

What stage is this document in the process?

- 01 Initial Written Assessment
- 02 Definition Procedure
- 03 Assessment Procedure
- 04 Report Phase

Stage 03: Draft Solution to Identify Impacts

P272: Mandatory Half Hourly Settlement for Profile Classes 5-8

The BSC does not currently enforce the use of Half Hourly Settlement for Profile Classes 5-8. However, some Metering Equipment is already capturing Half Hourly data, and by 2014 the vast majority of Meters will be due to the roll out of 'advanced' Meters.

P272 proposes to make Half Hourly Settlement mandatory for Profile Classes 5-8, as the use of Non Half Hourly data is not as accurate and masks individual customer behaviour.

 **High Impact:**
Meter Operator Agents (MOAs), Half Hourly Data Collectors (HHDCs), Non Half-Hourly Data Collectors (NHHDCs), Suppliers

 **Medium Impact:**
Licensed Distribution Service Operators (LDSOs), meter operators

 **Low Impact:**
ELEXON



Any questions?

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About this document:

This document is the Draft Solution to Identify Impacts for P272. It summarises the P272 Proposed solution and any alternative solutions being developed by the P272 Workgroup. It highlights the changes - to the extent the Workgroup has been able to identify them - that will be required to participants' systems, BSC Central Systems, Code Subsidiary Documents and Configurable Items.

The purpose of this Impact Assessment is to allow the Group to gauge the potential impact and any costs implications of delivering the P272 solution. Based upon the findings of this Impact Assessment the Group may choose to alter the solution or to use the information to develop a cost benefit analysis. The Group will solicit industry opinion on their findings by issuing a consultation document in September 2011.

You should assess impacts and submit responses in accordance with the covering documents supplied with this Draft Solution.

P272
Draft Solution Identify
Impacts

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Version 1.0

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Why Change?

The Secretary of State (through powers granted under the Energy Act 2008) declared that the Standard Conditions of an Electricity Supply Licence were to be updated to mandate that from 6 April 2009 any new Metering equipment installed, for Profile Classes 5-8, must be an 'advanced' (i.e. Half Hourly capable) Meter.

Furthermore, from 6 April 2014, all Meters for such Profile Classes will have to be 'advanced' regardless of when installation took place (the Supplier Licence Condition states that Suppliers shall make all reasonable efforts to change the Meter by 2014).

Although these changes to the Supply License mandate the installation of Half Hourly (HH) capable metering for Profile classes 5-8; the Supply Licence does not mandate that such HH data is used in Settlement.

For those Meters installed since April 2009, the HH data which is being recorded is typically not yet used for Settlement, and instead profiled Non Half Hourly (NHH) data is being used (although, Suppliers can select to settle these customers on a HH basis should they wish to do so).

Profile Classes 5-8 are consumers of larger volumes and more variable load shapes than other consumers. P272 contends that to settle such sites on average profiled data, rather than on HH data, leads to inaccuracies in Settlement and masks individual customer behaviour.

Solution

P272 proposes to mandate that as of 6 April 2014 all Supplier Volume Allocation (SVA) Metering Systems for the current Profile Classes 5-8 shall be settled as HH Metering Equipment (where relevant metering has been installed).

It would be left to individual Suppliers to choose how they implement the new requirement prior to 6 April 2014. However, once this date has passed and a supplier has transferred a customer to HH Settlement they will be unable to transfer them back to NHH (unless they are no longer PC 5-8).

For those in Profile Class 5-8 who are unable to install an advanced meter, Profiles would remain however the regression equations for these Profiles would be 'frozen'.

Potential Impacts

We believe that P272 would impact the following Parties and Party Agents:

- Suppliers;
- Meter Operators;
- LSDOs;
- Data Aggregators; and
- Data Collectors.

Size of PC 5-8

Currently, Profile Classes 5-8 makes up 10% of the energy of NHH market and there are approximately 164,000 Meters.



Profile Classes

Each Profile Class (PC) represents a defined category of customers whose consumption can be "fitted" to a common profile. There are eight generic Profile Classes, each of which represents a population of similar customers. Profile Classes 5 to 8 relate to customers that have a maximum demand register on their meters.

2 Current Process

Introduction

Currently SVA metering can be either Settled Half Hourly (HH) or Non Half Hourly (NHH) depending on the circumstances. If the Metering system is defined as being 100kW or above it is Settled as HH. If it is below 100kW then it is usually Settled on a NHH basis, unless the Supplier has chosen to settle it on a HH basis.

For those sites where NHH meters are installed a load profile is created. This profile is then used to estimate what customers with a NHH meter would have consumed for any given Half Hour in a year. Even sites with a HH capable meter installed can be settled on a NHH basis using these load profiles.

To determine what profile to use, all NHH metering systems are placed into one of eight Profile Classes. Profile Classes 1 and 2 are for domestic premises and Classes 3 to 8 are for non-domestic premises. The profiles applied represent the average customer use within the chosen Profile Class.

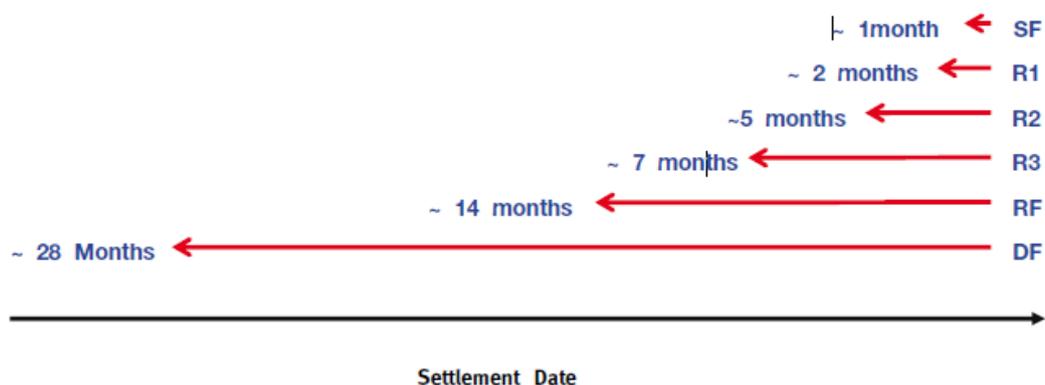
Profile Data into Settlement

Nearly all HH meters will have accurate data before the Initial Settlement Run (SF). However, the majority of NHH meters will not have been read before SF so the volumes are estimated based on their profile and entered into Settlement.

As time passes, the actual volumes will start to come in and replace the estimates. This results in a more accurate picture of Settlement at each Reconciliation Run. There are four Reconciliation Runs (R1, R2, R3 and RF) and these Runs provide a continually clearer picture of Settlement at spaced dates after the Settlement Date.

The target is for all Suppliers to have read the NHH meters accounting for 97 % of the energy by RF.

Please see diagram below for a picture of the timeline.



Measurement Classes

The Measurement Class of a Metering System relates to how it is settled i.e. HH, NHH or HH elective.

Measurement Class 'A':

Is the predetermined Measurement Class for NHH Settled customers. For Measurement Class 'A' Suppliers have set performance levels they must adhere to within the Settlement process. These performance levels are determined by the proportion of consumption through NHH Metering Systems that should be settled on actual Meter Advances at each of the Supplier Volume Allocation runs.

Reconciliation Run	Performance Level
SF	N/A
R1	30%
R2	60%
R3	80%
RF	97%

Measurement Class 'C':

HH Settled Meters (i.e. Metering System that is 100kW or above) are classified as Measurement Class 'C'.

Measurement Class C Metering Systems must submit 99% Meter reading data by the initial settlement (and all subsequent Reconciliations). Any data which is not actual is then made up with estimates from the data collectors.

Measurement Class 'E':

Measurement Class 'E' is a Measurement Class for customers that would fall under the 100kW limit, and therefore would be Settled NHH under Measurement Class A, but elect to be Settled HH.

The difference in Settlement terms between Measurement 'A' And 'E' is that those who are HH elective in Measurement Class 'E' must get 99% of data by RF. Furthermore, as they are under 100kW there are no TAA checks on this site (see below).

Technical Assurance Agent (TAA) monitoring?

The TAA carries out assurance monitoring only on HH Metering. This is conducted by sampling a selection of HH Meters, to ensure they are compliant with the Code of Practices. Currently, they monitor only those Metering Systems that are over 100kW. So it does not include any customers that suppliers have placed in Measurement Class 'E' that are under 100kW.

3 Solution Requirements

P272 proposes to mandate that all SVA Metering Systems for the current Profile Classes 5-8 shall be settled as Half Hourly Metering Equipment.

P272 would be implemented with effect from 6 April 2014 in order to tie in with the Supply License requirement.

The following section details the requirements of the P272 proposed solution. It also contains, where necessary, questions the Workgroup would like you to answer as part of your assessment. **Please provide your views to these questions by using the response form in Attachment A.**

Requirement 1 – All customers in Profile Classes 5-8 Settled HH by 06 April 2014

With effect from 6 April 2014, the BSC would prohibit the use of NHH Settlement for customers in Profile Class 5-8 with HH capable metering installed. This means Profile Classes 5-8 would fall into disuse.

Rationale:

The Workgroup believes that using the HH meter data available from the Advanced 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 date of 6 April 2014 aligns with the date mandated for completing the rollout of Advanced metering for customers in Profile Classes 5-8.

Question 1

What are the impacts on your organisation of implementing P272 by 06 April 2014?

Requirement 2 – Transition to HH: Supplier choice

It would be left to individual Suppliers to choose how they phase in the new requirement for 6 April 2014. For example, some Suppliers might choose to switch customers to HH Settlement as soon as they install Advanced metering; others might choose to perform a bulk Change of Measurement Class on or just before 6 April 2014.

Rationale:

This gives Suppliers the flexibility to choose how to manage their portfolio and the switch to HH Settlement. All new sites are now required to install Advanced meters since 6 April 2009. By giving suppliers the option of managing their own transition it reduces the risk that all Suppliers choose to do a bulk change of Measurement Class and agent on the final days leading up to 06 April 2014.

Question 2

What are the impacts on your organisation if Suppliers choose to transfer to HH early?

Question 3

What are the impacts on your organisation if there was a bulk change?

Requirement 3 – Current HH Elective Transition

Those customers within PC 5-8 who currently fall under the 100kW limit, but elect to be Settled HH, will not be able to switch back to being settled as NHH (unless they leave Profile Classes 5-8) after 6 April 2014.

For avoidance of doubt, until 6 April 2014 any HH elective customers would still have the option of reverting to being settled as NHH.

Rationale:

A customer may wish to revert back due to the current pricing differential between HH and NHH. Furthermore, to enforce those suppliers to keep their customers on HH Settlement would mean bringing the implementation date of the modification forward from the 6 April 2014 to ensure this switching did not occur. Furthermore, the Workgroup believes that Suppliers should have the option of managing their customer's transition in whichever way they seem appropriate.

Question 4

What is the impact of allowing elective HH customers to switch back to NHH prior to the implementation date?

Requirement 4 – 99% actual HH data at R1 (SP08c)

Suppliers would be required to achieve 99% of energy settled on actual data by the First Reconciliation (R1) for Measurement Class 'E', instead of currently being 99% at Final Reconciliation (RF). The existing Performance Serial SP08c would be amended accordingly.

Rationale:

While 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 >99% of actual data at SF. Setting this measure at R1 also allows more time for the resolution of Meter data issues.

Question 5

What is the impact on your organisation of having to achieve 99% of energy settled on actual data by R1?

Question 6

Does the benefit of the extra time to resolve Meter data issues outweigh the inconvenience of a more onerous requirement?

Requirement 5 – DTC flows: Increased resolution for HH meter data to 0.001kWh from 0.1kWh

The following data flows/items would be amended to increase the format for HH meter readings from 1 to 3 decimal places:

Data Item	Data Flow
J0177 (Period Meter Consumption)	D0036 (Validated Half Hourly Advances for Inclusion in Aggregated Supplier Matrix) and D0275 (Validated Half Hourly Advances)
J0021 (Meter Period Value)	D0003 (Half Hourly Advances)
J0281 (Total kWh (and kVArh) of Estimated Periods)	D0022 (Estimated Half Hourly Data Report)

Rationale:

The relevant DTC flows that contain HH meter data (D0003, 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. For clarification the Workgroup has decided against including D0010 (Meter Readings) as this flow is used in both HH and NHH markets (so changing it impacts both). And the data it holds is an advance, not a HH value, so it is not so susceptible to rounding.

Question 7

What would be the impact of amending these data items/flows to your organisation?

4 Solution Requirements - Customers without Advanced Metering or Settled on NHH basis

Requirement 6 – Profiles 5-8 'frozen'

The Profile Administrator would discontinue load research for Profile Classes 5 to 8. The regression equations for BSC Year 2014/15 would therefore be 'frozen' and apply to all subsequent years. These 'frozen' profiles would be used for those customer who do not have an Advanced Meter installed or for those with Advanced Meters who are settled on a NHH basis, for example NHH UMS and Micro-generation profiling. It would also be used for estimation of missing data by Half-hourly Data Collectors.

Although the regression profiles would be frozen, the Default Period Profile Coefficients would still need to be determined each year as they are based on the calendar for each year. ELEXON will develop a process (likely as part of annual refresh) for this to occur.

Rationale:

With almost all PC 5-8 customers being settled HH, there is no need for load research for these profiles in future, which will reduce costs. However, we will still require the frozen profiles, for those few remaining customers who are unable to have an Advanced Meter installed.

Question 8

Do you agree in our approach of creating 'frozen' profiles for the remaining customers who are unable to have an advanced meter or are settled as NHH?

Requirement 7 –Expanding PARMS Serial SP04

Profile Class 5-8 customers who have an Advanced Meter, but are settled on a NHH basis, will be included within the scope of PARMS Serial SP04.

Currently Serial SP04 – 'Installation of HH Metering' – relates to the obligation to install Half Hourly (HH) Metering at a site which has qualified for mandatory HH Metering.

Currently the standards include –

- Number of Days for which a HH Meter should have been installed;
- Number of Days for which HH Meter was not installed, when it should have been;
- Percentage of Days for which a HH Meter was not installed, when it should have been.

Rationale:

The Workgroup concluded that expanding this Serial was more efficient than creating a new one. Furthermore, these are customers who should be settled HH but for are not (just like the customers in the existing SP04 serial); and the non-compliance has an impact on other Suppliers which the Supplier Charge compensates for.

Requirement 8 –New PARMS Serial

This is for Profile Class 5-8 customers who do not have an Advanced Meter. For clarification this Serial is for monitoring, and it does not have an associated Supplier Charge.

Rationale:

This will enable the Performance Assurance Board (PAB) to understand the number (and hence the impact on settlement) of residual NHH-metered customers.



5 Potential Alternative Solutions

During their discussions on P272, the Workgroup considered three potential alternative solutions. These are detailed below. Each still mandates that all SVA Metering Systems for Profile Classes 5-8 be Settled as Half Hourly. However, one looks at amending the implementation date, whilst two look at increasing the types of metering systems for which HH settlement would be mandated.

The Workgroup have requested that the industry feed any comments on these potential alternatives as part of this assessment.

Alternative Solution 1 – Transitional Implementation

Rather than the requirements of P272 going live on 06 April 2014, this alternative proposes to have an implementation date of 06 October 2014. This would provide a transitional period in which Suppliers would have 6 months to transfer from Non Half Hourly to Half Hourly Metering.

A Workgroup member thought this would enable suppliers to have enough time to get every Advanced Meter installed in line with the Licence Agreement which then allows them time to collect and analyse data for their profiles. However, the rest of the Workgroup couldn't see the value in delaying the implementation date post 6 April 2014

Question 9

What is the impact, cost and benefit on your organisation of an implementation approach of 06 April 2014?

Question 10

What is the impact, cost and benefit on your organisation of an implementation approach of 06 October 2014?

Question 11

Do you believe that another period of transition would be more appropriate?

Alternative Solution 2 – Inclusion of Profile Classes 3-4

The P272 solution would be expanded to include mandating Half Hourly metering for SVA meters in Profile Classes 3-4.

However, the Workgroup unanimously agrees that it would be prudent to await the CBA work that the PSRG are currently conducting on Profile Classes 3-4. Furthermore, the Workgroup considered a staggered approach where Profile Classes 5-8 were transferred to HH, then Profile Classes 3-4 and finally Profile Classes 1-2 as more efficient for the industry as a whole, when taking into consideration industries work towards ensuring that they meet the Governments aim of ensuring every Home in the UK has a Smart Meter by 2020.

Question 12

Would the inclusion of Profile Classes 3-4 have a significant impact on the cost or benefit of P272? Please give examples for your response.

Alternative Solution

A Modification may have 1 Alternative Solution which will be agreed by the Workgroup. An Alternative Solution must meet two requirements. Firstly it must be better than current arrangements; secondly it must be better than the Proposed solution.

Alternative Solution 3 – Inclusion of Micro-generation

The P272 solution would be expanded to include Micro-generation. This would capture those customers in Profile Classes 5-8 whose Import/Export MPAN is settled Half Hourly.

The Export MPAN (if any) would also have to be Settled HH (as the DUoS charging methodology does not allow for NHH Export and HH Import).

The Workgroup proposes that where the Import MPAN remains NHH (e.g. customers in PC1-4 and those in PC5-8 without an advanced meter) the Export MPAN (if any) can be settled NHH provided that the generation capacity is below the Small Scale Third Party Generating Plant Limit (currently 30 kW).

For clarification, the Workgroup believes that Micro-generation should not be included in this modification and that it should be dealt with by the roll out of Smart Meters by 2020.

Question 13

What is the impact of including Micro-generation in the scope of the P272 solution?

6 No Change to Current Arrangements

As part of their discussions the group discussed a number of areas and whether or not it was appropriate to amend them to implement P272. The group concluded that **no change was required to the following arrangements**. However, we have included them below to ensure that maintaining these arrangements will not have any unforeseen impacts.

Supplier Choice between Measurement Classes 'C' and 'E' for below-100kW Customers'

The Workgroup considered a new BSC requirement to register below 100kW Half Hourly capable Metering Systems in Measurement Class 'E', leaving Measurement Class 'C' for 100kW customers only. This would have been change from current practice, in which Suppliers are free to choose either Measurement Classes 'C' or 'E' for sub-100kW Half Hourly customers.

The Workgroup considered this approach as within the PSRG there was the belief that by mandating that Suppliers register their Metering Systems under 'E', it would mean that costs and benefits could be directly identified. And that it would also allow for future changes such as to Settlement to apply GSP Group Correction Factor to these metering systems and for HH DUoS charges to be appropriately targeted. Furthermore it was thought that it may also provide extra information to identify and understand the implications for a wider HH market (e.g. PCs 1-4).

However, the Workgroup concluded that such a requirement would not be necessary as there would be no need to use Measurement Class to distinguish between former PC 5-8. Furthermore, it wouldn't be mandatory for suppliers to make it Measurement Class E. Suppliers would have the choice as to whether they use C or E and suppliers would register within their systems of Profile Class Zero to ensure they were HH.

Change of Measurement Class process

The current Change of Measurement Class (CoMC) process is described in BSCP502 and BSCP514. There will be no change to these requirements. This process currently assumes there is a physical change of meter, even though this may not be the case under the straw man scenario. However, no changes to this approach are proposed and no new bulk CoMC process is suggested.

The Workgroup believes that the current BSC requirements are sufficient and that any change would have significant implications and costs.

No Technical Assurance of HH Meters in Measurement Class 'E': no change

Metering Systems in Measurement Class 'E' 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 not applied to Measurement Class 'E'.

No technical Assurance is deemed to be needed as the level of energy is expected to remain the same, however, the Workgroup agrees that should this change it may be necessary to re-examine this at some point in the future.

Measurement Class E Site visits: no change

Metering Systems in Measurement Class 'E' would still require a site visit every two years (to check the state of the Metering Equipment).

There is a requirement under the BSC and within the Licence agreement dealing with HH and NHH meters which enforce a biennial check. The Workgroup could find no justification to amend this.

CoP5 and CoP10: no change

No changes would be made to the metering standards for Advanced metering (as specified in CoP5 and CoP10).

The Workgroup believes that the current Meter standards are sufficient for the HH proposal. There are existing CoP5 and CoP10 approved meters and changes introduced would have costs and time implications.

HH MOs, HH DCs, HHDA: no change to requirements

Requirements on Half-hourly Data Collectors and Half-hourly Meter Operator Agents would remain unchanged, and would apply to Measurement Class 'E' as well as Measurement Class 'C'. For example, Meter Operator Agents would be required to investigate Metering System faults within 5 Working Days, in accordance with the existing requirements in section 3.4.3 of BSCP502. For clarification, BSCP 601 will be required for the enlarged HH portfolio and will apply to these HH meters as currently.

The Workgroup concludes that the current BSC requirements for HH agent processes are sufficient and that any change would have significant implications and costs.

SVA specified charge: no over-recovery

Suppliers would continue to be charged a monthly SVA Specified Charge for each Half-hourly 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 Half-hourly Metering Systems increased to avoid any over-recovery.

The current principle is that HH SVA costs are recovered on a per Meter basis. A review of this is being undertaken separately to the CBA scenario. The Workgroup concludes that this is currently not a concern specifically for this Modification but commented that ELEXON should think carefully on how to do this in an appropriate way.

DUoS and TNUoS charges: no change

The current methodologies for calculating Distribution Use of System (DUoS) and Transmission Network Use of System (TNUoS) would remain unchanged (which means that charges for Measurement Classes 'C' and 'E' would be calculated on the same basis).

The Workgroup were mostly of the opinion that this is out of the remit of this Modification and would need to be raised via the appropriate DCUoSA and CUSC governance processes. It's worth noting however, that we're expecting the MIG to bring forward changes to DUoS charging to ensure equitable treatment between NHH and Measurement Class 'E'.



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Impacts

Impact on BSC Agent/service provider contractual arrangements

- Potential Impacts on the Technical Assurance Agent & BSC Auditor.

Impact on BSC Parties and Party Agents

- Meter Operator Agents (MOAs) – Will need to adapt their Meter configurations.
- Half Hourly data collectors (HHDCs) – Will collect the data instead of the Non Half-Hourly data collectors (NHHDCs).
- Non Half-Hourly data collectors (NHHDCs) – will be indirectly affected as they will no longer collect the data.
- Suppliers – will be affected as they will need to appoint new agents, also, they will need to update billing systems and may need to engage in large scale Change of Measurement Class activities.

Impact on Transmission Company

None

Impact on ELEXON

Potential impacts: Settlement Risk(s) which might change the application of some PAF techniques including SVA Qualification.

Impact on Code

Code section	Potential impact
<ul style="list-style-type: none"> • The primary impact will be on Section L (as this Section of the BSC contains the rules for which consumers are settled HH or NHH). 	<ul style="list-style-type: none"> • Annex X-1 and Annex X-2 (for amended definitions) • Annex D-3 (because of the possible impact on Specified BSC Charges) • Annex S-1 (because of the possible impact on Supplier Performance Serials)

8 Further Information

More information is available in:

Attachment A: Impact Assessment Response form

All P272 documentation is available on the P272 page of the ELEXON website.