P366 'Change to Supplier Charge SP08a calculations to account for small scale non-domestic Non Half Hourly hard-to-read Meters'

P366 will amend how Supplier Charge SP08a is applied to Non Half Hourly non-domestic Meters that are hard-to-read (HTR). It is believed that applying Supplier Charge SP08a to HTR Metering Systems is anti-competitive and limits consumer choice.

This Assessment Procedure Consultation for P366 closes:

5pm on **Monday 15 April 2019**

The Workgroup may not be able to consider late responses.

The P366 Workgroup initially recommends **rejection** of the P366 Proposed Solution.

The P366 Workgroup initially recommends **rejection** of the P366 Alternative Solution.

This Modification is expected to impact:

- Suppliers
- Non Half Hourly Data Aggregators
- BSCCo

ELEXON

Phase

- Initial Written Assessment
- Definition Procedure
- Assessment Procedure
- Report Phase
- Implementation

Contents

About This Document

The purpose of this P366 Assessment Procedure Consultation is to invite BSC Parties and other interested parties to provide their views on the merits of P366. The P366 Workgroup will then discuss the consultation responses, before making a recommendation to the BSC Panel at its meeting on 9 May 19 whether or not to approve P366.

There are five parts to this document:

- This is the main document. It provides details of the solution, impacts, costs, benefits/drawbacks and proposed implementation approach. It also summarises the Workgroup's key views on the areas set by the Panel in its Terms of Reference, and contains details of the Workgroup's Membership and full Terms of Reference.
- Attachment A contains the draft redlined changes to the BSC for P366 Proposed Modification.
- Attachment B contains the draft redlined changes to the BSC for P366 Alternate Modification.
- Attachment C contains the draft business requirements to deliver the P366 Proposed and Alternate Modifications
- Attachment D contains the specific questions on which the Workgroup seeks your views. Please use this form to provide your response to these questions, and to record any further views or comments you wish the Workgroup to consider.

Contact

Chris Wood

020 7380 4142

chris.wood@elexon.co.uk

1 Summary

Why Change?

SP08a 'Percentage of Non-Half Hourly (NHH) Energy Settled on Annual Advances' Supplier Charge is applied where it is practically impossible to obtain a Meter read (and therefore makes it impossible to achieve the required targets of read by energy volume). The Proposer believes that small Suppliers are most susceptible to hard-to-read (HTR) related SP08a Supplier Charge. This is because, in contrast to large Suppliers, small Suppliers aren't able to absorb HTR sites into their Settlement performance, which is calculated based on the percentage of Suppliers' total Settlement volume. This means that they must either add the SP08a cost into their tariffs or absorb the cost themselves. A Supplier will need to decide whether to pass on the cost, absorb them or withdraw from the market. The result is a reduction in competition at a time where the Government and Ofgem are keen to promote competition[1] and the HTR Metering Systems will still remain unread regardless.

Proposed Solution

The P366 Proposed solution would allow Suppliers to identify and declare Metering Systems they believe to be HTR at their discretion. However, Suppliers would not be mandated to do so.

The HTR data would be excluded from the Performance Assurance Reporting and Monitoring System (PARMS) calculation of Supplier Charges for PARMS Serial SP08a, so that the Supplier Charges would only be based on non-HTR Metering Systems data.

The calculation of PARMS Serial SP08a would not be impacted. Balancing and Settlement Code (BSC) Settlement calculations (and therefore Imbalance charges) will not be impacted, nor will performance monitoring of the Settlement standards i.e. 97% volumes of energy settled on Actuals.

Alternative Solution

The Alternative solution requires that the SP08a Supplier Charge for PARMS Serial SP08a for R3 and RF are set to £0.00 for all Suppliers, and does not require the declaration of HTR Metering Systems.

Impacts & Costs

The P366 Proposed solution is expected to impact Suppliers, Non Half-Hourly Data Aggregators (NHHDAs), the Settlement Volume Allocation Agent (SVAA) and PARMS. The expected implementation cost is approximately £331k for BSC System changes. We anticipate there would be costs for NHHDAs and other market participants and we are seeking feedback on these costs as part of this consultation.

The Alternative solution will have negligible impacts or costs on ELEXON systems. The Alternative solution will impact Supplier, by removing the SP08a Supplier Charge (for all Metering Systems). The impact on Supplier Charges is discussed further in section 3.

[1] https://www.ofgem.gov.uk/publications-and-updates/cma-remedies-implementation-plan

Implementation

P366 Proposed solution is proposed for implementation on 26 June 2020 as part of the June 2020 scheduled BSC Release. The Alternative solution is proposed for implementation on 7 November 2019 as part of the November 2019 BSC Release.

Recommendation

The Workgroup's initial view is that both the Proposed and Alternative solutions will have **detrimental** impacts on Applicable BSC Objective (d) and both should be **rejected**. The Proposer believes that both the Proposed Modification and the Alternative Modification will better facilitate Applicable BSC Objectives (c) and (d) compared to the current baseline. Overall, the Proposer believes that the Proposed solution is better than the Alternative solution, whereas, the Workgroup unanimously believe the Alternative is better than the Proposed Modification.

Assessment Consultation Question
Do you agree with the Workgroup's initial majority view that the P366 Proposed Solution does **not** better facilitate the Applicable BSC Objectives than the current baseline and so should be **rejected**? *Please provide your rationale with reference to the Applicable BSC Objectives.*
The Workgroup invites you to give your views using the response form in Attachment D

Assessment Consultation Question
Do you agree with the Workgroup's initial majority view that the P366 Alternate Solution does **not** better facilitate the Applicable BSC Objectives than the current baseline and so should be **rejected**? *Please provide your rationale with reference to the Applicable BSC Objectives.*
The Workgroup invites you to give your views using the response form in Attachment D

Assessment Consultation Question
Do you agree with the Workgroup's initial majority view that the P366 **Alternative** Modification **better facilitates** the Applicable BSC Objectives than the P366 Proposed Modification? *Please provide your rationale with reference to the Applicable BSC Objectives.*
The Workgroup invites you to give your views using the response form in Attachment D

2 Why Change?

Background

The Balancing and Settlement Code (BSC) Section S, Annex S-1 'Performance Levels and Supplier Charges' paragraph 2.2.1 requires that, in relation to each Grid Supply Point (GSP) Group, the percentage of total energy attributable to a Supplier in respect of NHH Metering Systems settled on the basis of Annualised Advances (actuals) for each Settlement Day shall be no less than 80% for the Third Reconciliation (R3) Volume Allocation Run (VAR) and 97% for the Final Reconciliation (RF) VAR.

Monitoring of performance

ELEXON monitors compliance with BSC Section S using data provided by the SVAA. As part of the Performance Assurance Framework (PAF) we use Performance Assurance Techniques (PATs) to mitigate Settlement Risks. We use PARMS data primarily to support the Performance Monitoring, Peer Comparison and Supplier Charge techniques, and to report to the Performance Assurance Board (PAB). Data from PARMS supports the BSC Audit and we periodically provide information to the BSC Panel and other Panel Committees or Modification groups as required.

Supplier Charges are liquidated damages that Suppliers incur if they fail to meet certain performance levels. Supplier Charges were designed to be a genuine pre-estimate of loss. They compensate Parties disadvantaged by those who aren't meeting defined Standards. We consider Supplier Charges to be a remedial technique within the PAF. However, amongst other things, Supplier Charges can be seen as an incentive to obtain Meter reads. Obtaining Meter reads within the required time frame maintains the integrity of Settlement and ensures billing is accurate.

ELEXON and the PAB also monitor performance against Business Unit Settlement Risk Ratings[2] (BUSRRs) to determine, in particular, whether Error and Failure Resolution[3] (EFR) should be applied. EFR requires Parties to put in place a plan to rectify any underperformance. Escalation to the PAB and subsequently the Panel can occur if the Supplier doesn't co-operate, put in place robust plans or make sufficient progress with its EFR plan. Whilst this isn't the P366 issue, many Suppliers highlight to ELEXON and the PAB that customers with HTR Metering System are a source of issues that impact Settlement performance.

Calculation of Supplier Charges for SP08a

PARMS calculates Supplier Charges for Certain PARMS Serials each calendar month. The total charges across all PARMS Serials are capped for each Supplier in each GSP Group to limit each Party's liability in any one reporting period. A GSP Group's monthly liability cap is calculated based on its annual take for the previous financial year. A Supplier's monthly liability cap is calculated based on its total active Import energy in the reporting period.

Each month, the PAB authorises Supplier Charges to be distributed among Trading Parties:

[2] Use of reporting to monitor how the operations of relevant Business Units (Market Participant IDs – MPIDs) contribute to the level of risk for each of the top Settlement Risks

[3] A remedial PAT used to assure ELEXON, the PAB and the rest of the industry that Parties understand performance issues and have robust plans in place to correct them in a timely manner.

- 90% of funds from a GSP Group are re-distributed to the NHH Suppliers operating in the GSP Group, based on their share of NHH energy traded in the GSP Group; and
- 10% are re-distributed to all Trading Parties based on their Main Funding Share (equivalent to market share – HH & NHH).

Applicable PARMS Serial

Compliance with the R3 and RF VAR standards in BSC Annex S-1 paragraph 2.2.1 is monitored by PARMS Serial SP08a. Where a Supplier has failed to reach its R3 and RF target in respect of NHH Metering Systems it will incur a charge.

In calculating the Supplier Charges associated with PARMS Serial SP08a, it is the difference between the VAR target (80% or 97% as applicable) and what is actually achieved that is taken into consideration. For example, if a Supplier supplies 1000 MWh of electricity, they must obtain the actual Meter readings associated with 970 MWh of Supply. If they only achieve 950 MWh, then the SP08a Supplier Charge will apply to the 20 MWh below the required target.

SP08a Supplier Charges are applied at two stages: they are applied at R3 VAR at a cost of £0.22/MWh; and at the RF VAR at a rate of £2.37/MWh for the 2018/19 year.

What is the issue?

The Proposer's belief is that SP08a Supplier Charges incurred as a result of HTR Metering Systems are particularly challenging for small and new entry Suppliers and cause pricing disadvantages. Suppliers with larger, more established 'traditional' customer portfolios may have similar numbers, or more, of HTR Metering Systems as small Suppliers. However, due to the vast number of Metering Systems in the large Supplier's portfolio, the HTR Metering Systems will account for less than 3% of energy Supplied per GSP Group. As the NHH R3 and RF performance targets cannot be achieved without a large NHH customer base (where Suppliers have large numbers of non-HTR sites), this translates into significant competitive and pricing disadvantages for smaller Suppliers.

Due to the combination of practical limitations, disproportionate costs and low consumption, customers will likely refuse site access (or may not know how or where to access the site or Meter). Installation of Advanced Meters or smart Meters has also proved to be difficult for these same reasons and can be further exacerbated where no mobile telephone signal exists and the cost of installing a landline or using alternative means of communication is prohibitively expensive.

The Proposer also notes that most HTR Metering Systems have not been read for 'a prolonged period of time' across multiple Suppliers. Therefore, it is evident that despite best efforts being taken, it is often impossible for a Supplier to obtain Meter reads.

The Proposer believes that the SP08a Supplier Charge incentive for HTR NHH non-domestic Metering Systems is not functioning effectively as there is nothing Suppliers can do differently to improve Settlement performance on these sites due to practical limitations. Similarly, when Supplier Charges were first proposed and implemented, the market place was very different and it may be that SP08a Supplier Charges are not suitable for the existing market place.

It should be noted that over 90% of uncapped Supplier Charges are made of SP01 Supplier Charges. SP08a Supplier Charges however, only account for just over 5% of uncapped charges. It is not possible to translate these proportions directly to capped Supplier Charges due to how they are calculate but, if we assume a roughly linear translation, then prima face, HTR SP08a Supplier charges would only account for a very small amount of all of a Supplier's Supplier Charges. However, if we assume that a Supplier is able to meet all of their other obligations (which the Proposer acknowledges should be the business-as-usual state) then all of a Supplier's Supplier Charges will be made up of SP08a HTR Supplier Charges.

Assessment Consultation Question
Do you agree with the Proposer that the current SP08a charges applied to HTR sites cause competition concerns? *Please provide your rationale for your answer*
The Workgroup invites you to give your views using the response form in Attachment D

3 Solution

Proposed solution

The P366 Proposed solution is in two parts. First of all the Supplier will need to identify and notify which Metering Systems it believes to be HTR. The second part is the process by which HTR data is excluded from SP08a Supplier Charges.

In line with the Proposer's identified issue, the Proposed solution will only apply to non-domestic NHH Metering Systems (equivalent to those Metering Systems in Profile Classes 3 – 8). That is, a failure to read domestic NHH Metering Systems will still result in SP08a Supplier Charges.

Identifying HTR Metering Systems

A Supplier will be responsible for identifying which of their Metering Systems they believe to be HTR, where they are satisfied that HTR criteria have been met and evidenced. There will be no obligation on Suppliers to declare Metering Systems as HTR. This means that declaring a Metering System as HTR may, more often than not, be a commercial decision.

HTR Criteria

ELEXON will publish HTR criteria as a Guidance document. For a Metering System to qualify as HTR all of the criteria have to be met i.e. if one criterion is not met, then the Metering System should not be declared as HTR. Declaration of a HTR site will not remove any of the Supplier's other duties or responsibilities for that Metering System.

Unoccupied Site – For the site to be considered as unoccupied, the following shall be true:

- The Customer (or their duly appointed representative) is not normally present at the site where the Metering System is located;
- The site is not visited as regular business activities;
- The Customer has affirmed that they will not facilitate temporary occupation of the Site where the Metering System is located to facilitate a Meter read; and
- It is not possible to achieve a Meter read from the Metering System unless the Site is occupied either permanently or on a temporary basis.

Remote location - A remote location is one where any potential visitors to the site would have to make a specific effort or arrangement, outside their normal business activities, to travel to that site.

Lack of communication - For lack of communication to be used in determining if a Metering System is HTR, the following shall be true:

- The location of the Metering System being outside of mobile telecommunication coverage areas for all types of mobile telecommunications;

How are NHH Metering System volumes calculated?

The BSC requires that a Supplier settles 97% of its NHH energy for each GSP Group on Actuals.

When an Actual Meter read is taken, an Annualised Advance (AA) is used to calculate the consumption. In simple terms, the AA is an estimate based on the change between two successive Meter reads which is then extrapolated to estimate consumption over the year for each Half Hour.

If it is not possible to use AA then an Estimated Annual Consumption (EAC) is used. An EAC is based on estimated consumption using the Meter's Profile Class and previous read history.

If there have been no recorded Actual Meter reads, then a default EAC is used based primarily on Profile Class.
As a result of how EACs are calculated, it is generally accepted that their accuracy will diminish with time.

All HTR Metering Systems will use EACs. This is on the basis that if it is possible to achieve a Meter read to generate an AA, then the Metering System is not, by implication, HTR.

- The owner of the Site at which the Metering System is located has made a positive affirmation that access will not be granted to allow installation of communications equipment; and
- The Customer (if different form the Site owner) has made a positive affirmation that they will not facilitate the establishment of communications with the Metering System.

N.B. – HTR criteria can **only** be applied to Non-Domestic Non Half Hourly Metering Systems.

Suppliers will be required to maintain evidence of the process they have followed to determine a Metering System is HTR. This evidence can be called upon at any time by any relevant authority[4] tasked with ensuring that either the HTR determination process has been followed or that the HTR Metering System is, indeed, HTR.

Assessment Consultation Question
Do you agree with the proposed criteria for determining if a Metering System is HTR? *Please provide your rationale for your answer*
Should any criteria be added or removed? *Please provide your rationale for your answer*
The Workgroup invites you to give your views using the response form in Attachment D

Declaration of HTR Metering Systems

Once a Supplier has determined that a Metering System would qualify as HTR, and they wish to declare it as HTR, they will be required to inform their NHHDA and ELEXON using a non-Data Transfer Catalogue (DTC) data flow (manually generated). Once a Metering System is declared as HTR it shall remain HTR until either:

- The Supplier changes – each Supplier shall make their own determinations as to whether a Metering System is HTR;
- The Supplier determines that the Metering System no longer meets the HTR criteria or they no longer want it to be considered as HTR ; or
- The determination of HTR status was found to be incorrect e.g. as a result of a BSC Audit.

HTR status shall not change for any other reason including, but not limited to, a Change of Agent (CoA) event occurring. However, the Supplier shall notify the new NHHDA and ELEXON of each HTR Metering System in its portfolio applicable to that NHHDA.

The 'effective from date' will be the date on which the Supplier determines that a Metering System is HTR (as opposed to the date since which the Metering System has been HTR), but this may not be retrospective. The 'effective to date' is the last date on which the Metering System shall be treated as HTR. There will be no break in the 'effective period' for any reason.

What are D-Flows and P-Flows?

A data flow (D-Flow) is a structured message sent over the Data Transfer Network (DTN) (used by industry participants to share data). Each data flow has a set structure and can be used to transfer specific pieces of information. Within each dataflow there will be a list of data that can be included and how it should be represented.

For more information, see the Data Transfer Catalogue website.

P-flows are a collective name for non-DTN messages for sharing data , e.g. e-mails sent from a Supplier to NHHDA, but where the message follows a set format

[4] This may include, but not be limited to, BSCCo or any of their representatives in execution of their duties

If a Supplier becomes aware that a HTR Metering System no longer meets the HTR criteria, it shall notify its NHHDA and ELEXON by including an Effective to Date in a P-flow to be the non-DTC data flow as was used to declare HTR status created for that purpose.

On a Change of Supplier, the old Supplier will not be required to inform the new Supplier that they declared a Metering System as HTR but, may do so if they wish by whatever means they feel appropriate, e.g. email. However, the new Supplier would be required to declare the Metering System as HTR if they wanted HTR status for the Metering System. It will not be transferred automatically.

Performance Assurance in relation to HTR Metering Systems

ELEXON will develop and maintain (populate and delete as required) a register of all HTR Metering Systems. This register will be used as part of a risk based approach in determining whether Performance Assurance Techniques need to be employed in regards to a Supplier's HTR declarations. The register should include the following:

- Metering System Identifier (MSID);
- Supplier;
- NHHDA;
- HTR Effective From Date;
- HTR Effective To Date;
- Supporting information ; and
- Reason for removal of HTR status.

ELEXON may, at its own discretion, or under instruction from the Performance Assurance Board (PAB) use appropriate PATs to verify HTR declarations or to establish whether the Metering System still meets the HTR Criteria, unless it has already been rescinded by the Supplier. If the result of such PAT is that HTR status is not appropriate, HTR status may be rescinded by ELEXON.

Removing HTR data from SP08a Supplier Charges

Given that Meter read data is the principal foundation on which Settlement is based; this solution will not require Meter read data to be changed in anyway other than excluding the HTR volumes from the SP08a Supplier Charges calculation.

NHHDAs' handling of HTR data

NHHDAs will handle all Meter read data in the same way as they do now. This will allow all of the data to be corrected as it is now and aggregated in the same way so that it can still be used for Settlement purposes as it is now. The only difference is that they will 'flag' the HTR data. The NHHDA shall calculate and store:

- The Total HTR Estimated Annual Consumption (EAC) defined as the total EAC value (including Default EAC values where applicable) that was included in the Total Metered EAC for HTR Metering Systems each Settlement Day; and

- The Total HTR EAC MSID Count, defined as the number of Metering Systems included in the Total Metered EAC for HTR Metering Systems each Settlement Day.

This is in addition to existing EAC calculations, which should continue as currently done.

NHHDAs will still communicate with the SVAA using the data flow D0041 'Supplier Purchase Matrix Data File'. The only difference is that there will be two new data items in the D0041 created specifically for communicating HTR data. These will be:

- Total HTR EAC; and
- Total HTR EAC MSID count.

These will be developed during the Implementation Phase and will necessitate a change to the Data Transfer Catalogue. ELEXON will work with the Master Registration Agreement Service Company (MRASCo) to facilitate this.

NHHDAs will be required to set the HTR Effective from Date as the date on which the Supplier declares a Metering System to be HTR. The Effective to Date for HTR Metering Systems will be the last date that the HTR Metering System is determined to be HTR.

The SVAA's handling of HTR data

In the same way as NHHDAs, the SVAA will handle all data in the same way as it does now. That is, they will carry out all of the same corrections and calculations as they do now and, like NHHDAs they will simply 'flag' HTR data and aggregate the flagged HTR data.

However, in addition the SVAA shall, for each Settlement Day for which (according to the Settlement Calendar) a Volume Allocation Run is required, calculate and store the Total HTR EAC Energy ($HTRE_{HZ}$).

The SVAA will communicate with PARMS using the existing P-flow P0145 'SP08 - Energy and MSIDs on Actuals'. However, in a similar manner to D0041, the P0145 will require two new data items to communicate HTR data:

- Total HTR EAC Energy; and
- Total HTR EAC MSID Count

The design of these new data items will also be developed during the Implementation Phase by ELEXON who are responsible for the design of P-flows.

PARMS handling of HTR data

PARMS will be required to calculate an alternative value of the SP08a Serial that excludes the Total HTR EAC Energy. This value will be calculated as per BSC Section S-1 but, will exclude the Total HTR EAC Energy.

For the avoidance of doubt, this value will only to be used to calculate Supplier Charges, and the normal SP08a values (including HTR EACs) will continue to be reported and will not split out HTR volumes and Meter counts.

PARMS will be required to exclude HTR EACs from the calculation of SP08A Supplier Charges, that is:

- Using (E_{HZ} – HTR E_{HZ}) rather than E_{HZ}[5] in the calculation of NHH EAC; and
- Using the value of the SP08a Serial that excludes HTR EACs in the calculation of p.

PARMS will not be affected in any other way and all other functions will be carried out as they are now e.g. issuing of invoices etc.

NHHDA Qualification

We will update BSCP537 'Qualification Process for SVA Parties, SVA Party Agents and CVA Meter Operators' and it's associated appendixes so that the NHHDA Qualification criteria reflects the additional role. As this will not be a material change to NHHDAs' business models we do not envisage NHHDAs needing to requalify but, they should, at all times, act in accordance with BSCP537 in this respect.

Alternative solution

The Supplier Charges for PARMS Serial SP08a will be set to £0.00/MWh for all Suppliers for the R3 and RF VARs. This will mean that when Supplier Charges are updated each year the SP08a charge will remain as £0.00/MWh in perpetuity.

The Alternative solution will apply to all NHH Metering Systems whereas the Proposed solution will only apply to non-Domestic Metering Systems in accordance with the criteria. This means that a failure to read any NHH Metering Systems (Domestic or non-Domestic) will no longer result in SP08a Supplier Charges.

The requirement to achieve 97% Meter read will remain however, no Supplier Charge will exist for failure to meet the required levels, regardless of Meter type. Any underperformance will be managed using the Error and Failure Resolution (EFR) PAT, as is currently done (by putting in place an action plan agreed by ELEXON) rather than having to pay Supplier Charges.

The Alternative Solution would not involve the requirement to identify HTR Metering Systems as all Metering Systems would be exempt from the SP08a charge.

The Alternate solution will be implemented by amending BSC Section S-1 part 3 so that the charge for SP08a is set as 'No Charge'. ELEXON is required to inform the PARMS Service Provider each year what the adjusted Supplier Charges will be for the forthcoming year. This is done by e-mail on the part of ELEXON and the change is a manual transposition into PARMS on the part of the PARMS Service Provider. The same process will be used to make the SP08a Supplier Charge £0.00/MWh in PARMS.

Impact on other Supplier Charges

We have looked at how reducing/removing SP08a will affect other Supplier Charges. As explained above, Supplier Charges are capped per GSP Group. Of the uncapped total Supplier Charges, SP01 Supplier Charges make up the vast majority (90%[6]). SP08a Supplier Charges make up only a relatively small amount (5.5%) with SP04, SP08b and SP08c accounting for the reminder.

[5] E_{HZ} is defined in BSC Section S-1 and is used to describe total EAC used when calculating Supplier Charges (see BSC Section S-1 2.2 for applicability to Serial SP08a)
[6] Please note that the figures used in this section are based on data from Dec 17 to Nov 18 which is the latest available Supplier Charge data at time of publishing. They will vary over time dependant on Supplier behaviours

There is an argument that if the SP08a Supplier Charge is reduced/removed, then the proportion of Supplier Charges in the capped pot will change, meaning that the pre-estimate of loss will be re-weighted and there is a danger that people will not be paying fairly for their performance.

The total capped charges for the previous 12 months average roughly £550k/month across all GSP Groups. The capped amount per GSP Group will not change if SP08a Supplier Charges are reduced or removed. While the argument above has merit, given the relatively small amounts involved, we will see little monetary change in the capped weighting between the different Supplier Charges.

It should also be noted that due to the way capping works, just because the uncapped proportion of SP01 Supplier Charges may be 90%, it doesn't follow that SP01 Supplier Charges make up 90% of the capped Supplier Charges. Given these issues, it is not entirely possible to model the impact. However, considering the caveats about monthly variation and GSP Group variation etc., our very rough handful assessment is that the capped proportion of SP01 chares will change by roughly 5% if the SP08a Supplier Charge is changed to £0.00 or, roughly £205k across all GSP groups and all Suppliers.

It follows, equally, that reducing the amount of SP08a Supplier Charges making up the capped 'pot' by not including HTR data would increase the percentage of other Supplier Charges making up the 'pot'. The difference however, will be less but, there is no realistic way we can model this to any degree of accuracy.

Legal text

The draft legal text for the Proposed Solution is in Attachment A. in addition, we are taking the opportunity to make some Housekeeping changes to BSC Section S paragraph 2.6.

The draft legal text for the Alternative solution is in Attachment B. the Alternative Solution legal text deletes BSC Section S-1 paragraph 3.2 which deals with the Suppliers Charges for failure to comply with Serial SP08a.

Assessment Consultation Questions
Do you agree with the Workgroup that the draft legal text in Attachment A delivers the intention of the P366 Proposed Modification? *Please provide rationale for your response*
Do you agree with the Workgroup that the draft legal text in Attachment B delivers the intention of the P366 Alternate Modification? *Please provide rationale for your response*
The Workgroup invites you to give your views using the response form in Attachment D

Self-Governance

The Workgroup (WG) unanimously agreed that P366 **should not** be progressed as a Self-Governance Modification.

They believe that if P366 is implemented, there will be a material effect on consumers and competition (impacts Self-Governance criteria a)i and a)ii) and as such the Authority should determine whether to implement P366. This is based on the Proposers belief that

What are the Self-Governance criteria?

A proposal that, if implemented:

a) is unlikely to have a material effect on:
   i. existing or future electricity consumers; and
   ii. competition in the generation, distribution, or supply of electricity or any commercial activities connected with the generation, distribution, or supply of electricity; and
   iii. the operation of the national electricity transmission system; and
   iv. matters relating to sustainable development, safety or security of supply, or the management of market or network emergencies; and
   v. the Code's governance procedures or modification procedures, and
b) is unlikely to discriminate between different classes of Parties

not implementing the P366 would have an adverse effect on competition and consumer choice.

Assessment Consultation Question
Do you agree that P366 **does not** meet the Self-Governance Criteria and so should not be progressed as a Self-Governance Modification? *Please provide your rationale.*
The Workgroup invites you to give your views using the response form in Attachment D

Are there any (other) Alternative solutions?

The workgroup discussed variations on the Proposed Modification. The first would circumvent NHHDAs i.e. Suppliers would send corrected HTR data direct to the SVAA. The second option would cut out NHHDAs and the SVAA so that Suppliers send corrected data direct to PARMS.

The other option discussed was similar to the Proposed Modification in that instead of removing HTR data from the SP08a calculation, HTR data would be removed from the 97% target i.e. if HTR data is removed, the occasions of missing the 97% target would be less and therefore there would be less SP08a charges. As with the Proposed Modification, the above variations for how HTR data is communicated were also discussed.

These are discussed in more detail in Section six below, including the reasons for the Workgroup taking forward the current Alternative solution.

4 Impacts & Costs

We invite you to tell us of any impacts that the implementation of the P366 solution, and/or it's Alternative, will have on your organisation. We would be grateful if you could quantify, where possible, the approximate lead time and estimated costs associated with the identified impacts. Please let us know if you would like us to treat your response confidentially.

Estimated central implementation costs of P366

Proposed Modification

Changes to NHHDA software, SVAA software and PARMS to implement the Proposed Modification are estimated to cost **£331,000** and take approximately **nine months** to deliver.

ELEXON's costs to implement the P366 Proposed Modification are approximately £12,000. These costs are made up as follows.

- 22 day's effort to implement new internal processes and documents, preparing new reports and delivering internal and external training/awareness ;
- 20 days effort to support design, testing and implementation of changes to BSC Central Systems; and
- 6 day's effort to implement document changes to the BSC and Code Subsidiary Documents (CSDs).
- 2 days to update Risk Registers and Risk Operating Plan

Variations of the Proposed Solution

For information, cutting out the NHHDA will cost £317,000 and take nine and a half months. Cutting out NHHDAs and the SVAA would cost £153,000 and take approximately five months

Alternative Modification

The Alternative Modification will not require any changes to BSC Systems.

ELEXON's costs to implement the P366 Alternative Modification are approximately £960. These costs are made up of changes to BSC Section S, and changes to internal documents and Guidance Documents

- 3 day's effort to implement new internal processes and documents; and
- 1 day's effort to implement document changes to the BSC and Code Subsidiary Documents (CSDs).

The PARMS Service Provider already has a process to receive changes in Supplier Charges on an annual basis. is the charge would be amended for the next available PARMS reporting period (month). To achieve this ELEXON would e-mail the Service Provider the new charge to enter into PARMS.

Ongoing Operational costs

Proposed Modification

Depending on the number of Metering Systems declared as HTR ELEXON' ongoing operational effort is expected to be between 5 – 10 Working Days per month to administer HTR at an estimated cost of £1200 – £2,400 per month. This is based on:

- Additional reporting
- Responding to queries
- Audit and compliance action as required

The primary driver of operation costs will be driven by the type of PAT applied and the volume of checks performed. This will be confirmed as part of the standard PAF process, by evaluating the relevant Settlement Risks.

Alternative Modification

It is not expected that there will be any additional effort required for the Alternative Modification as once the new performance level is set, no further work will be required beyond what is already undertaken in relation to Performance Assurance. No checks on HTR sites would be required.

Industry costs of P366

Proposed Modification

Industry costs to implement the Proposed Modification will be dependent on whether Suppliers choose to determine if any of their Metering Systems are HTR. If they do decide to participate, then Suppliers will need to put new processes in place to make determinations and retain evidence of why the determination was made. They will also need to develop their own systems so that they are able to send the new P-flow to their NHHDA and ELEXON. We are seeking indicative costs and lead times as part of this consultation from Suppliers and NHHDAs.

Similarly, ongoing operational costs will vary between Parties dependant on the processes in place and, again, we would welcome feedback as to what these may be.

Alternative Modification

We do not anticipate any notable costs or impact on industry to implement the P366 Alternative Modification. Following implementation, there would be no on-going costs as the role of BSC Parties will not change, that is, they will still need to submit data at the same rate as now.

P366 impacts

The impacts below are for the Proposed Solution. We are not expecting any impacts for the Alternative Solution beyond implementation which are shown in brackets where appropriate below.

Impact on BSC Parties and Party Agents	
Party/Party Agent	Impact
Suppliers	New processes and means of handling new and amended P-flows and amended D0041
NHHDAs	New software and new processes as well as new P-flows and D0041 to process

Impact on Transmission Company
We do not anticipate any impact on the Transmission Company

Impact on BSCCo	
Area of ELEXON	Impact
Disputes and Compliance	New BSC Audit processes depending on BSC Audit priorities etc.
Market Entry	Revised Qualification procedure for Suppliers and NHHDAs
Design Authority & project management	Management of NHHDA, SVAA and PARMS software changes
Settlement Operations	New internal processes for receipt of HTR data as well as creation of new internal processes and external Guidance.
Performance Assurance Framework review	Revision of Risk Register and Risk Operating Plan

Impact on BSC Systems and process	
BSC System/Process	Impact
NHHDA	Amendment to process HTR data
SVAA	Amendment to process HTR data
PARMS	Amendment to receive HTR data and conduct new calculation to exclude HTR volumes from SP08a Supplier Charges

Impact on BSC Agent/service provider contractual arrangements	
BSC Agent/service provider contract	Impact
SVAA	New software and processes for amended D0041 and amended P0145
PARMS Service Provider	PARMS software changes (Alternative Solution – will need to manually transpose the new SP08a Supplier Charge)

Impact on Code	
Code Section	Impact
Section S	

Impact on Code	
Code Section	Impact
Section S: Annex S-1	Will require changes to text to deliver the P366 solution. (Alternative Solution – deletion of one paragraph in BSC Section S-1)
Section S: Annex S-2	
Section X: Annex X-1	

Impact on Code Subsidiary Documents	
CSD	Impact
BSCP503	Will require changes to text to deliver the P366 solution. These will be developed during the implementation phase.
BSCP508	
BSCP533 Appendix A	
BSCP537	
BSCP537 Appendix One	
BSCP537 Appendix Two	
BSCP537 Appendix Three	
SVA Data Catalogue Volume One	
SVA Data Catalogue Volume Two	

Impact on other Configurable Items	
Configurable Item	Impact
NHHDA URS	Will require changes to text to deliver the P366 solution.
NHHDA SD	
SVAA URS	
SVAA SD	
Various software documents	

Impact on Core Industry Documents and other documents	
Document	Impact
All	No Core Industry Documents are expected to be impacted

Impact on a Significant Code Review (SCR) or other significant industry change projects
The Authority has not made a determination as to whether P366 is impacted by any Significant Code Reviews. The Panel therefore submitted the SCR Suitability Report to Ofgem on 7 June 2018. In the absence of a determination on SCR suitability from Ofgem, P366 progresses in accordance with the Panel approved timetable.

Impact on Consumers
The Proposer believes that failure to implement P366 may result in non-domestic consumers having reduced choice of Supplier or having their tariffs increased to reflect SP08a Supplier Charges

Impact on the Environment
Nil anticipated

Other Impacts	
Item impacted	Impact
Data Transfer Catalogue	Will need amending to reflect amended D0041

Assessment Consultation Questions
Will the implementation of the P366 Proposed Modification impact your organisation? *If 'Yes', please provide a description of the impact(s) and any activities which you will need to undertake, including any necessary changes to your systems, documents and processes. Please provide details of any on-going operational impacts (post-implementation).*
Will your organisation incur any costs in implementing the P366 Proposed Modification? *If 'Yes', please provide details of these costs, how they arise and whether they are one-off or on-going costs.*
How long (from the point of Panel approval) would you need to implement the P366 Proposed Modification? *Please provide an explanation of your required lead time, and which of the activities are the key drivers behind the timescale.*
The Workgroup invites you to give your views using the response form in Attachment D

Assessment Consultation Questions
Will the implementation of the P366 Alternate Modification impact your organisation? *If 'Yes', please provide a description of the impact(s) and any activities which you will need to undertake, including any necessary changes to your systems, documents and processes. Please provide details of any on-going operational impacts (post-implementation).*
Will your organisation incur any costs in implementing the P366 Alternate Modification? *If 'Yes', please provide details of these costs, how they arise and whether they are one-off or on-going costs.*
How long (from the point of Panel approval) would you need to implement the P366 Alternate Modification? *Please provide an explanation of your required lead time, and which of the activities are the key drivers behind the timescale.*
The Workgroup invites you to give your views using the response form in Attachment D

5 Implementation

Recommended Implementation Date

Proposed Modification

The Workgroup recommends an Implementation Date for the P366 Proposed Solution of:

- 26 June 2020 if the Authority's decision is received on or before 31 July 19; or
- 7 November 2020 if the Authority's decision is received after 31 July 2019 but on or before 31 January 2020.

Alternative Modification

The Workgroup recommends an Implementation Date for P366 Alternative Modification of:

- 8 November 2019 if the Authority's decision is received on or before 31 July 19; or
- 27 February 2020 if the Authority's decision is received after 31 July 2019 but on or before 31 October 2019.

Assessment Consultation Question
Do you agree with the Workgroup's recommended Implementation Date for the Proposed Modification? *Please provide your rationale.*
The Workgroup invites you to give your views using the response form in Attachment D

Assessment Consultation Question
Do you agree with the Workgroup's recommended Implementation Date for the Alternate Modification? *Please provide your rationale.*
The Workgroup invites you to give your views using the response form in Attachment D

6 Workgroup's Discussions

Why has P366 been raised?

The Proposer explained at the first Workgroup (WG) meeting why they raised P366 to help the Workgroup's understanding of the issue ahead of assisting to develop the solution.

The proposer explained that the premise of HTR Metering Systems means that they will never be read. Unless the cost is spilled across a large number of customers, Supplier Charges will be a cost burden. If the distribution of customers was even between all Suppliers, there wouldn't be any type of Supplier disadvantaged. In response to this, a WG Member pointed out that the issue is that some Suppliers focus on particular market areas and in doing so, should accept the consequences there-of as this is a commercial decision.

It was suggested by another WG Member that if all Suppliers add the cost of reading HTR Metering Systems to consumer bills competition issues would be alleviated and customers would be incentivised to allow Meter reads[7]. It was pointed out in countenance that this still wouldn't deal with the issue of Metering Systems that are HTR for other reasons e.g. due to the location of the site containing the HTR Metering System It was also mentioned that some consumers with low consumption HTR sites just don't care as the cost of allowing Meter reads to be obtained is not worth their effort compared to the bills they pay.

The WG discussed that if P366 is implemented, Suppliers will still need to be incentivised to attempt to obtain a Meter Read. Supplier Charges are intended to be a pre-estimate of loss to compensate for inaccuracies in Settlement where some Suppliers have not provided accurate data. The requirement to obtain Meter reads exists to ensure Settlement integrity. However, it is recognised that some will be HTR, which is why the standard is 97% and not 100%.

Even if HTR sites are excluded from SP08a Supplier Charges, Suppliers will still have to obtain Meter Reads and bear the cost of doing so. SP08a charges are relatively small so (and it is questionable whether they are a genuine pre-estimate of loss), it would be easier to scrap SP08a charges altogether. However, this could reduce the incentive to obtain NHH Meter Reads.

It was also pointed out that Supplier Charges are capped, so relatively small amounts of money are involved. A lot of effort is expended in attempting to achieve the 97% target rate when it is not easily achievable. It was pointed out that this is out of the scope of P366 and a separate Modification or Issue would need to be raised to address that defect.

The P366 solution would apply to all Suppliers irrespective of size, the matter is that the reality of the industry means that some Suppliers face the issue of HTR sites more than others. In response to this a WG Member questioned whether the BSC be changed to accommodate for business choices? The counter argument is that it is not necessarily the type of customer (e.g. non-domestic) that is the issue; it is that some customer's portfolios contain a disproportionate number of HTR sites. The fairness of continuously charging Suppliers for failure to obtain a Meter read was questioned if they have no way of preventing the charges. Some WG Members stated that the rules are there for good reason and in due time the market will respond to address any potential competition issues. Suppliers are aware of their obligations and can decide whether to take on HTR customers, and should be factoring in the associated costs for these types of customers,

[7] It was pointed out that if all Suppliers agreed to pricing arrangements there would be a danger of straying into price fixing territory. The commenter pointed out they were only talking hypothetically and that in no way were they suggesting anything improper

including any Supplier Charges that may result. It was also pointed out that the industry as a whole is not meeting the 97% target rate, so even large Suppliers are not absorbing the HTR costs, following P272, which effectively removed large volumes of energy from the 97% calculations. However, typically larger Suppliers are able to absorb the cost better than smaller Suppliers.

Placing an obligation on Customers to incentivise Meter Reads was discussed. However, this is not permissible under the BSC. It may be something that the Performance Assurance Framework (PAF) review (Issue 69) could consider[8].

Analysis of data

It was discussed that before the WG could develop the solution fully, they would need some approximate data for the number of HTR Meters and Sites in existence. It was suggested that once analysis had been completed, it may be possible to consider a materiality threshold for the maximum EAC to be considered HTR. The alternate view point was that if something is HTR, then it is HTR so the size of the EAC shouldn't matter.

As a result, ELEXON carried out a data analysis between WG meetings one and two and presented it at the second WG meeting. However, the data was based on several assumptions, including:

- The date chosen as a snap shot was indicative of annual averages;
- All MSIDs with a default EAC equate to HTR Metering Systems[9]; and
- 10% of all Metering Systems using EACs equate to HTR Metering Systems.

In carrying out the analysis ELEXON undertook the following steps:

- Energy volumes and number of MSIDs in Great Britain was taken from SP08a data;
- The number and amount of default MSIDs was taken from PARMS serial SP09 data;
- The proportion of MSIDs for each Metering Profile Class (PC) was calculated using a snapshot of the Supplier Metering Registration Service (SMRS);
- The SMRS snapshot proportion were used to determine the amount of energy and number of HTR for PC 3-8 figures;
- A similar evaluation of data analysis was undertaken on the assumption that 30% of energy consumed is for non-Domestic SVA MSIDs;
- The cost benefit analysis for time to recover charges was calculated; and
- The costings were adjusted once the Service Provider Impact Assessment (IA) was received.

[8] The PAF review is due to consider Supplier Charges and Meter read performance in summer 2019. ELEXON will feed this recommendation into the PAF review.
[9] The WG accepted that this is not always the case but, it was a reasonable assumption for data analysis purposes

Table showing time to recover P366 implementation costs

Summary of average costs - Average of MSID and Energy				
Implenentation cost (ELEXON+Industry)	Uncapped	Capped - Total Charges	Capped - SP08a Assumption	Mean
£500,000	2	16	33	17
£750,000	3	23	50	26
£1,000,000	5	31	67	34
£1,250,000	6	39	84	43
£1,500,000	7	47	100	51

The table above shows the time in years to recover implementations costs. The columns show the total uncapped Supplier Charges, the total capped Supplier Charges (i.e. for all charges) and the assumed proportion of capped charges that are made up of SP08a (which P366 is concerned with). The costs on the left were nominal and based on a working assumption of net costs to industry and ELEXON to implement P366 prior to Service Provider IA - see below of post-IA Cost-Benefit Analysis (CBA)).

It was agreed that given the numerous caveats and assumptions that the data analysis is far from definitive and should not be used to make any decisions. However, it was very useful for discussion, acted as a broad indicator which helped solidify to some extent what was suspected in terms of time to recover implementation costs and the number of MSIDs that may be HTR.

The first analysis was presented prior to conducting Service Provider IA. The WG's initial thoughts was that the analysis would indicate that there may be a need for an 'interim' simple solution rather than a comprehensive and robust solution, particularly considering other changes in the industry such as the Electricity Settlement Reform Significant Code Reform and ELEXON's PAF Review

Evaluation of potential solutions

A Service Provider IA was conducted by ELEXON on behalf of the WG between WG meetings two and three. In the same period two potential alternate solutions had been discussed with ELEXON and ELEXON discussed them with the WG by e-mail correspondence – one of these (making SP08a £0.00 was subsequently adopted by the EG as the Alternative Solution)

The potential Alternative solution **not adopted** was similar to the Proposed Solution but differed in the fact that it would remove HTR data from SP08a and therefore the 97% target rather than from SP08a Supplier Charges (as per the Proposed Modification). It was proposed on the basis that it reduces the chances of entering Error Failure Resolution (EFR) due to not achieving reads on hard-to-read (HTR) Metering Systems. The argument was that this would be more efficient on all concerned as the number of EFR incidents being dealt with would reduce, with negligible impact on overall Settlement performance or Risk. This option was so similar to the original proposal that it was not felt necessary to carry out another Service Provider IA as the assessment of the Proposed was deemed sufficient for evaluating which solution to take forward.

Each option was evaluated based on the impact once implemented and embedded (i.e. business as usual (BAU)). The table below summarises the discussion and scoring (in red – lowest score is best).

Option	Settlement Risk	Industry effect	Incentive to read Meter	Deterrent to gaming	Total
1. Discounting HTR from the SP08a Supplier Charge calculation	Only SP08a Supplier Charges affected. 1	Differentiates between Meter classes Reduces re-distribution fund. 3	EFR threat remains. 1	Available PATs within the PAF. Cost of declaring vs SP08a saving Obligation to read Meters. 2	20
2. Discounting HTR from the SP08a PARMS Serial calculation	Potentially impact Settlement and PAF – accepts that the HTR sites will never be read. Means that 97% of actuals won't be settled – reduces the controls in place. 2	Reduces EFR work for Suppliers and ELEXON (industry saving) Differentiates between classes of meter Reduces re-distribution fund. 2	EFR based on not making efforts rather than 'blaming' HTR. Compliance is, arguably, a greater impact than Supplier Charges. Removing HTR creates more room for EFR 'wiggle room'. 2	Available PATs within the PAF. Cost of declaring vs SP08a saving Obligation to read Meters. 2. More option to game as no EFR risk therefore greater incentive to abuse HTR. More incentive to game. 3	22
3. SP08a charge £0.00	Would impact all meter classes. Removes a Supplier charge for the entire Market. Won't impact Settlement but impacts the PAF. 3	Does not differentiate between Meter classes Reduces re-distribution fund. No need to declare HTR and no System change, so better for Industry. 1	EFR threat remains as incentive to read but, won't be able to use mitigation of HTR at PAB. Not having HTR could incentivise as it is not clear what the HTR tolerance is when mitigating EFR etc. 1	Available PATs within the PAF. Obligation to read Meters. No real inventive to Game as no HTR criteria and everyone is the same. 1	12

Following this evaluation, the WG looked at the three System change options. Some of the guiding principles discussed prior to evaluating were:

- Market place is changing – there are reviews into HH Settlement and PAF;
- Cheaper option puts more responsibility on Suppliers initially in terms of learning new processes;
- Supplier Costs are not known but for the purpose of evaluation, they can be assumed in order of most expensive to least expensive; and
- The more a Supplier has to do, the greater the cost and impact.

The column titled IA is an evaluation of the Cost, time to implement and the CBA of implementing i.e. the number of years to recover implementation costs based on the figures provided in the IA. As with the scoring above, for the table below the lowest score is the WG's preferred option. For the column 'IA' the WG weighed the cost, time to implement and time to recover costs together to arrive at a single score for which is the best system solution. Given that there is relatively little difference between the first two rows they were scored equally as the least preferred options. The 'SP08a = £0.00' option is preferred as this has the least cost and least implementation time, and therefore the lowest CBA. The 'Supplier/PARMS' option is the second favourite as it has the second lowest cost and implementation time, and therefore second lowest CBA. The reasons for the other scores are shown in the table below.

	Cost	Time	CBA	IA	Initial Supplier impact	BAU impact	'Robustness'		Initial Industry costs	BAU Industry Costs	Sum
NHHDA/ SVAA/ PARMS	£331k	Nine months	~22	3	Will have minimal impact on Suppliers – will send information as per now 2	Will have minimal impact on Suppliers – will send information as per now 2	Less people doing things, equals less chance of failure. Option A has more potential points of failure so once settled in (BAU) there could be more risk. However, DAs and SVAA will be doing this multiple times which may not be true of Suppliers. Applying Performance Assurance Techniques (PATs) to DAs and SVAA costs less than multiple Suppliers Only Suppliers declaring HTR will use HTR processes. Potentially, once	2	Same as 'Robustness'. 2	Same as 'Robustness'. 2	13
Supplier/ SVAA/ PARMS	£317k	Nine and a half months	~21	3	Will have to replicate some of the DA's role. 3	Will have to replicate some of the DA's role. 3		3	Same as 'Robustness'. 3	Same as 'Robustness'. 3	18
Supplier/ PARMS	£153k	Five months	~10	2	Will have to replicate the DA and SVAA's work. 4	Will have to replicate the DA and SVAA's work. 4		4	Same as 'Robustness'. 4	Same as 'Robustness'. 4	22
SP08a = £0.00	Minimal	Minimal	Min.	1	Nil impact on Suppliers. 1	Nil impact on Suppliers. 1		1	Same as 'Robustness'. 1	Same as 'Robustness'. 1	6

							settled in, will there be a difference between Suppliers and it won't be readily apparent where PATs need to be applied. Option A is more transparent in terms of perception of gaming potential around how data is handled.				

The Proposer preferred option one over option three as this is closer to the original defect in terms of addressing competition in NHH non-domestic market and there is minimal risk to Settlement integrity.

It was noted that option one would take much longer to implement, due to the system changes needed, whereas option 3 could be implemented relatively quickly. At the time of writing option 1 could be implemented in June 2020 and option 3 in June 2019.

Option 3 was put forward as an Alternative on the basis that it's better for HTR to apply to all NHH rather than classes 3-4 and fits better with Objective C. It could be argued that only excluding HTR from NHH non-domestic created a non-level playing field. Other WG Members agreed with this unanimously as further detailed in section 7 below.

Alternative solution

An Alternative solution was put forward by one of the WG Members and adopted by the WG following the evaluation described above. The Alternative Solution is making the SP08a Charge £0.00.

The Proposer of the Alternative solution acknowledged that this will reduce the amount of Supplier Charges redistributed but the amounts involved are not expected to be material. Based on the analysis presented at the second WG meeting, the total **UNCAPPED** SP08a charges for May 17 – Apr 18 were c.£2.5m. When this was **CAPPED** (using some broad assumptions) this was less than £500k for the year or less than £42k/month which, across the whole industry, was not considered a large amount by the Workgroup.

Assessment Consultation Question
Do you agree with the Workgroup that there are no other potential Alternative Modifications within the scope of P366 which would better facilitate the Applicable BSC Objectives? *Please provide your rationale.*
The Workgroup invites you to give your views using the response form in Attachment D

HTR Criteria

It was discussed and agreed that HTR should apply to individual Metering Systems. Where a Site has several Metering Systems, the Supplier should identify which are HTR. Suppliers should be able to apply for HTR for all Metering Systems within a site if they are all believed to be HTR.

It was mentioned by several WG Members that there is a lot of difficulty in trying to establish the exact criteria for HTR and a parallel was drawn to why the target is 97% - HTR 'just is' and the 97% figure 'just is'.

Trying to determine objective HTR criteria was found to be exceptionally difficult when, for every suggestion made, a realistic exemption could be found. For this reason the Workgroup agreed to abide with the Proposer's proposed criteria which is that found in Section three above.

Metering System location

Location was considered by the Workgroup. Location of the Metering System may not necessarily be a determining factor, for example, if Meter Read Agents visit a remote Scottish Island once a year, it is not HTR. The Address and/or Ordnance Survey grid reference could be used as well as tools such as the Data Communication Company's (DCC's) data base of areas subject to smart Meter coverage. The WG discussed if using the Metering System's address could create potential for gaming i.e. declaring something HTR even when it isn't because of the post code and it was agreed that HTR needs to be a physical characteristic.

Access to Metering Systems

In terms of 'customer not allowing access' – it was agreed that warrants probably wouldn't work. It was discussed that even though this is theoretically possible it is generally accepted that a Magistrate would only grant a warrant if the Supplier could show that there was a genuine belief that theft of electricity, or a safety concern, was occurring and not simply to obtain a Meter read. The use of contractual obligation to compel a customer to facilitate access was discussed. However, this comes back to consumer choice ultimately and it was pointed out that while it may be in a contract, it was not enforceable other than by refusing to Supply anymore which would have commercial and possibly legal implications for the Supplier.

It was discussed that the customer not allowing access is not an evergreen factor as meters need to be changed at some point, e.g. they reach life expectancy. As such, at some point the opportunity may present itself to obtain a Meter read, thus negating HTR status.

The use of the customer's own communications was discussed as a means of communicating Metering data i.e. if the customer has their own communications in place for remote monitoring of the site, then it could be used for transmitting Metering data too. It was agreed that it is unlikely that customers will allow access so it should not be considered.

The WG discussed whether a Metering System could be declare as HTR due to Health and Safety risks. It was agreed however that if this was pursued, then it would have to be very robust. For example, the WG discussed if a Metering System should be considered as HTR if it is locate in a dark un-boarded loft space and it was pointed out that the Meter reader could buy (and train to use) temporary loft boards and a head lamp. On the flipside of this, not all Suppliers would consider this as a reasonable measure to obtain a Meter read, and as such the Metering System would be HTR. The workgroup agreed that this was yet another subjective area for determining HTR status.

Costs of obtaining a Meter read

HTR determinations should focus on cost in relation to:

- Customer's bill;
- Cost of obtaining a meter read; and
- SP08a Supplier Charges;

The costs for installing remote monitoring should be considered, if it is possible to install them. However, if it is possible to install remotely monitored Meter, it's possible to read the Meter so HTR isn't appropriate;

Determining HTR status

The WG discussed whether or not determinations should be made by Suppliers themselves, by a Panel Committee or by ELEXON based on evidence submitted. It was discussed that if ELEXON was given the responsibility (either directly or in support of a Panel Committee) they would likely make use of a BSC Agent as they do for other obligations placed on them by the BSC. The cost of contracting a new BSC Agent (or even undertaking the work themselves) would be prohibitively expensive compared to the savings across the industry that would be achieved[10].

The number of HTR Metering Systems is expected to be relatively small[11] and as such the Settlement risk is quite low. Similarly, it would take time for ELEXON to make determinations and the potential need to defer to the Panel (or appropriate delegated Panel Committee) could delay the process. Determinations by ELEXON could also lead to disputes and appeals which, in turn, could lead to delays in achieving HTR status, whilst at the same time adding to the cost of operating the HTR process.

It was suggested that it should be left to individual Suppliers to trigger the HTR process. This would mean that declaring a Metering System as HTR would be a commercial decision. The Supplier would need to decide if it is in their interest to expend resource on going through the HTR process. Essentially they would need to weigh the cost of declaring HTR against the SP08a savings after the price cap has been taken into account [see section three for further explanation]. This would, in essence make declaring a Metering System as HTR a voluntary process. On this basis, and the precedence of Long Term Vacant Sites, it was agreed that the best option would be for Suppliers to make their own determinations whether a Metering System is HTR.

It was discussed and agreed that the BSC process will be followed even if other industry bodies determine that a Meter is HTR or similar. The basis for this is that there is too much risk involved in accepting others' determinations, for example if the status proves to be wrong, who is liable? However, such determination may be considered as a starting point for triggering the HTR process if appropriate.

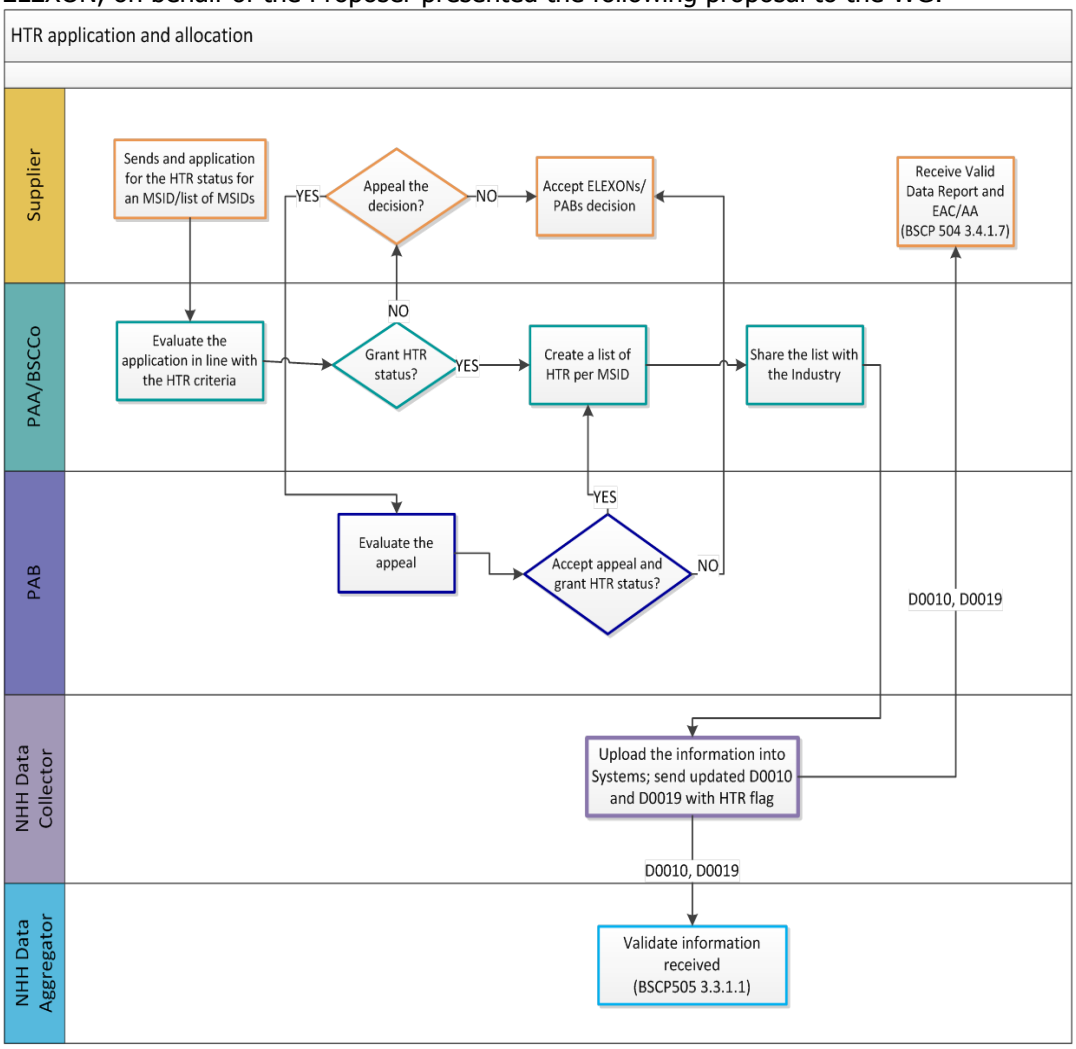
It was agreed that Suppliers should make reasonable efforts to obtain Meter reads. The guidance on reasonable efforts was discussed and it was suggested that industry precedence should be used. An example of industry best practice could be that included within Ofgem's Feed-in Tariffs: 'Guidance for licensed Electricity Suppliers'.

As with the criteria, it was agreed to develop what 'best endeavours' means as part of the implementation phase

[10] The Proposed Solution would save industry roughly £10k - £15k a year. ELEXON's estimated ongoing costs for the P366 Proposed Solution are between £14k and £29k per year. Administering the validation would require more resource and be more expensive. But hasn't been costed formally as it has not been proposed.
[11] Estimates range from 3,500 to 7,000 Metering Systems, or roughly 0.16 – 0.36% of the NHH Market

How HTR status will be communicated?

ELEXON, on behalf of the Proposer presented the following proposal to the WG:



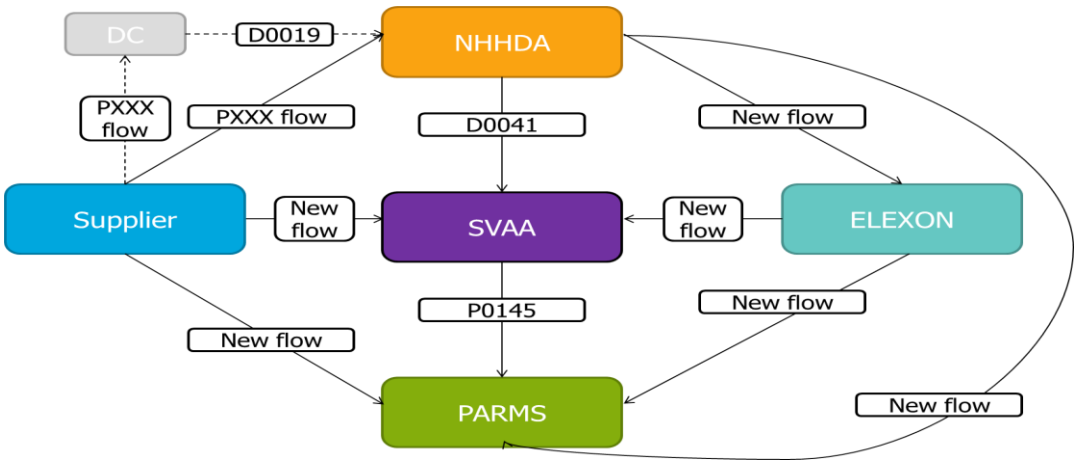
The following points were made in relation to the above diagram:

- Changing data flows D0010 'Meter Readings' and D0019 'Metering System EAC/AA Data' will be hard to do and will have significant impacts on industry;
- Suppliers could put flags onto MSIDs and tell NHHDAs to do something different – this would be outside of the DTN and therefore difficult to audit;
- A flag in ECOES[12] could work however, there would still be a need to get the data to the Supplier Volume Allocation Agent (SVAA);
- The Data Collector (DC) does not need to be involved. DAs communicate with the SVAA so, needs to know which flags to follow. However, it doesn't need DCs to do this.
- Meter read schedules would remain the same, so the DC still needs to try to read the Meter. The cost of this should already be built into Suppliers' billing as this is a licence requirement.
- Creating a new data flow for HTR, and put it through a similar process of corrections etc. could work. However, it would be equally as complicated as the suggested route;

[12] Electricity Central Online Enquiry Service

- DAs can provide MSID level detail for HH Meter and EMR (see BSCP502 for details). Information items wouldn't need too much change other than making it NHH as well as HH;
- Could look at the Standard Settlement Configuration (SSC) as a specific code, similarly changes to the Time Pattern Regime (TPR) could be considered;
- Potentially may need to communicate HTR outside of the current systems; and
- The cost benefit analysis needs to be considered once service Provider Impact Assessments have been considered.

Based on the discussion at the first WG meeting, the following was presented at the second WG meeting for discussion.



It was agreed that the primary solution should be Suppliers informing NHHDAs which MPIDs are HTR. The NHHDA than communicates the information to the SVAA who then sends data to PARMS. It was agreed that a new P-Flow should be created instead of a D-flow for Suppliers to inform NHHDAs. This is because creating a P-Flow would be easier than a D-Flow and considering the relatively low numbers of HTR Metering systems expected, development of a P-Flow would be more commensurate that a D-Flow.

It was agreed that this would likely be complicated and expensive. A secondary solution was proposed that would require Suppliers to aggregate and correct data (using information from existing data flows) before sending direct to PARMS.

Given that there is potential room for error in asking Suppliers to complete aggregation and corrections a third solution was proposed. This is similar to above but would include the SVAA between Suppliers and PARMS.

Other options that were considered, but discounted due to inherent risk of errors were:

- Default EAC per profile class per GSP group is used by the Supplier to feed into PARMS/SVAA rather than the Supplier aggregating and correcting; and
- The same value being used by ELEXON to simply amend invoices prior to issuing

Commencement and cessation of HTR status

It was agree that in the event of a Change of Supplier it would be the responsibility of the new Supplier to re-instigate the HTR process. The reason for this is that what one Supplier may consider to be impractical, another wouldn't or, alternately, some Suppliers may have

relatively more recourse to expend (including the tasking of Agents and the associated expense) than others in attempting to obtain a Meter read. Further, this met the principle that it was a Supplier's choice to declare HTR.

It was discussed that Suppliers have an obligation under their licence conditions to obtain a Meter read so the new Supplier should be doing this regardless of HTR status. This would trigger the new Supplier to instigate the HTR process.

A central database was discussed whereby the new Supplier either asks ELEXON or checks the database to see if the switched Metering System is HTR. This was discounted as there would issues with:

- Data protection – some of the information such as MPIDs could be construed as personal data
- Competition – Suppliers could find a way to use the data base to see what portfolios their rivals have; and
- The amount of work to maintain and query – see above.

Overcoming these issues was believed to be disproportionate to the P366 defect.

As part of this discussion there was some concern about whether new Suppliers would not want to take on HTR sites if the cost of Supplier Charges and/or obtaining HTR is prohibitive.

The WG agreed that there is no reason why HTR status should change in the event of Change of Agent. The NHHDA is essentially an extension of the Supplier and acts at the Supplier's behest. This means that, again, it would come down to individual Suppliers whether or not to task their Agents to either seek a Meter Read and/or to process HTR data. This approach would keep the responsibility with the Supplier and reduce costs of having to re-declare HTR status and evidence. However, it will require the Supplier to flag HTR status to the incoming NHHDA.

It was agreed that in the context of HTR a Meter read has to be validated i.e. if a non-validated read is received, that will not automatically end HTR status, but may do so depending on the circumstance and whether the criteria for HTR still applies.

Application by PARMS

At the point of implementation PARMS could use historic determinations e.g. if implementation is June 2020, and Supplier declares that a Metering System was HTR prior to May 19 then benefit will be realised from the Jul 20 Supplier Charges invoice.

PARMS will stop using HTR data from date of declaration i.e. if a Metering System is declared HTR on 15 Aug 20, the R3 benefit won't be realised until Feb 21 and the RF benefit in Oct 21.

Monitoring Supplier Performance in relation to HTR

The WG agreed that ELEXON's criteria for selecting Suppliers to be audited should consider the number of HTR Metering Systems a Supplier has. The potential for creating a PAB report or including HTR in existing PAB reports was discussed and it was agreed that this will be re-visited as part of the implementation phase.

Long Term Vacant process

The WG assumed that determining HTR will be a manual process as the amount of subjective criteria involved doesn't lend itself to an automated process.

The WG agreed that as an initial assumption there is greater a greater risk associated with HTR than Long Term Vacant (LTV). As such, the WG's initial thoughts were that there should be some sort of sampling procedure (10% was discussed as a starting point).

In-between the first and second WG meetings ELEXON drafted a mock-up HTR guidance document based on the LTV guidance document. Having reviewed the draft document, it was agreed that data flow D0004 'Notification of Failure to Obtain Reading' data flow should not but used to trigger the HTR process. The reason why the WG recommended this is that not all of the 'Site Visit Check Codes' (J0024) in the D0004 would be applicable to the HTR process. The WG discussed which data items would be applicable and whether they could be used in the HTR process, even if just to filter some Meters out. However, it was not possible to agree on which were applicable as a consistent and robust approach was not identified. For example, some may be applicable and some may not dependent on the circumstances of the case and site over time.

Other points of discussion

How long a default EAC has been used for could be used as a criteria for establishing HTR status e.g. if a Supplier has used a default EAC for less than six months, it would not be considered HTR on that basis. If a Supplier can demonstrate that the previous Supplier wasn't able to obtain a Meter read within a certain time period (e.g. six months) before Change of Supplier, it should be considered for HTR status. DCs may be able to assist in determining the last Meter Read date, so long as the read was validated and passed on with the Change of Supplier. It was concluded that once a Metering System becomes HTR based on the criteria proposed, then it is HTR, regardless of how long the default EAC has been used. For example, if a Meter read is gained in February but, the new Supplier (following a Change of Supplier event) determines a Metering System is HTR based on the criteria (e.g. too remote based on their evaluation) then it will be HTR form the new Suppliers determination rather than when the last EAC was calculated.

The WG discussed whether a value other than EAC should be used for HTR Metering Systems. It was agreed that the EAC used before declaring a Metering System as HTR (regardless of how the EAC is determined) should still be used post-HTR as there is no other realistic alternative.

The WG discussed the possibility of Supply points with HTR Metering Systems being changed to Unmetered Supply (UMS). It was agreed that UMS could be an alternative to HTR in a lot of cases but, UMS has a lot of strict criteria that need to be met first (e.g. rules surrounding actual Meter reads for determining actual consumption). Changing these criteria to facilitate HTR Metering Systems however was not seen as appropriate as it would be beyond the scope of P366 and could have wider ramifications.

7 Workgroup's Initial Conclusions

Proposed Solution

At this stage, the Workgroup members that have given their views (see attendance in Appendix one) believes that the P366 Proposed Solution would **not** better facilitate the Applicable BSC Objectives and so **should not be approved**.

Applicable Objective (C)

The majority (all bar the Proposer) of the **Workgroup** were **neutral** about BSC Applicable Objective (c) as they do not believe it will have a positive or negative effect on competition.

One WG Member noted that as they don't believe the current arrangements are detrimental to competition, changing the rules wouldn't have any effect. Another commented that they don't believe that the volume of HTR sites does not have a material effect overall, so the change will, equally, have no effect overall. Another does not believe there will be any effect on competition as it is a Supplier's choice to accept HTR non-domestic Metering Systems and as such, there will be no overall change.

The **Proposer** believes that P366 **would better** facilitate Applicable BSC Objective (c). They believe that P366 will remove Supplier Charges applied to Meters that cannot be read by Suppliers due to difficulties that are outside of their control. This will level the playing field for all Suppliers to compete fairly in the market, irrespective of their portfolio sizes. It will improve competition and remove a barrier of entry for new market participants.

Applicable Objective (d)

The majority (all but the Proposer) of the **Workgroup** believe that P366 **would not better** facilitate Applicable BSC Objective (d) as the process of declaring a Metering System as HTR would lead to inefficiencies and additional workload for ELEXON and Parties.

One WG Member comment that in theory the solution would have a negative effect on efficiency but in reality, as it would be commercially driven, is likely to have no real affect. Other WG Members noted that implementing P366 would likely give a de-facto authority not to read Meters and instead declare them as HTR which would have a detrimental effect on the Settlement arrangements.

The **Proposer** believes that P366 **would better** facilitate BSC Applicable Objective (d) as it will ensure appropriate Supplier Charges are applied to Suppliers to correctly incentivise them to improve Settlement performance. This will improve efficiency and effectiveness of the PAF. The Proposer also believes that the PAF and the EFR process are the drivers for reading Meters, which will remain unchanged.

Applicable BSC Objectives (a), (b), (e), (f) and (g)

At this stage, all Workgroup Members believe that P366 is neutral against Applicable BSC Objectives (a), (b), (e), (f) and (g).

What are the Applicable BSC Objectives?

(a) The efficient discharge by the Transmission Company of the obligations imposed upon it by the Transmission Licence

(b) The efficient, economic and co-ordinated operation of the National Electricity Transmission System

(c) Promoting effective competition in the generation and supply of electricity and (so far as consistent therewith) promoting such competition in the sale and purchase of electricity

(d) Promoting efficiency in the implementation of the balancing and settlement arrangements

(e) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency [for the Co-operation of Energy Regulators]

(f) Implementing and administrating the arrangements for the operation of contracts for difference and arrangements that facilitate the operation of a capacity market pursuant to EMR legislation

(g) Compliance with the Transmission Losses Principle

Does P366 Proposed solution better facilitate the Applicable BSC Objectives?		
Obj	Proposer's Views	Other Workgroup Members' Views[13]
(a)	• Neutral	• Neutral
(b)	• Neutral	• Neutral
(c)	• **Positive**	• Neutral
(d)	• **Positive**	• **Detrimental**
(e)	• Neutral	• Neutral
(f)	• Neutral	• Neutral
(g)	• Neutral	• Neutral

Alternative Solution

At this stage, the Workgroup believes that the P366 solution would **not** better facilitate the Applicable BSC Objectives and so **should not be approved**.

Applicable BSC Objective (c)

The majority of the **Workgroup** were **neutral** about BSC Applicable Objective (c) as they do not believe it will have neither a positive or negative effect on competition. Their reasoning was the same as those given for the P366 Proposed Solution. That is, even though the solution is different, their reasons for their views were the same.

The **Proposer** believes that the P366 Alternative Solution **would better** facilitate Applicable BSC Objective (c). They argued that removing the cost of Supplier Charges will level the playing field as no Suppliers will need to make the decision as to whether they pass on costs to their customers.

Applicable BSC Objective (d)

The majority of the **Workgroup** believe that the P366 Alternative Solution **would not better** facilitate Applicable BSC Objective (d). Their reasoning was the same as those given for the P366 Proposed Solution. That is, even though the solution is different, there reasons for their views were the same.

The **Proposer** believes that the P366 Alternative Solution **would better** facilitate Applicable BSC Objective (d). They argued that removing the cost of Supplier Charges will allow Suppliers to work towards achieving Meter reads and not working towards avoiding Supplier Charges.

Applicable BSC Objectives (a), (b), (e), (f) and (g)

At this stage, all Workgroup Members believe that the P366 Alternative Solution is neutral against Applicable BSC Objectives (a), (b), (e), (f) and (g).

[13] Shows the different views expressed by the other Workgroup Members – not all Members necessarily agree with all of these views.

Does P366 Proposed solution better facilitate the Applicable BSC Objectives?		
Obj	Proposer's Views	Other Workgroup Members' Views[14]
(a)	• Neutral	• Neutral
(b)	• Neutral	• Neutral
(c)	• **Positive**	• Neutral
(d)	• **Positive**	• **Detrimental**
(e)	• Neutral	• Neutral
(f)	• Neutral	• Neutral
(g)	• Neutral	• Neutral

Proposed Solution vs Alternative Solution

The majority of the Workgroup believe that neither the Proposed Solution nor the Alternative Solution should be implemented but, they believe that if P366 is implemented, the Alternative Solution would better facilitate the Applicable BSC Objectives than the Proposed Solution and so the **Alternative Solution** should be the one implemented.

The **majority** (four out of five) of the Workgroup believe that the Alternative solution would be less detrimental towards Applicable BSC Objective (d) than the Proposed Solution. Three Members argued that the Alternative Solution is better as it is inclusive of domestic HTR Metering Systems whereas the Proposed only applies to non-domestic sites. One added that the Alternative Solution is better as it is a clearer, cheaper and easier solution. The same four WG Members believed neither the Proposed nor the Alternative are better in terms of Applicable BSC Objective (c) as they believe (for the most part) that neither Solution will have an effect on competition – see comments above.

The Proposer (the fifth WG Member) believes the Proposed Solution would be better as it only deals with non-domestic HTR Metering Systems. The HTR situations normally relate to small industrial sites and the Proposer is unsure whether the defect would be the same within the domestic market.

[14] Shows the different views expressed by the other Workgroup Members – not all Members necessarily agree with all of these views.

Appendix 1: Workgroup Details

Workgroup's Terms of Reference

Specific areas set by the BSC Panel in the P366 Terms of Reference
Criteria for determining a HTR site
How HTR evidence can be verified
Who will be responsible for requesting HTR status
Should 'best effort' be proved and how is 'best effort' determined
Who will be responsible for determining HTR status and can this be delegated
Appeals and disputes process where Suppliers disagree with determinations
Whether remoteness is a factor to be considered and how it should be determined
Impact of material changes to site (e.g. change of equipment) on EAC volumes
How long should a site be deemed HTR and what happens on expiry of HTR status
How might Suppliers be incentivised to attempt to achieve Meter reads or updated EAC values
The potential impact on Settlement calculations and how they can be avoided
The impact on PAF and how it can be mitigated
The impact on PARMS serials and how it can be mitigated
Should other Suppliers be compensated in some other way for the energy resulting in accepted use of HTR EAC data and if so, how
The point at which HTR data should be separated from other PARMS data when calculating SP08a Supplier Charges
The route that HTR data should take from source to end user and how HTR data is communicated between Parties
Should there be additional reporting of HTR sites in relation to PARMS
Are EAC/AA applicable for HTR sites when entering data into Settlement
Whether there should be a threshold for costs of compliance when considering HTR status
Other industry wide projects that may impact on P366 or be impacted by P366
Precedence set by other industry wide projects e.g. smart Meter roll out
The impact of a large number of applications being received to coincide with implementation and how this may be mitigated
The cost of ongoing management of the HTR determination process compared to the benefit for industry
What changes are needed to BSC documents, systems and processes to support P366 and what are the related costs and lead times
Are there any Alternative Modifications
Should P366 be progressed as a Self-Governance Modification
Does P366 better facilitate the Applicable BSC Objectives than the current baseline

Assessment Procedure timetable

P366 Assessment Timetable	
Event	Date
Panel submits P366 to Assessment Procedure	10 May 18
Workgroup Meeting 1	7 Jun 18
Workgroup Meeting 2	7 Aug 18
Workgroup Meeting 3	22 Nov 18
Assessment Procedure Consultation	21 Mar 19 – 12 Apr 19
Workgroup Meeting 4	w/c 15 Apr 19
Panel considers Workgroup's Assessment Report	9 May 19

Workgroup Membership and attendance

P366 Workgroup Attendance				
Name	Organisation	7 Jun 18	7 Aug 18	22 Nov 18
Members				
Lawrence Jones	ELEXON *(Chair)*	✓	✓	✓
Chris Wood	ELEXON *(Lead Analyst)*	✓	✓	✓
Oliver Zhe Xing	Orsted *(Proposer)*	✓	☎	✓
Andy Colley	SSE	☎	☎	✗
Anna Lesniak	Opus Energy	✓	✗	✗
Claire Henderson	TMA Data Management	✓	✓	☎🗁
Derek Weaving	Centrica	✓	✗	✓
Gareth Evans	Waters Wye	✓	✓	✗
Jonathan Moore	Engie	✓	✓	✗
Julia Vidot	Haven Power	✓	✗	✓
Keren Kelly	Npower Group	✓	✗	☎
Nik Wills	Stark	✓	✓	✗
Peter Gray	SSE	✗	✓	✓
Phil Russell	Self-employed	✓	✓	✓
Robert Johnston	Smartest	✗	✓	✗
Stephen Johnson	IMServ	✓	✓	✗
Attendees				
Colin Berry	ELEXON *(Design Authority)*	✓	✓	✓
Aditi Tulpule	ELEXON *(Lead Lawyer)*	✗	✗	✓
Paulina Stelmach	ELEXON Subject Matter Expert	✓	✓	✗
Sam Daoudi	ELEXON Subject Matter Expert	✗	✓	✓

[15] Part Meeting

Appendix 2: Glossary & References

Acronyms

Acronyms used in this document are listed in the table below.

Acronyms	
Acronym	Definition
BAU	Business as usual
BSC	Balancing and Settlement Code
BSCCo	BSC Company
BSCP	BSC Proceure
BUSRR	Business Unit Settlement Risk Rating
CBA	Cost Benefit Analysis
CoA	Change of Agent
CSD	Code Subsidiary Document
CVA	Central Volume Allocation
DC	Data Collector
DCC	Data Communications Company
DTC	Data Transfer Catalogue
DTN	Data Transfer Network
EAC	Estimated Annual Consumption
ECOES	Electricity Central Online Enquiry Service
EFR	Error Failure Resolution
EMR	Electricity Market Review
GSP	Grid Supply Point
HTR	Hard-to-read
IA	Impact Assessment
LTV	Long term vacant
MPID	Meter Participant Identifications
MRASCo	Master Registration Agreement Service Company
MSID	Metering System Identifier
MWh	Megawatt hours
NHH	Non Half-Hourly
NHHDA	Non Half-Hourly Data Aggregator
PAB	Performance Assurance Board
PAF	Performance Assurance Forum
PARMS	Performance Assuring Reporting and Monitoring System
PAT	Performance Assurance Technique

Acronyms	
Acronym	Definition
PC	Performance Class
SCR	Significant Code Review
SMRS	Supplier Meter Registration Service
SSC	Standard Settlement Configuration
SVAA	Settlement Volume Allocation Agent
TPR	Time Pattern Regime
UMS	Unmetered Supply
URS	User Requirement Specifications
VAR	Volume Allocation Run
WG	Workgroup

DTC data flows and data items

DTC data flows and data items referenced in this document are listed in the table below.

DTC Data Flows and Data Items	
Number	Name
D0041	Supplier Purchase Matrix Data File
P0145	SP08 - Energy and MSIDs on Actuals'

External links

A summary of all hyperlinks used in this document are listed in the table below.

All external documents and URL links listed are correct as of the date of this document.

External Links		
Page(s)	Description	URL
3	Performance Assurance Reporting and Monitoring System (PARMS)	https://www.elexon.co.uk/reference/performance-assurance/performance-assurance-techniques/parms/
5	BSC Section S, Annex S-1 'Performance Levels and Supplier Charges'	https://www.elexon.co.uk/bsc-and-codes/balancing-settlement-code/bsc-sections/
5	BUSRRs	https://www.elexon.co.uk/guidance-note/business-unit-settlement-risk-ratings-busrrs/
5	Performance Assurance Framework (PAF)	https://www.elexon.co.uk/reference/performance-assurance/performance-assurance-techniques/parms/
11	Data Transfer Catalogue	https://dtc.mrasco.com/listdataflows.aspx

External Links		
Page(s)	Description	URL
12	BSCP537 'Qualification Process for SVA Parties, SVA Party Agents and CVA Meter Operators'	https://www.elexon.co.uk/bsc-and-codes/bsc-related-documents/bscps/?show=all
19	SCR Suitability Report	https://www.elexon.co.uk/mod-proposal/p366/
22	P272 webpage	https://www.elexon.co.uk/mod-proposal/p272-mandatory-half-hourly-settlement-for-profile-classes-5-8/
30	Feed-in Tariffs: 'Guidance for licensed Electricity Suppliers'	https://www.ofgem.gov.uk/environmental-programmes/fit/electricity-suppliers
34	LTV guidance document	https://www.elexon.co.uk/guidance-note/long-term-vacant-sites/