choose to do a bulk Change of Measurement Class (CoMC) and change of agent on the final days leading up to the mandatory deadline. However, this would be mitigated through a new centrally defined bulk CoMC process.
4	<p>New and changed Measurement Class definitions for:</p> <ul style="list-style-type: none"> <li>NHH and HH</li> <li>Domestic</li> <li>Non Domestic</li> <li>&gt;100 kW</li> </ul> <p>NHH Measurement Classes would become redundant once NHH settlement is switched off.</p> <p>Profile Class set to '0' for HH.</p>	<p>New definitions would be:</p> <p><b>A</b> Non Half Hourly Metered</p> <p><b>B</b> Non Half Hourly Unmetered</p> <p><b>C</b> HH metered in 100kW Premises</p> <p><b>D</b> Half Hourly Unmetered</p> <p><b>E</b> HH <b>Non Domestic I&amp;C</b> metered not 100kW Premises</p> <p><b>F</b> <b>HH Non Domestic SME metered not 100kW Premises</b></p> <p><b>G</b> <b>Half Hourly Domestic Metered</b></p> <p><b>H</b> <b>Half Hourly Settled with a Non Half Hourly Meter</b></p> <p>The Profile Class identifier will not be used after the change to HH. It would be set to '0' as currently for HH settled meters. However, it is believed that a distinction will still need to be made between the domestic, non domestic, below 100kW and the above 100kW markets. For reporting purposes and to aid parties in their own business processes, differentiation of I&amp;C and SME customers is provided.</p> <p>A new Measurement Class is also introduced for customers who, for whatever reason, have not had their meter replaced with either a smart or Advanced Meter.</p> <p>The new Measurement Classes will allow Suppliers to fulfil their licence requirements in relation to domestic and non domestic premises. They will also allow different requirements for Meter Operation, Data Collection and Performance Assurance if required (see section 6).</p>
5	Revised PARMS serials: SP08c (no change to SP08a)	<p>SP08a= 97% of NHH meters to be settled on AAs at RF. No change but would 'wither on the vine'.</p> <p>SP08b = 99% of HH meters to be settled on actuals at SF for HH</p>

<sup>8</sup> Where the Supplier "has been unable to install or arrange for the installation of appropriate metering at the relevant premises in question despite taking all reasonable steps to do so", it will estimate HH consumption on the basis of other HH data from similar customers.



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No.	Requirement	Rationale
	and SP08b)	<p>&gt;100kW: No change.</p> <p>SP08c = 99% at of HH meters to be settled on actuals at R1 for HH &lt; 100kW (currently this is 99% at RF and applied to elective HH only).</p> <p>SP08c would be amended so that it would now apply to all other HH Measurement Classes, E, F, G and H. The changes are to reflect the fact that the smart and advanced meters installed will have remote communications so can be read in much quicker timescales than manual reads.</p> <p>Whilst this is more onerous than the current SP08c requirements of 99% at RF, the current performance achieved by parties shows that HH metering systems have &gt;99% of actual data at SF. Setting this measure at R1 also allows time for the resolution of meter data issues for both domestic and non domestic customers.</p>
6	<p>Removal of redundant Code of Practices</p> <p>The BSC would refer to the meter requirements in Smart Energy Code (SEC) for smart meters.</p>	<p>The NHH Codes of Practice 6,7,8,9 would be frozen and would fall into disuse as the number of NHH meters installed would diminish.</p> <p>The BSC would continue to refer to the existing CoPs for &gt;100kW market and for Advanced meters (currently CoP10 compliant). For smart metered &lt;100kW the BSC would reference the SEC for compliance against the agreed meter technical specification (defined under the SEC). The SEC will need to ensure that smart meters record data accurately and that this data can be retrieved safely and securely.</p> <p>The SEC defined commissioning and proving requirements would be sufficient for BSC as the DCC would be required to ensure safe data retrieval from the smart or advanced meter.</p>
7	No Technical Assurance of smart meters or Advanced meters in Measurement Classes E - H No change	Currently there are no Technical Assurance visits for Metering Systems in HH market <100kW (Measurement Class 'E'). This is because of the energy volume associated with each Metering System and the low numbers in this market. Due to low energy volumes in PCs 1-4 we believe no change is required.
8	Site Visits for smart or Advanced meters: No change	<p>No change to existing requirements for site visit 2 years.</p> <p>Smart or Advanced Metering Systems would still require a site visit every two years (to check the state of the Metering Equipment). Note, the licence permits a supplier to request from the Authority a derogation from the 'must inspect' obligations. The right to apply for a derogation to this requirement is not being removed.</p> <p>Site visits help Suppliers meet their BSC obligations. The current BSC requirements are felt to be sufficient. Any change would have process implications and costs. The aim of the CBA is to investigate a 'least change case'.</p>
9	Supplier Agents: HH	As the consumption of the customers in Profile Classes 1-4 is less



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No.	Requirement	Rationale
	<p>Meter Operator Agents (MOAs), Data Collectors (HHDCs) and Data Aggregators.</p> <p>HH MOAs: No changes</p> <p>HHDCs:</p> <ul style="list-style-type: none"><li>• New requirements for data estimation and defaults; and</li><li>• Different requirements for data validation for smart meters read by the DCC and Advanced meters read by the HHDC.</li></ul> <p>HHDAAs: No changes</p>	<p>than the existing mandatory HH market (and the consumption pattern differs between domestic and non domestic customers) then the validation and defaulting requirements will need to be revised accordingly. The volume and granularity of the HH data for these customers is different than for existing HH customers.</p> <p>Requirements on HHDCs and HHMOAs would change but only to the extent that there would be new less onerous validation requirements and new defaulting profiles provided under the BSC.</p> <p>Further consideration needs to be given to the data estimation processes for customers with switched or heating (and/or hot water) load. These are currently customers in Profile Classes 2 and 4 where different load profiles are applied to the normal and switch loads.</p> <p>No changes are required for HHDAAs as they will be continuing to aggregate the data sent to them by the HHDCs.</p>
10	<p>DTC flows: Increased resolution for HH meter data to 0.001kWh from 0.1kWh</p>	<p>The relevant DTC flows that contain HH meter data (D0003, D0010, D0022, D0036, and D0275) will need increased resolution. Currently the format is 7,1 resulting in 0.1kWh resolution. It is proposed that this is changed to 7,3 to avoid any rounding errors. Increased resolution is required to avoid energy usage being inaccurately reflected in settlement. Care will need to be taken to record the accuracy of the HH meter concerned. Existing large SVA sites may not be read to this level of accuracy, but as long as the relevant DTC flows are populated correctly this will be sufficient.</p>

We refer to the above requirements as our 'strawman' scenario, because they are intended to be a clear basis for the cost benefit analysis and subsequent discussions. They are not recommendations on the best way to introduce the new obligation. The strawman assumes to keep the cost benefit analysis as simple as possible and further investigate the barriers to HH settlement.

Our cost benefit analysis will compare the requirements in the 'strawman' scenario (in which Profile Classes 1 to 4 are settled HH) with a base case scenario (in which Profile Classes 1 to 4 continue to be settled NHH with an element being elective HH). The base case scenario below clearly sets out the baseline for comparison with the strawman.

## **A1.3 Base Case Requirements: Rationale**

No.	Requirement	Requirement Detail
A.	All Profile Class 1-4 customers settled NHH	It is assumed all customers fitted with a smart meter under the licence obligation will continue to be settled NHH. Suppliers will still have the option of settling such customers HH, but the number choosing to do so will be sufficiently small that we assume that they





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No.	Requirement	Requirement Detail
		are all settled NHH for the purposes of the CBA.
B.	Profile Classes 5-8 will already be settled HH	It is assumed (for the purposes of the impact assessment) that Modification P272 will have been implemented.
C.	Measurement Class 'C' or 'E': Supplier choice	In those few cases where Suppliers do opt for HH settlement, they can choose whether to register the Metering System under Measurement Classes 'E' or 'C'.
D.	PARMS Serials: No change	The Performance Serials for all Measurement Classes will remain unchanged i.e. SP08a (NHH) 97% of energy settled on actual data by Final Reconciliation (RF).
E.	Supplier Agents: No change	No changes to BSC Procedures for NHH or HH MO, DC and DA.
F.	Meter Requirements	The BSC will refer to the meter requirements in Smart Energy Code (SEC) for smart meters.

## **A1.4 Impact Assessment Assumptions:**

No.	Assumption	Comments
1	<p>Number of meters and associated energy volumes:</p> <ul style="list-style-type: none"> <li>Profile Classes 1-4: 29.3m meters and 150 TWh of annual energy (this includes both import and export): <ul style="list-style-type: none"> <li>Profile Classes 1-2: 27.2m meters and 115 TWh</li> <li>Profile Classes 3-4: 2.1m meters and 35 TWh</li> </ul> </li> <li>Profile Classes 5-8: 164,000 meters and 18 TWh of annual energy</li> <li>HH market: 115,500 meters and 156 TWh of annual energy (this includes both import and export)</li> </ul>	See section 3, data as of 1 April 2011.
2	HH data will be available for settlement purposes for all PC 1-4 customers.	HH consumption data from domestic premises can be considered to be personal data when this data is combined with other information that can



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No.	Assumption	Comments
		be used to identify an individual (e.g. a metering address or through a billing system). Central settlement does not have such visibility and therefore consumption volumes are anonymised in central systems. However, Suppliers (and their agents) will hold additional data sources from which it may be possible to identify customers. From a Settlement point of view, if Settlement moves to HH, the Supplier will need to accurately forecast and then check their Settlement liabilities from the HH volumes collected for their portfolio of customers. Previous discussions within the DECC's SMIP Programme's data access group has highlighted the need for accurate data to support Settlement processes (although not mandatory HH Settlement). <sup>9</sup> We note that work is ongoing on data privacy and that this may have an impact on this CBA.
3	The smart meter will be as defined in the draft meter technical specification (see definition in glossary).	See definition in glossary and link to SMIP meter design requirements document.
4	All smart meters will be installed by December 2019. Note there will be a number of existing meters that have not been replaced.	As defined in the SMIP March 2011 response.  Any meters that have not been replaced by a smart or advanced meter will still be settled as HH. The HHDC will estimate and submit HH data for these.  Rollout profile of smart meters will be as defined in DECC SMIP response, see section 3.
5	The DCC will provide meter readings only to Suppliers when the DCC service goes live.	Suppliers will need to pass on meter readings to their DCs. This will have implications for Suppliers and their systems.
6	Profile Classes 5-8 will already be settled HH.	It is assumed (for the purposes of the impact assessment) that Modification P272 will have been implemented. This will include the requirement that for PC5-8 99% of actual

<sup>9</sup> ELEXON notes that the Government's smart Programme is determining policy with regards to data access. For this reason we do not seek to impact assess the interaction with privacy for settling domestic customers HH. We will however share the results with the Programme to support any considerations with regards to the case for data access requirements for existing and future Settlement needs.





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No.	Assumption	Comments
		energy will be settled at R1.
7	Suppliers will contract directly with HHMOAs (as well as customers) for HH meters.	Currently in the HH market normal practice is for customers to contract directly with MOAs.
8	GSP Group Correction will be applied (with appropriate scaling weight) to HH meters.	The current SVG decision to apply the principle of GSP Group Correction to HH meters will be in place, see SVG 122/09. This is due to be implemented 01 April 2012.
9	New bulk CoMC process	<p>The current CoMC process is described in BSCP502 and BSCP514. A Bulk CoMC facility will be required and will be deemed to be simpler than the current process for the purposes of this impact assessment.</p> <p>Since registration of these customers will be centralised in 2016/7, Suppliers will define the granularity of data and read schedule for meters for the DCC (through an automated process). For the purposes of this CBA, it is assumed that the concept of Measurement Class will be retained in the DCC registration system.</p>
10	No over-recovery of SVA HH costs.	<p>Suppliers would continue to be charged a monthly SVA Specified Charge for each HH Metering System (in accordance with section 4 of Annex D-3 of the BSC); but the level of the charge would be reduced as the number of HH Metering Systems increased, so as to avoid any over-recovery.</p> <p>The BSC Panel have already agreed this be monitored (179/07) and any change to the number of HH metering systems would be highlighted.</p>
11	<p>New methodology for calculating NHH or HH DUoS charges</p> <p>Aggregated data would be provided to Distribution Business for DUoS billing (similar to existing NHH Supercustomer approach).</p>	<p>The current methodology for calculating DUoS will be changed to remove the barriers of higher HH charges.</p> <p>It is assumed that the new methodology will not provide a distinction in costs between HH and NHH settled meters on an annual basis. There may be difference in timebands for charging, e.g. 'Red', 'Amber' and 'Green' for HH and 'day/night split for NHH, but on average the annual charge would be the same.</p>



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No.	Assumption	Comments
		It is recognised that these issues are being raised separately with Distribution Businesses (e.g. though the DCMF, DCUSA Panel).
12	TNUoS charges will be changed to ensure cost reflectivity but the methodology would not change.	<p>The charges will need to be cost reflective, recognising the shift in volume from the NHH to HH market. The charges will need to ensure that each part of the market is paying the appropriate charge and not cross-subsiding the other.</p> <p>Methodology will be fair and equitable for small or large HH customers.</p> <p>The current methodology for calculating TNUoS would remain unchanged. However, the proposal impacts the cost reflectivity of TNUoS charges. TNUoS charges are calculated each financial year using forecast demand volumes. Therefore as the demand base over which TNUoS is spread changes (i.e. Users migrated from NHH to HH), it impacts TNUoS charges and would need to be catered for when TNUoS charges are set.</p>



## **Appendix 2. BSC Impact Assessment Detail**

The impacts on the BSC and ELEXON would depend on the defined solution. However, there is a likely impact to the BSC Audit, Technical Assurance of Metering, SVA Qualification and Profile Administration and profiling and the Supplier Volume Allocation Agent (SVAA).

### **A2.1 Performance and Risk**

The significance of Settlement Risks would change as volumes and types of non-compliance changed, possibly within year. A Within Period Revision to the Risk Evaluation Register and Risk Operating Plan and related party Risk Management Plans takes around 10 WD of ELEXON time depending on complexity.

Once NHH settlement has ceased all NHH risks would be removed. The usual review process would be followed but entailing more work than usual. After NHH arrangements have been abolished, there would be fewer risks in the Risk Evaluation Register, so costs to maintain could decrease.

### **A2.2 PARMS Serials and Standards**

There would be a need to measure the new standard in PARMS. This will require an update to the PARMS system. There would also be a need to ensure that Suppliers have been fully informed of the changes and the impact on Supplier Charges. SP04 (currently measures installation of HH meters at sites that have breached the 100kW threshold) would also be removed or changed so the associated Supplier Charge would be reconsidered.

In addition several Serials will become redundant (for example NC11, NM11, NM12 and SP04). We could remove these serials from PARMS or amend the system to not expect submissions.

For ELEXON and its agents to implement any modification with respect to PARMS and associated techniques of Peer Comparison and Supplier Charges costs are unlikely to exceed the costs for CP1334, which were ~£87k. However, a lot depends upon any further requirements and extension of PARMS serials and Supplier Charges, as covered above. Potentially, if we let the NHH PARMS Serials wither with the NHH market; do not expand the PARMS data items to Measurement Class; and make minor changes to standards for Peer Comparison reporting, then the costs should be fairly small, not exceeding £10k. There may be some change required to BSCP533 'PARMS Data Provision, Reporting and Publication of Peer Comparison Data' and its appendices.

### **A2.3 Technical Assurance (TA) Checks**

The 'Strawman' defined that no TA checks would be carried out for measurement class 'E' Customers. However, the Performance Assurance Board (PAB) and Supplier Volume Allocation Group (SVG) would need to consider whether the TAA should audit the Metering Systems given the change in volume. It may be that their decision is to only audit mandatory 100kW sites. Either way, this would require amendments to the BSCP27 and Section L.

Currently the Technical Assurance Metering (TAM) process looks at Measurement Class 'C' meters. The only change to the assurance process would be if Measurement Class 'E' meters became involved in this process.

### **A2.4 Qualification**

Due to these changes we would expect to see an increase in the number of Qualification applications.



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**NHHDC/NHHDA** - currently there are 7 organisation who offer a NHHDC and/or NHHDA service who do not have part of their organisation (it may be a different MPID) offering HHDC and/or HHDA.

**NHHMO** - there are 5 organisations who offer NHHMO services who do not have part of their organisation (it may be a different MPID) offering HHMO.

One of these is currently going through the Qualification process for HHMO, HHDC and HHDA – therefore we would expect that 6 existing participants would need to go through Qualification as HHDA and HHDC and 4 for HHMO.

The cost per HHDC application is £10,841.35, the cost per HHDA is £10,299.29 and the cost per HHMO application is £10,299.29. None of these costs include witness testing (a variable fee) which is estimated to be 2 days per application (at £700 per day).

Total cost could therefore end up as approx **£200,000**.

## ***A2.5 Re Qualification***

Due to these changes we would expect to see an increase in the number of re-Qualification applications.

Changes could affect the following roles:

**MA** – changes to cope with an increased portfolio, currently we have 12 MA's. Costs per Re-Qualification would be £3,875.79. Total cost of **£46,509.48** (though we not expect each to go through the process).

**HHDC/HHDA/HHMO** – General impacts such as system changes and increased portfolios could lead to an increased number.

Total cost for Re-Qualification applications are HHMO currently (14 organisations) and HHDA £6694.53 (currently 8 organisations) and HHDC £7046.88 (currently 8 organisations). Total cost of **£203,654** (though we not expect each to go through the process).

The number required will be difficult to predict as each organisation would undertake a self assessment and act according to risk (so the range could be extreme – all or none)

## ***A2.6 PrA and Profiling Processes***

The current annual spend for this contract is **£270,805**. With the closure of NHH settlement the PrA will no longer be required.

## ***A2.7 BSC Audit***

The scope of audited entities included in the BSC Scope will change in light of these changes. Due to the change in portfolios which could decline over time (dependent on the implementation date) we will either see the gradual removal of all NHH roles from the BSC Audit or a big bang removal of all NHH roles.

However we would also likely see an increase in the number of HH audited roles in the scope of the BSC Audit. Based on current costs we would eventually see £390,000 (approximately) removed from the BSC Audit costs from the NHH roles.

We would see more HH roles audited - under the assumption that this could double this is £142,500 (approximately).

This is a potential **net reduction** of **£247,500** from the BSC Audit costs.



Some changes could occur to the work which is done at some of the existing participants – more work at MAs (6 organisations, current cost £4,400 each per annum) and less work at UMSOs (7 organisations, current cost of £8,500 each per annum).

## ***A2.8 ELEXON Operational Activities***

The team will need to provide support during the roll out and move to HH Settlement:

- Help develop strategies and methodologies to support the new and legacy arrangements through a number of industry groups (SVG, PSRG, PEG and UMSUG).
- Design and maintenance of robust profiling samples as customers move to SMART metering and then to HH Settlement.
- Support internal customers on transitioning the arrangements e.g. Performance Assurance, MDD Change Management and Finance on any changes to cost recovery mechanisms.
- Monitor and analyse any changes to Settlement Parameters: GSPGCF, scaling weights, smoothing, threshold, SSTPGPL or issues relating to FiTs/ micro-gen.
- Support to Service Management on changes to BSC Agent Contractual requirements e.g. DGSM and Teleswitch Agent.
- Support and guidance to the PrA Data Analyst(s) will be required if new or interim defaulting processes are developed for HHDCs.
- Resolve outstanding issues with the closure of NHH UMS arrangements.

A substantial amount of the support described above will be business as usual and the rest is likely to be demand or project lead.



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## Hyperlinks:

These documents can be found at the following link:

<http://www.elexon.co.uk/Pages/EventDetails.aspx?EventID=1364>

- Profiling and Settlement Review Group Consultation and Impact Assessment PCs 1 to 4 (July 2011).
- Responses to Profiling and Settlement Review Impact Assessment by Respondent.
- Responses to Profiling and Settlement Review Impact Assessment by Question.