

## Phase

Initial Written Assessment

Definition Procedure

Assessment Procedure

Report Phase

Implementation

## P347 'Reduction in R1 Read Requirement for HH Sites'

This Modification seeks to reduce the read Settlement Performance Level at the First Reconciliation Volume Allocation Run (R1) for Half Hourly (HH) Metering Systems in Measurement Classes "F" and "G".

This Report Phase Consultation for P347 closes:

**5pm on Wednesday 30 November 2016**

The Panel may not be able to consider late responses.



The BSC Panel initially recommends **rejection** of P347

This Modification is expected to impact:

- ELEXON
- Suppliers
- Supplier Agents

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## About This Document

This is the P347 Draft Modification Report, which ELEXON is issuing for industry consultation on the BSC Panel's behalf. It contains the Panel's provisional recommendations on P347. The Panel will consider all consultation responses at its meeting on 8 December 2016, when it will agree a final recommendation to the Authority on whether or not the change should be made.

There are four 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.
- Attachments A,B,C and D contain the draft redlined changes to the BSC and Code Subsidiary Documents for P347.
- Attachment E contains the full responses received to the Workgroup's Assessment Procedure Consultation.
- Attachment F contains the specific questions on which the Panel seeks your views. Please use this form to provide your responses to these questions, and to record any further views/comments you wish the Panel to consider.

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### Why Change?

The current Settlement Performance Level of 99% for Measurement Classes “E”, “F” and “G” was introduced by [P272 'Mandatory Half Hourly Settlement for Profile Classes 5-8'](#) and [P300 'Introduction of new Measurement Classes to support Half Hourly DCUSA Tariff Changes \(DCP179\)'](#). The Settlement Performance level of 99% applies to the First Reconciliation Volume Allocation Run (R1), Second Reconciliation Volume Allocation Run (R2), Third Reconciliation Volume Allocation Run (R3) and Reconciliation Final (RF). The proposal in P347 is to amend the performance level for R1 only.

There is concern that a Settlement Performance Level of 99% may not be achievable during the roll out of Smart Meter Technical Specification (SMETS) certified Meters. Many of the earliest SMETS Meters are managed by Smart Meter Service Operators (SMSOs) and have technical challenges that make issue resolution by R1 challenging. This has been identified as a potential barrier to elective HH Settlement.

### Solution

P347 proposes to reduce the read Performance Level at R1 to 90% for HH customers in Measurement Classes “F” and “G”. This will enable Suppliers to electively settle sites in Profile Classes 1-4 with assurance that issues in Settlement at R1 caused by SMETS roll out will not lead to punitive measures.

### Impacts & Costs

P347 will impact Suppliers and Supplier Agents.

P347 will require new CCCs to be created in Market Domain Data (MDD). This should be delivered by proposed Modification [P339 'Introduction of new Consumption Component Classes for Measurement Classes E-G'](#). These impact the Supplier Volume Allocation Agent (SVAA), Pool Application (PA) and ELEXON MI systems. The central implementation costs will be approximately £81,000 including £240 (one ELEXON working day) to implement the relevant document changes.

If the CCCs are implemented by P339 the central implementation costs of P347 will be £240 (one ELEXON working day) to implement the relevant document changes.

### Implementation

P347 is proposed for implementation on **1 April 2017** as part of the standalone April 2017 BSC Systems Release.

### Recommendation

The Panels initial majority recommendation is that Proposed Modification P347 does not better meet applicable BSC Objectives (c) and (d) and should be **rejected**.



### History of the change

On 5 April 2016, Ofgem held a workshop on the future of Electricity Market Elective HH Settlement. This was to further investigate issues raised in response to the [December 2015 open letter on HH Settlement](#).

In May 2016 a [conclusions paper](#) was published. Under section 3.13 of the paper Ofgem recommended that a Supplier should raise a Modification to the BSC to reform the Performance Level for HH sites. Npower submitted this Modification Proposal, P347, on 29 June 2016.

### What is the issue?

#### Impacts of the current HH Performance Level

The Performance Levels on Suppliers under the BSC are more stringent for HH than for Non Half Hourly (NHH) sites. For HH sites below the 100 kilowatt (KW) threshold, Suppliers must settle 99% of volumes based on actual Meter read's by R1 (around two months after delivery) as set out in BSC Annexe S-1. This is the standard that would currently be applied to elective HH Metering Systems. In contrast, a Supplier only needs to settle 30% of NHH volumes based on actual reads at the same stage. This reflects that NHH sites have historically required a site visit to read the Meter.

Failing to meet the read Performance Level is primarily an issue of compliance with the BSC, rather than one with direct financial consequences. When a Supplier fails to meet certain BSC performance measures, it will incur Supplier Charges. These compensate other Suppliers for the costs of the failure. However, the Performance Level for HH sites below the 100kW threshold only attracts Supplier Charges at the RF run, around 14 months after delivery. The possible action that may result from failure to achieve 99% at R1 is referral to Error and Failure Resolution (EFR) by Performance Assurance Board (PAB). However this remains at the discretion of the PAB. A 'buzzer' system already exists in the PAB toolkit allowing for underperformance of specific sites without immediate referral to EFR.

Relaxing the rules on how frequently HH data must be submitted into Settlement could potentially control the costs of HH Settlement. Suppliers and Supplier Agents would face increased costs if they were required to try and resolve read collection issues through physical site visits to correct faults within the period prior to R1. Costs would be driven by complexity in arranging visits, access to domestic properties and diverting skilled staff from the on-going SMETS roll out mandated for completion by 2020.

The current Performance Level of 99% for Measurement Classes "E", "F" and "G" was introduced by approved Modifications [P272 'Mandatory Half Hourly Settlement for Profile Classes 5-8'](#) and [P300 'Introduction of new Measurement Classes to support Half Hourly DCUSA Tariff Changes \(DCP179\)'](#). Approved Modification [P338 'Consequential changes to P272 legal text'](#) further clarified the legal text in respect to these two Modifications as P272 would have overwritten the legal text introduced by P300.

### Benefits of the change

Potential benefits of reducing the R1 read performance include:

#### Measurement Classes

The Measurement Class of a Metering System reflects how it is settled i.e. HH or NHH. There are currently seven Measurement Classes:

- A) NHH Metered
- B) NHH Unmetered
- C) HH Metered 100KW and above
- D) HH Unmetered
- E) HH Metering below 100kW premises with CT
- F) HH Metering below 100kW premises with CT or whole current, domestic
- G) HH Metering below 100kW with whole current, non-domestic



#### Consumption Component Classes

Consumption Component Class is a classification of HH Consumption which comprises of one element from each of the categories listed in BSC [Section X Annex X-2, Table X-8](#) (example: metered or unmetered; with or without line losses).

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- Removing one of the perceived barriers to elective HH Settlement. Increasing the amount of HH Settlement data available to properly analyse the performance of HH Settled Sites in Profile Classes 1-4.
- Allow Suppliers and Supplier Agents to deploy resources more efficiently based on consumer need and resource availability. At the first P347 Modification Workgroup, one stakeholder said that a lower Performance Level could allow repairs to be made next time there is a van in the area and would cost less than a specific trip. Equally a missing read could be the result of an intermittent communication signal, which over time improves without the need for a further site visit.
- Smart roll out is different to AMR in that there are a large volume of small supplies versus a small volume of large supplies, and that site visit additional costs for Suppliers of small sites are proportionally significantly higher.
- Allow optimisation of how frequently remote reads are taken from advanced or non-Data Communications Company (DCC)-enrolled smart Meters, to manage communications costs.
- Allow more time to manage exceptions in data validation.
- Help manage any temporary uncertainty about the performance of smart Meters, particularly in the early stages of the roll-out.

This change would only affect the minimum performance standards that Suppliers (and their Agents) have to meet. Suppliers would be free to agree a higher level of performance with their Agents, which might be for a number of reasons. Suppliers would still be motivated to achieve higher performance in order to maintain and improve service levels in a competitive market, reduce levels of consumer dissatisfaction and meet industry targets on billing performance.

### Proposed solution

The current requirements state that Suppliers should Settle 99% of energy consumption on 'Actual Reads'.

This Modification seeks to reduce the read Performance Levels to 90%, at R1 for HH customers in Measurement Classes "F" and "G". There is a cessation date included in the Modification of 1 January 2020 from which the 99% Performance Level would become standard again.

The proposed solution requires creation of new CCCs in Market Domain Data (MDD) and alterations to ELEXON's SVAA and PA systems to enable the separation of HH Measurement Classes in Performance Assurance Reporting and Monitoring System (PARMS) reporting.

### Legal text

Attachment A contains the proposed changes to section 2.2 of BSC [Annexe S-1](#) required to implement P347 and [BSC Section X Annex X-2](#) required to implement new CCCs. In table X-8, the redlining defines the new CCCs and also includes the addition of new column named 'Measurement Class'. The new values for the Measurement Class are also defined. The new CCC IDs are mapped against Supplier Volume Reporting Group on table X-9.

Following the update of the Energy Settlement Mix data flow reference number from P0049002 to P0049003, references to this flow within [BSCP533 'PARMS Data Provision, Reporting and Publication of Peer Comparison Data'](#) and the [SVAA Data Catalogue Volume 1](#) have been redlined. These redlined changes are shown in Attachments B and C respectively.

References to specific CCC IDs in [BSCP536 'Supplier Charges'](#) have been updated and are shown in Attachment D.

For clarity should Proposed Modification P339 be approved only the proposed change to Section 2.2 of BSC [Annexe S-1](#) will need to be implemented by P347.

### Are there any alternative solutions?

The proposer originally suggested that the reduction could apply to Measurement Class "E" as well as "F" and "G". This solution would be simpler to implement but was discounted by the Workgroup. The Workgroup suggested that although applying the reduction to all three Measurement Classes would ensure that all MSIDs in Profile Classes 1-4 would be included, it would also include a number of other Profile Classes and increase the potential for poor performance of AMR sites going unchallenged.

A member of the Workgroup suggested that the reduction in Performance Level could only be applied to Measurement class "F" as this is where the majority of SMETS Meters which will be in Profile Classes 1-4 will be included. This is the agreed alternate solution but is not the primary solution as it does not cover all Profile Classes 1-4 as a number of these are included in Measurement Class "G".

A respondent to the Assessment Procedure Consultation suggested that the reduction should be extended to all Settlement Reconciliation Runs for Measurement Classes “F” and “G”.

Two respondents to the Assessment Procedure Consultation suggested that existing powers within the PAB framework were sufficient to provide Suppliers with the necessary assurance they would not be unnecessarily penalised for electing to Settle sites HH.

### Estimated central implementation costs of P347

Implementation of the solution will require the creation of additional CCCs. The impact assessment undertaken by ELEXON and our service providers indicated this would involve changes to Supplier Volume Allocation Agent (SVAA) and PA and incur a cost of approximately £81,000. Implementation of the change would take a minimum of 11 weeks.

The changes to the SVAA system include loading the new CCCs, adding the new Scaling Weights and adding the Measurement Class information. The Pool Application library file will be updated to increase the max number of CCCs. The DUoS reporting module and Supplier Quarterly Volume reporting module currently included references to specific CCC IDs. This will be altered so that CCCs will be selected based on business rules which identify the relevant CCCs rather than hardcoded CCC IDs.

Changes would be required to PARMs and other ELEXON reporting

The systems changes and new CCCs should be implemented by proposed Modification P339 and the quoted costs above would only be payable by P347 if P339 is delayed or rejected. Otherwise there would be no system costs associated with P347.

The central implementation costs will be approximately £240 (one ELEXON working day) to implement the relevant document changes.

### Indicative industry costs of P347

The implementation of P347 is not expected to require any effort from any BSC Party or Party Agent as long as the proposed CCCs are implemented by P339. If P339 is rejected the associated impacts will transfer to P347 as detailed below.

The decision to electively settle sites as HH remains at the Suppliers discretion. One respondent to the Consultation indicated minor costs in changes to reporting. Another respondent to the Consultation indicated there was a risk of increased costs only if the reduction in Performance target to 90% resulted in increased numbers of Consumers receiving estimated bills.

### P347 impacts

Impact on BSC Parties and Party Agents	
Party/Party Agent	Impact
Suppliers	Reduction in requirement at R1 for PAB review from 99% to 90% for Measurement Classes "F" and "G".  If P347 creates new CCCs Supplier systems will need to be capable of receiving the affecting data files and load them into internal systems.
HHDC's	Minimal impact if they choose to amend reporting to reflect R1 threshold change



#### Impact on BSC Parties and Party Agents

Party/Party Agent	Impact
HHDA's	<p>If P347 creates new CCCs HHDA's will need to be able to allocate Metering System Identification Administration Numbers (MSIDs) to the new CCCs.</p> <p>HHDA's must be able to submit data to the SVAA, should they be appointed to a Metering System that is registered to Measurement Classes "E", "F" or "G", using the D0040 and D0298 data flows.</p>

#### Impact on Transmission Company

If P347 is required to create the new CCCs the Transmission company will receive new aggregations for Measurement Classes "E", "F" and "G", split by Measurement Quantity on the P0210 supplementary flow. The Transmission Company will have to process this information appropriately

#### Impact on BSCCo

Area of ELEXON	Impact
Disputes and Compliance	<p>EFR is not currently used at R1 for Measurement Classes "E", "F" and "G", however it is being considered as volumes increase. There is no current impact but this may change by the date that P347 is implemented.</p> <p>If P347 needs to implement the new CCCs it will also add new valid values to MDD and process MDD Change Requests to enter the new Consumption Classes into MDD.</p> <p>BSCCo will publish the new LLFC IDs and mapping information on the BSCCo Website.</p> <p>BSCCo will update internal reporting systems which provide performance information to Parties. Certain internal reporting systems contain references to specific CCC IDs which will need to be updated.</p>

#### Impact on BSC Systems and process

BSC System/Process	Impact
SVAA	Updates to various data items to reflect new CCCs
Pool Application (PA)	Update to Library file to increase the maximum number of CCCs.
PARMS	Updates to various data items to reflect new CCCs

Impact on Code	
Code Section	Impact
Annex S-1	Changes to paragraph section 2.2 see attachment A for details.
Section X, Annex X-2	If P339 is rejected and P347 introduces the new CCCs. The list of CCCs will be updated to include the new CCC IDs. A column for 'Measurement Class' will be added to match the corresponding Measurement Class for that CCC. The new CCC IDs will be mapped against Supplier Volume Reporting Group on table X-9.

If P339 is rejected and the new CCCs are implemented by P347 these additional changes are required.

Impact on Code Subsidiary Documents	
CSD	Impact
BSCP533	Update Data Catalogue Flow Reference number from P0049002 to P004903.
BSCP536	Update references to specific CCC IDs.
SVAA Data Catalogue Volume 1	Update Data Catalogue Flow Reference number from P0049002 to P004903.

### Recommended Implementation Date

The Workgroup recommends an Implementation Date for P347 of 01 April 2017, as part of the standalone April 2017 BSC Release. This will align with expected industry timelines for ramp up of SMETS meter installations and the expected Implementation of P339.

It should be noted that proposed Modification P339, if approved, will deliver all the system changes required to enable P347. If there is any delay to P339 or it is rejected and P347 needs to deliver the new CCCs required for the proposed Solution, P347 would move back to the June 2017 BSC Release. A later release date will have no material impact on the objectives of P347.

### Why is this Modification required?

As part of its discussions, the P347 Workgroup questioned the need for this proposed Modification for the following reasons:

- It is elective to move Meter System Identifiers (MSID's) into Measurement Classes "E", "F" and "G". Automatic Meter Reading (AMR) metered PC5-8 sites have to move to HH under the mandate of the Code subject to P272 requirements. Under P272 Metering should be settled under the appropriate MC. The majority of these should be Measurement Class "E".
- DCC is required to ensure the communications network is performing.
- Suppliers have 60 days to resolve any issues.
- There are no supplier charges for failing to achieve 99% at R1.
- Is perceived risk of failing to reach read targets creating a barrier to elective HH settlement?

Four respondents to the Assessment Procedure Consultation disagreed with the proposed reduction in Performance Standards at R1. Reasons for objection included:-

- Expectation the DCC will work and that small numbers of faults in domestic premises should not impact overall Settlement Performance.
- Concern that the 90% solution is arbitrary and not based on any evidence or analysis.
- Concern that a drop in requirements at R1 may set a precedent for other Settlement Reconciliations and be detrimental to consumers if Suppliers issue estimated bills as a result of letting issues go unresolved for longer periods.
- Suggestion that 95% would be a better starting point for any reduction.

One Workgroup member queried why is the 99% R1 threshold a barrier to elective HH Settlement. The proposer indicated that the Modification was drawn from responses and conclusions in the Ofgem consultation on barriers to elective HH Settlement. Ofgem added that industry wide consultation and discussion had been conducted over several months, with several respondents raising this issue as a potential barrier. Ofgem also commented that DCC obligations cannot be relied upon for compliance with BSC. The Workgroup expressed a reluctance to reduce standards that currently maintain integrity and support competition in the market.

Several Workgroup members advised that the aim of the Modification is to remove any perceived barrier to elective HH Settlement. A member suggested that Suppliers may perceive even a risk of EFR referral or PAB summons to be an unnecessary distraction during a period where SMETS roll out and other regulatory issues are taking priority. This in their view would make Suppliers decline HH Settlement until it became mandatory. The member added that this does not mean Suppliers would not aim for 99% Settlement or that Consumers would be left with poor service. They noted that there was a number of other commercial, competition and regulatory reasons why this would not be beneficial to Suppliers.

A member challenged the number of Meters that would be affected by this proposed Modification. There is no Smart Metering Equipment Technical Specifications 2 (SMETS2) Meters currently installed and all Smart Metering Equipment Technical Specifications 1 (SMETS1) Meters are currently managed by SMSOs. Further delays to DCC and the planned enrolment of SMETS1 Meters, suggests limited numbers of Meters would be affected. Another Workgroup member countered that this reduction, although temporary, would extend until completion of the SMETS roll out and would mitigate any early issues caused by the use of SMSOs or early network stability.

Workgroup members highlighted concerns that the Modification seemed to be based on 'fear of the unknown'. A member suggested that this Modification was not the key to HH Settlement and there are bigger barriers. There is no current evidence that sites elected into HH Settlement are failing to hit the existing 99% Performance Level. Further, lowering the Performance Level for R1 in Measurement Classes "E", "F" and "G" could set a precedent for reducing other performance measures. A member also suggested that as HH Settlement provides certainty on cash flow it is already in Suppliers interests to elect to Settle this way.

Ofgem agreed it is more efficient to Settle using HH data but suggested that if the standards are set too high, no-one will enter elective Settlement. Ofgem acknowledged that 90% remains a tough target and this is only meant to provide a permissive environment to encourage early adoption. Ofgem added that Standards still fill an important role, it's about adapting them and we can change them again over time. This Modification alone will not remove all barriers to elective HH Settlement but is intended as part of a wider set of reforms which are in progress.

A member noted that it is only through encouraging elective HH Settlement the industry will get the necessary data to analyse and determine an appropriate performance threshold for HH Settlement. Until Suppliers are incentivised to start HH Settlement there will be little or no data available.

A member pointed out that the current Performance Level drives resolution of problems, lowering the threshold may reduce the effort and focus on those issues. ELEXON suggested there could be an agreement to not apply the standard for a short period. A 'buzzer' process already exists within PAB for less than 500Mwh R1 sites. A similar system could be put in place for Measurement Classes "F" and "G". ELEXON could use CCC Id's 23 and 28 to track performance. Suppliers would technically still be in breach but would not be referred to EFR. A member asked how long it would take ELEXON to implement the solution? They were advised it would take 3-6 months to consult on the changes with Industry and adopt the change. A member asked how quickly it could be revoked? ELEXON replied it would need to consult again on any reversion back to full enforcement and this would take another 3-6 months. A Member pointed out that this would not provide sufficient clarity for Suppliers and therefore does not reduce any concerns about being penalised for electing to Settle HH.

Another member queried what a typical PAB response would be to failing to hit 99% at R1. A member indicated that should a Party miss the target threshold, it is non-compliant with the BSC and potentially with the Licence Conditions (LCs). Where this happens, the Party must account for the issues at PAB. A Member asked if this process and the outcome is at PAB's discretion? Another Member confirmed that the issues would enter the EFR process, with PAB using their discretion only over the resolution path.

A member noted that Suppliers are further incentivised to maintain high levels of performance when electing to Settle HH regardless of the target level. Many customers will

be marketed HH tariffs and will need to be billed on that basis. For this reason business process will drive effective HH Settlement.

A majority of members of the Workgroup supported the Modification as it would provide clarity on requirement at R1. It was felt this would provide the necessary space to enable Suppliers to roll out SMETS whilst developing long term solutions to any read issues without excessive costs.

### **Should the reduction only be applied to Measurement Classes "F" and "G"?**

The majority of respondents to the Assessment Procedure Consultation agreed that the reduction should only be applied to "F" and "G".

Three respondents did not agree. One felt that the reduction should be applied to "E" "F" and "G" as the only difference seems to be volumes of MPANs and average demand. They also noted it was more practical if P339 is rejected and questioned why anyone would consider creating additional CCCs simply to implement this change.

One respondent did not agree with any reduction to any Measurement Class. Another respondent felt that it should only be applied to Measurement Class "F" as this was where the large majority of domestic smart Meters would be located.

The Workgroup noted the consultation responses and discussed the options. Members pointed out that the intention was to cover Profile Classes 1-4 with the Modification. It was unlikely that any of the SMETS smart Meters would fall into Measurement Class "E" as this was primarily where sites captured under P272 would fall. It was recognised by the Workgroup that the majority of sites would fall under Measurement Class "F", however a significant enough number (tens of thousands) would also fall into Measurement Class "G" and therefore it should be included in the Modification scope.

### **Do cash flow implications manifest through implementation of P339 and P347?**

The P347 Workgroup discussed the potential for impacts. One member questioned if there was an impact on micro-generation. The Workgroup felt this was unlikely for P347 if we only apply it to Measurement Classes "F" and "G".

Group Correction Factor (GCF) was also discussed. The Workgroup agreed that if [P339' Introduction of new Consumption Component Classes for Measurement Classes E-G'](#) is implemented there would be no new implications, as a Scaling Weight of 1 is added to Domestic HH, further GCF will not change as it is still using the same Mega Watt Hour (MWH) distribution.

One Member stated that if P339 is rejected and large volumes of Meter points are elected to HH Settlement there would be implications on cash flows between reconciliation points. This would affect Traders ability to forecast. In NHH Settlement the behaviour of individual consumers is averaged over time, which removes the impact of individual behaviours. HH Settlement makes you more exposed to consumption changes. However, another Workgroup member suggested that in this scenario and others there are numerous variables and all of them would need to be true to manifest an issue. It was noted that as the preferred solution involves implementation of many of the changes planned in Proposed Modification P339 this further reduces any risk.

### **What interactions with P339 need to be considered?**

A Member noted that P347 may have a dependency on P339 if new Consumption Component Classes are required.

ELEXON advised the Workgroup that the preferred solution of separation of Measurement Class "E" from "F" and "G" will not be possible without new CCCs for "F" & "G". It is not possible to progress this Modification with a dependency on P339 as it may get rejected. Therefore we would need to propose creating new CCCs for "F" and "G" in this Modification. A Member suggested another way to separate "E" from "F" and "G" would be to use Line Loss Factor (LLF) through the D0040 Flows. ELEXON noted that this may not be appropriate as there was a dependency on Distributors updating the flows correctly.

The Workgroup discussed potential impacts on accuracy of Measurement Class "E" through including it in the performance reduction. It was noted that current performance of "E", "F" and "G" was 90.25% at R1 and 78% at SF.

### **Does a reduction to 90% provide enough incentive to Suppliers to take up elective HH Settlement?**

The consultation responses were split in response to the question; "Do you agree that a reduction in R1 Performance level from 99% to 90% will encourage you to utilise elective HH Settlement?"

Some respondents noted the reduction of risk of EFR plans, others noted the current target was a perceived barrier and a lower one would help reduce costs.

Four respondents disagreed and advised they did not see the 99% target as a barrier.

One respondent felt that the reduction could incentivise Suppliers to introduce more innovative time of use tariffs to the market benefitting consumers. This however needed to be balanced against the risks of performance dropping and increases in bill estimation.

The Workgroup considered whether 90% is best suited for the new Performance Level at R1. The proposer replied that this figure was suggested to Ofgem by respondents to the consultation on barriers to elective HH Settlement. Ofgem confirmed that the 90% threshold was put forward by attendees to a Stakeholder Workshop during the consultation with no specific rationale. In broader terms 90% was deemed to be a significantly big enough reduction to achieve the aims without being so big it would be detrimental. A member asked what the DCC targets are, and whether the BSC Performance Level could be aligned to the DCC target. Another member confirmed the DCC target is 98%. However, ELEXON and Ofgem suggested that the DCC and BSC performance should be separate as they are designed to resolve different issues and challenges. The DCC standard is set to drive reliability in the communications network it is separate from faults resolution at Meter level.

A member pointed out that the majority of sites eligible for HH Settlement will not be hosted by DCC until at least late 2018. These sites have other issues such as interoperability which will impact Settlement Performance. A member suggested that the key question with these sites was if the Supplier was contracted with an SMSO or not, as this was the key to read performance.

The Workgroup considered whether the HH agent costs associated with P347, acted as a disincentive? It is unlikely that Data Collectors (DC) or Data Aggregators (DA) would incur any marginal costs. This view was backed up by responses to the consultation. HHDC's and HHDA's that responded either would not be adjusting their performance measures or would only need to tweak reporting.

Several members noted in a consultation response suggesting that 95% would be a better target and that they were not adverse to the higher limit. Other members disagreed, both 90% and 95% are arbitrary limits but 90% is a clearer incentive for elective HH Settlement. If the objective of P347 is to remove a barrier and incentivise elective HH Settlement then 90% should be the target.

A member suggested that it depends on the individual Suppliers contract with their Meter Asset Manager (MAM). The Suppliers will have agreed service levels within the contracts that any work that's required to be completed urgently will incur higher costs. Another member suggested that the current targets encouraged Suppliers to incentivise Meter Operators (MOPs) and MAM's to get installations right first time. Another member noted that smaller Suppliers could be subject to pressure from MOP's in contractual discussions to agree to the 90% target as it is set in the BSC. Other members disagreed and said this would not be in the commercial interests of the MOPS and competition would simply mean small Suppliers choose a MOP that would offer higher performance.

A Workgroup member pointed out that in their opinion this was a new standard not a reduction in an existing one. In this case we should encourage entry with the proposed 90% and then evolve the target as more data became available.

ELEXON suggested that the Workgroup should stick with the proposed 90%. A Member agreed that if the issue is confidence in not being subject to EFR for circumstances outside of Suppliers control. A reduction to 90% is a significant shift that should increase confidence. The Workgroup agreed.

## Is a Sunset Clause required for P347?

Respondents to the Assessment Procedure Consultation were strongly in favour of a Sunset Clause being included in P347.

Most respondents felt that it should return to 99% as soon as possible and that 1 January 2020 was a reasonable date. One respondent felt that this date was optimistic but was a better solution than linking it to SMETS1 adoption which they felt would be a mistake.

The Workgroup discussed the idea of including a 'sunset clause' in the Modification to ensure the reduction in Performance Level was temporary. Members felt this would send a clear message that the aim is still to reach 99% Settlement and any reduction is temporary. Members felt that if data showed that either the date or the threshold were incorrect a BSC party could raise a new Modification to amend it.

## What should be the trigger for the Sunset Clause?

Four options were put forward as possible triggers for the clause.

1. When HH Settlement becomes mandatory
2. When a specified volume of elective HH sites is reached
3. When DCC enables capability to adopt SMETS1
4. 1 January 2020 (SMETS roll out completion)

The Workgroup agreed that none of the first three suggested triggers were ideal as they are all events rather than fixed dates. A member suggested that the third suggestion was



the most beneficial, and should be the trigger for a 6 month period before the 99% becomes enforced again. Another member suggested a graded return to 99% over the 6 month period but this was rejected as unnecessarily complex. A member suggested that there should be a fixed date beyond which the Performance Level for R1 returns to 99% as potentially SMETS1 adoption could be delayed indefinitely. The Workgroup agreed this was sensible.

In the second Workgroup this was revisited, one member suggested that the fixed date should be far enough ahead to establish if P347 was having a positive effect on HH Settlement and provide enough time to raise a Modification to extend it if required. Another member agreed and added that this would give opportunity to complete a 'proof of concept' and prove the benefits of the reduction in Performance Level.

A member suggested the date of 1 January 2020 as the Sunset Clause effective date and the Workgroup agreed this was sensible.

Respondents to the Assessment Procedure Consultation broadly agreed with the proposed date of 1 January 2020. However some respondents could not see any reason for a 6 month window. One respondent felt that a 180 day 'cool off' would not be sufficient if based on SMETS1 adoption by DCC. They speculated that numerous issues with the adoption process and post adoption performance could impact Suppliers ability to meet the 99% target.

At the third Workgroup after taking into account the consultation responses the members decided to remove the section of proposed Legal text that refers to 'DCC adoption of SMETS1' and the six month window. The Workgroup felt that it was simpler and more effective to have a clear date upon which the R1 target for Measurement Classes "F" and "G" reverts back to 99%.

The Workgroup therefore agreed to stick with an absolute date of 1 January 2020.

### **What will the interaction be between P347 and Approved Modifications P272 and P338?**

A Member suggested that P347 could impact ELEXON's ability to measure the success of P272 for one year. It was suggested that ELEXON would still know the performance but it would not be chargeable. Ofgem responded that R1 performance is not charged now; it is where ELEXON identifies issues and encourages Parties to fix them. ELEXON indicated the impact would be at PAB where decisions would need to be made on what action to take. A Member said that PAB will approach Suppliers with an issue and get rejected as there is no penalty for failed to meet the requirement. This does however already happen at the 99% threshold which may be another argument for not reducing it. ELEXON countered that it only needs to be able to monitor performance and advise Suppliers before Reconciliation Final (RF).

### **What changes are needed to BSC documents, systems and processes to support P347 and what are the related costs and lead times?**

Implementation of the preferred solution will require changes to the legal text in [Annexe S-1 of the BSC](#). If Proposed Modification P339 is rejected additional changes to [BSC Section X Annex X-2](#) will be required to support new CCC's. The proposed legal text is detailed within Attachment A.

Following the update of the Energy Settlement Mix data flow reference number from P0049002 to P0049003, references to this flow within [BSCP533 'PARMS Data Provision, Reporting and Publication of Peer Comparison Data'](#) and the [SVAA Data Catalogue Volume](#)

1 have been redlined. These redlined changes are shown in Attachments B and C respectively.

References to specific CCC IDs in [BSCP536 'Supplier Charges'](#) have been updated and are shown in Attachment D.

ELEXON will also need to update the SVAA and PA systems to recognise and translate the additional CCCs required to enable the solution. The Impact Assessment has indicated this will cost £81,000 and take 11 weeks to complete. An update will also be required to PARMS to enable production of the new reporting. One ELEXON Working day of effort would be required to implement the Legal Text changes at a cost of £240.

### **Interaction with P339**

If Proposed Modification P339 is approved and implemented as planned on 1 April 2016 the central systems costs of £81,000 will be picked up by P339 and only charged once by the service provider. The only central implementation costs chargeable to P347 will be the £240 (one ELEXON working day) cost of Legal Text change.

### **Increased costs of the modification**

The costs associated with internal reporting tools were identified after the final Workgroup meeting and Assessment Procedure Consultation. This means the Workgroup and the consultation respondents were not aware of the full costs during their considerations of P347. The costs that were originally identified were £25,000 rather than £81,000.

The Workgroup was comfortable that the £25,000 costs and timeline were reasonable for the benefits of the proposed Solution.

### **Are there any alternative Modifications?**

Four alternative Modifications were discussed by the Workgroup:

1. Do nothing and allow PAB to use discretion in enforcement of the R1 requirement
2. Apply the reduction to 90% at R1 to Measurement Classes "E" "F" and "G"
3. Apply a target of 90% to Measurement Class "F" and 95% to Measurement Class "G"
4. Apply the reduction to 90% to Measurement Class "F" only

The Workgroup felt that Proposed Alternative 1 would not achieve the intended benefits of Proposed Modification P347 and would not provide the necessary clarity for Suppliers.

Proposed Alternative 2 would apply the performance reduction to Meters that were not intended within the scope of P347 and would have implications for identifying issues with non SMETS and Current Transformer (CT) meters Settlement.

The Workgroup decided that Proposed Alternative 3 would add unnecessary additional complexity to the Modification. ELEXON added that this would require an additional three sets of reporting from PARMS.

The Workgroup agreed that Proposed Solution 4 presented the best alternative to the recommended solution. There were concerns that only applying the reduced requirement to Measurement Class "F" may miss significant numbers of other Meters in Profile Class 1-4 that are currently with Measurement Class "G".

### Impact on Metered Measurement Classes

Profile Class Id	Profile Class Description	Current (NHH) MC	HH MC
1	Domestic Unrestricted	A	F <sup>1</sup>
2	Domestic Economy 7	A	F <sup>1</sup>
3	Non-domestic Unrestricted	A	E or G
4	Non-domestic Economy 7	A	E or G
5	Non-domestic, MD, load factor 0-20%	A	E or G
6	Non-domestic, MD, load factor 20-30%	A	E or G
7	Non-domestic, MD, load factor 30-40%	A	E or G
8	Non-domestic, MD, load factor 40%+	A	E or G

### Impact on Unmetered Measurement Classes

Profile Class Id	Profile Class Description	Current (NHH) MC	HH MC
1	Domestic Unrestricted	B	D
8	Non-domestic, MD, load factor 40%+	B	D

<sup>1</sup> Suppliers may register CT domestic sites to Measurement Class "E", however the expectation is that these will remain on "F".



## Should Modification P347 be approved or rejected?

The Workgroup unanimously agreed that the Proposed Solution to reduce the read Performance Levels at R1 to 90% for HH customers in Measurement Classes "F" and "G" should be the recommended Solution. The Alternate Solution of Application of the reduction in read Performance Level to 90% for only Measurement Class "F" should be rejected.

## Does P347 better facilitate the Applicable BSC Objectives?

The Workgroup voted by majority that P347 does better facilitate Applicable BSC Objectives (c) and by Majority that it does not support Applicable BSC Objective (d). It was felt that reduction in Performance Level could not be justified as promoting efficiency in the BSC.

Does P347 better facilitate the Applicable BSC Objectives?		
Obj	Proposer's Views	Other Workgroup Members' Views <sup>2</sup>
<b>(c)</b>	<ul style="list-style-type: none"> <li>Yes - the proposer believes implementation of a less stringent, more achievable performance target will encourage facilitation and take up of Elective HH Settlement, thereby promoting competition.</li> </ul>	<ul style="list-style-type: none"> <li>Yes (majority - Five) – As proposer</li> <li>No (Minority – One) – Does not believe reduction in performance target will have any positive impact</li> </ul>
<b>(d)</b>	<ul style="list-style-type: none"> <li>No - the proposer does not agree that reduction in performance standards will increase efficiency</li> </ul>	<ul style="list-style-type: none"> <li>Yes (minority – one) – Increased take up of HH Settlement will eventually lead to greater efficiency</li> <li>No (majority – five) disagreed that P347 will promote efficiency</li> </ul>

## The Assessment Procedure Consultation Responses to the question; Does P347 better facilitate the Applicable BSC Objectives? Were:

Does P347 better facilitate the Applicable BSC Objectives?		
Obj	Proposer's Views	Consultation Respondent Views
<b>(c)</b>	<ul style="list-style-type: none"> <li>Yes - the proposer believes implementation of a less stringent, more achievable performance target will encourage facilitation and take up of Elective HH Settlement, thereby promoting competition.</li> </ul>	<ul style="list-style-type: none"> <li>Yes (majority - Seven) – As proposer</li> <li>No (Minority – six) – Leniency in Performance standards does not encourage competition</li> </ul>
<b>(d)</b>	<ul style="list-style-type: none"> <li>No - the proposer does not</li> </ul>	<ul style="list-style-type: none"> <li>Yes - (six) – Will Improve Settlement</li> </ul>

### 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 administering the arrangements for the operation of contracts for difference and arrangements that facilitate the operation of a capacity market pursuant to EMR legislation

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<sup>2</sup> Shows the different views expressed by the other Workgroup members – not all members necessarily agree with all of these views.

Does P347 better facilitate the Applicable BSC Objectives?		
Obj	Proposer's Views	Consultation Respondent Views
	agree that reduction in performance standards will increase efficiency	<p>accuracy and result in more efficient implementation of Settlement arrangements</p> <ul style="list-style-type: none"> <li>• Neutral – (one) - Will Improve Settlement for large proportion of NHH Supplies but will encourage more estimation</li> <li>• No – (six) disagreed that P347 will promote efficiency</li> </ul>

## Does the Draft Legal text deliver the intention of P347?

The Workgroup recommends that Sub-clause (a) which refers to the DCC confirmation of capability to adopt SMETS1 should be removed from the Draft Legal Text and unanimously agree the remaining redlining should be accepted.

## Is there any reason that P347 should not be progressed as Self-Governance?

The Workgroup noted one respondent to the Assessment Procedure Consultation did not agree that P347 meets the Self Governance criteria as they felt the Proposed Solution will have material impact on Consumers. The Workgroup did not agree with this view as it would not be in Suppliers interest to lose market share through providing poor service. Previous Workgroup discussion had highlighted several reasons why Suppliers would still be incentivised to provide accurate billing and innovate new products reliant on HH Settlement.

The Workgroup unanimously agreed to recommend that there is no reason why P347 should not progress under Self-Governance.



### Self-Governance Criteria

A Modification 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.

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### What evidence exists to support the proposed target?

The Panel questioned if any quantifiable analysis had been done to assess the potential costs or benefits of reducing the R1 performance threshold to 90%? ELEXON responded that this modification is meant to address a potential future problem that could discourage Suppliers from electing to settle sites as HH, as such there is no current data available.

A Panel Member noted that the Supplier with the largest number of installed Meters (British Gas) that would be eligible for Elective HH Settlement in Measurement Classes "F" and "G" currently has no problem achieving the 99% target. It was also noted that P347 is about Elective HH Settlement and Suppliers can choose not to migrate sites with known issues that could affect performance.

Another Panel member noted that Utilita has 85% of its customers on HH smart Meters and does see the current 99% performance threshold as a barrier. In fact they believe that a full analysis of all the Reconciliation run targets should be undertaken with a view to revising the targets across the board to reflect metering and market developments.

There was some discussion on how the 90% revised target was chosen. It was noted that this was arbitrary but that the existing 99% target was also not evidence based. However it was noted that despite originally being thought of as too high for NHH meters, Suppliers do now consistently hit the current targets.

A Panel Member questioned why smart Meters would be harder to read than ordinary meters? Surely the opposite should be true? ELEXON responded that this was down to the reliability of data networks and issues with individual sites and communication hubs. A Panel member agreed and advised that even issues such as heavy traffic increasing data usage in an area can have short term impacts.

### What would be the impact to Suppliers of failing to meet 99%?

The Panel noted that there is no penalty for Suppliers who fail to achieve 99% at R1 and the Error and Failure Resolution (EFR) process is at the discretion of PAB. The majority of the Panel did not feel that reducing the target would be helpful or remove a barrier to competition. One Panel Member felt that reducing the performance would be detrimental to the smart Meter roll out and would lead to anger amongst consumers who expected their new Meters to end estimated bills. Maintaining existing targets should incentivise Suppliers to resolve issues that still exist and improve the realisation of expected smart benefits.

## Panel's initial recommendations

### Applicable BSC Objectives

The Panel unanimously agreed that P347 **would not better facilitate Applicable BSC Objective (c) or (d).**

The Panel therefore initially unanimously recommends that P347 should not be approved.

#### Report Phase Consultation Question

Do you agree with the Panel's initial majority recommendation that P347 should not be approved?

*Please provide your rationale with reference to the Applicable BSC Objectives.*

The Panel invites you to give your views using the response form in Attachment F

## Self-Governance

The Panel unanimously disagrees with the Workgroup's recommendation that P347 meets the Self-Governance Criteria and so **should not** be progressed as a Self-Governance Modification.

### Report Phase Consultation Question

Do you agree with the Panel's initial unanimous view that P347 should not be treated as a Self-Governance Modification?

*Please provide your rationale.*

The Panel invites you to give your views using the response form in Attachment F

## Legal text

The Panel unanimously agrees that the draft redlined changes to the BSC and CSDs in Attachments A-D deliver the intention of P347.

### Report Phase Consultation Question

Do you agree with the Panel that the redlined changes to the BSC and CSDs deliver the intention of P347?

*Please provide your rationale.*

The Panel invites you to give your views using the response form in Attachment F

## Implementation Approach

The Panel unanimously agrees with the Workgroup's recommended Implementation Date put forward under Section 5.

### Report Phase Consultation Questions

Do you agree with the Panel's recommended Implementation Date?

*Please provide your rationale.*

The Panel invites you to give your views using the response form in Attachment F

## 9 Recommendations

The BSC Panel initially recommends to the Authority:

- That P347 should be **rejected**;
- An Implementation Date for P347 of:
  - 1 April 2017 if an Authority decision is received on or before 1 February 2017; or
  - 29 June 2017 if an Authority decision is received after 1 February 2017 but on or before 1 March 2017; and
- The draft BSC legal text for P347.



### Workgroup's Terms of Reference

Specific areas set by the BSC Panel in the P347 Terms of Reference

What interactions with P339 need to be considered?

What will the interaction be between P347 and Approved Modifications P272 and P338?

What changes are needed to BSC documents, systems and processes to support P347 and what are the related costs and lead times?

Are there any alternative Modifications?

Does P347 better facilitate the Applicable BSC Objectives than the current baseline?

Should P347 be treated as a Self-Governance Modification?

What interactions with P339 need to be considered?

What will the interaction be between P347 and Approved Modifications P272 and P338?

### Assessment Procedure timetable

#### P347 Assessment Timetable

Event	Date
Present Initial Written Assessment to Panel	14 Jul 16
Initial Workgroup Meetings	W/C 01 Aug 16
Further Workgroup Meetings	22 Sept 16
Assessment Procedure Consultation (13WD)	28 Sept – 17 Oct 16
Final Workgroup Meeting	W/C 24 Oct 16
Present Assessment Report to Panel	10 Nov 16
Report Phase Consultation (13WD)	11 Nov 16 – 29 Nov 16
Present Draft Modification report to Panel	08 Dec 16

## Workgroup membership and attendance

P347 Workgroup Attendance				
Name	Organisation	25 Jul 16	22 Sep 16	25 Oct 16
David Kemp	ELEXON (Chair)	✓	✗	✗
Jemma Williams	ELEXON (Chair)	✗	✓	✓
Royston Black	ELEXON (Lead Analyst)	✓	✓	✓
Andy Baugh	Npower (Proposer)	✓	☎	✗
Christopher Day	Npower (Alternate)	✗	✗	✓
Barney Scott	OVO	✓	✓	☎
David Finnemore	Engie	✓	✓	✓
Ed Sutton	Stark	✗	✗	✗
Eric Graham	TMA	✓	✗	✗
Gregory Mackenzie	British Gas	✗	✓	✗
James Murphy	Stark	✓	✓	✓
Seth Chapman	G4S	✓	✗	✗
Tim Newton	Eon	✗	✓	✓
Kristian Pilling	SSE	☎	✓	☎
Paul Akrill	IMSERVE	✓	✓	✓
Philip Russell	Independent	✓	✓	✓
Non-voting participants				
Kevin Spencer	ELEXON ( <i>Design Authority</i> )	✓	✗	✗
Elliot Hall	ELEXON ( <i>Design Authority</i> )	✗	✓	✓
Nicholas Brown	ELEXON ( <i>Lead Lawyer</i> )	✓	✓	✗
Martin Bell	Ofgem	✓	✓	✓
Kathryn Gay	ELEXON (Subject Matter Expert)	✓	✗	✓
Paulina Stelmach	ELEXON (Subject Matter Expert)	✗	✓	✗
John Guest	CGI	✗	✓	✗
Andy Howden	CGI	✗	✓	✗

## Appendix 2: Glossary & References

### Acronyms

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

Acronyms	
Acronym	Definition
AMR	Automatic Meter Reading
BSC	Balancing and Settlement Code (industry Code)
CCCs	Consumption Component Classes
CT	Current Transformer
DA	Data Aggregator
DC	Data Collector
DCC	Data Communications Company
EFR	Error and Failure Resolution
GCF	Group Correction factor
HH	Half Hourly
Kw	Kilo Watt
LCs	Licence Conditions
LLF	Line Loss Factor
MAM	Meter Asset Manager
MDD	Market Domain Data
MOP	Meter Operator
MSID	Metering System Identifier
MwH	Megawatt Hour
NHH	NonHalf Hourly
PA	Pool Allocation ( <i>Panel Committee</i> )
PAB	Performance Assurance Board ( <i>Panel Committee</i> )
PARMS	Performance Assurance Reporting and Monitoring System ( <i>BSC System</i> )
R1	First Reconciliation Volume Allocation Run
RF	Reconciliation Final
SMETS	Smart Metering Equipment Technical Specifications
SMETS1	Smart Metering Equipment Technical Specifications version 1
SMETS2	Smart Metering Equipment Technical Specifications version 2
SMSOs	Smart Metering System Operator
SVAA	Supplier Volume Allocation Agent ( <i>BSC System</i> )

## 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
D0040	<a href="#">Aggregated Half Hour Data File</a>
D0298	<a href="#">BM Unit Aggregated Half Hour Data File</a>

## 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
5	Link to Ofgem open letter on Elective Half Hourly Settlement	<a href="https://www.ofgem.gov.uk/sites/default/files/docs/final_open_letter_on_hhs.pdf">https://www.ofgem.gov.uk/sites/default/files/docs/final_open_letter_on_hhs.pdf</a>
5	Link to Ofgem conclusions paper on Elective Half Hourly Settlement	<a href="https://www.ofgem.gov.uk/system/files/docs/2016/05/elective_hhs_conclusions_paper.pdf">https://www.ofgem.gov.uk/system/files/docs/2016/05/elective_hhs_conclusions_paper.pdf</a>
5	Link to Modification P338 webpage	<a href="https://www.elexon.co.uk/mod-proposal/p338/">https://www.elexon.co.uk/mod-proposal/p338/</a>
3,5	Link to Modification P300 webpage	<a href="https://www.elexon.co.uk/mod-proposal/p300/">https://www.elexon.co.uk/mod-proposal/p300/</a>
3,5	Link to Modification P272 webpage	<a href="https://www.elexon.co.uk/mod-proposal/p272-mandatory-half-hourly-settlement-for-profile-classes-5-8/">https://www.elexon.co.uk/mod-proposal/p272-mandatory-half-hourly-settlement-for-profile-classes-5-8/</a>
3,14	Link to Modification P339 webpage	<a href="https://www.elexon.co.uk/mod-proposal/p339/">https://www.elexon.co.uk/mod-proposal/p339/</a>
6,17	BSC Section X Annexe X-2	<a href="https://www.elexon.co.uk/wp-content/uploads/2016/06/Section_X-2_v37.0.pdf">https://www.elexon.co.uk/wp-content/uploads/2016/06/Section_X-2_v37.0.pdf</a>
6,17	BSCP 533	<a href="https://www.elexon.co.uk/bsc-related-documents/related-documents/bscps/6/?show=10&amp;type">https://www.elexon.co.uk/bsc-related-documents/related-documents/bscps/6/?show=10&amp;type</a>
6,17	BSCP 536	<a href="https://www.elexon.co.uk/wp-content/uploads/2015/10/BSCP536_v15.0.pdf">https://www.elexon.co.uk/wp-content/uploads/2015/10/BSCP536_v15.0.pdf</a>
6,17	BSC Section S Annexe S-1	<a href="https://www.elexon.co.uk/wp-content/uploads/2015/11/Section_S_Annex_S-1_v9.0.pdf">https://www.elexon.co.uk/wp-content/uploads/2015/11/Section_S_Annex_S-1_v9.0.pdf</a>
6,17	SVAA data catalogue	<a href="https://www.elexon.co.uk/bsc-related-documents/related-documents/business-definition-documents/">https://www.elexon.co.uk/bsc-related-documents/related-documents/business-definition-documents/</a>