Meeting name	Supplier Volume Allocation Group
Date of meeting	01 September 2009
Paper title	Change Proposal Progression
Purpose of paper	For Decision
Synopsis	This paper provides: • 3 Change Proposals (CP1267, CP1302 and CP1303) for decision; and • details of the status of all Open Draft Change Proposals (DCPs) and Change Proposals (CPs).

1 Introduction

1.1 This paper provides the details of 3 CPs for you to consider and agree on their progression. ELEXON issued CP1302 and CP1303 for Party/Party Agent impact assessment via Change Proposal Circular (CPC) 00666. In light of this assessment, we invite the SVG to decide whether to approve or reject CP1302 and CP1303.

1.2 Last month, you deferred a decision on CP1267, asking us to look at whether a manual solution was viable. We have looked into the manual option, and provide an update within this paper. We invite you to decide whether to approve or reject the CP.

2 Summary of Open Change Proposals

2.1 <u>**CP1302 – Requirement on Half Hourly Data Collectors to Validate Reactive Power Demand Values**</u>

<u>**CP1303 – Requirement on Half Hourly Data Collectors to Estimate Missing Reactive Power Demand Values**</u>

2.2 Following the work of the Reactive Power Working Group, which SVG set up, we raised 6 CPs. You approved CPs 1296, 1297, 1298 and 1299 last month, and they will be implemented as part of the February 2010 Release. CP1302 and CP1303 are the final 2 CPs, developed by the Reactive Power Working Group to improve the accuracy of Reactive Power data provided to LDSOs.

2.3 We raised CP1302 and CP1303 on 3 July 2009. We subsequently issued them for impact assessment (via CPC00666) in July 2009.

2.4 CP1302 and CP1303 aim to address issues associated with absent and/or erroneous Reactive Power data being submitted to Licensed Distribution System Operators (LDSOs) by Half Hourly Data Collectors (HHDCs). They aim to achieve this by ensuring that HHDCs estimate and validate Reactive Power data where data is available, or should be available from a given Meter.

2.5 CP1302 Impact Assessment responses

2.5.1 We received 13 responses; of these 8 agreed, 3 disagreed and 2 were neutral. One of the respondents who agreed with the proposal believed that CP1302 would lead to an improvement in data quality. We agree with the respondent and believe that CP1302 would provide assurance that Reactive Power data is accurate and consistent with actual Meter readings.

2.5.2   The table below represents a summary of the views expressed by the 3 respondents who disagreed with CP1302. For a more detailed overview please refer to section 7 of Appendix 1.

Comment	ELEXON's Response
Suppliers currently do not require HHDCs to validate and/or estimate Reactive Power data, and the cost/effort needed to validate and estimate the data will outweigh any benefits. **Note:** These respondents also included these comments as part of their CP1303 responses.	For Reactive Power data to be of use to LDSOs, it needs to be valid, accurate and consistently available. This will allow more consistent charging by LDSOs. While Suppliers have not required this data in the past, the Expert Group feel strongly that this data will become more important in the future. This is consistent with the majority view of respondents, who supported these CPs.
The solution should include a MAR validation for Reactive Power data.	We do not believe that MAR validation for Reactive Power data will provide any additional benefit. The solution proposed by the Expert Group, together with the current Commissioning, Proving and Validation procedures should be sufficient to ensure the accuracy and consistency of Reactive Power data.
There are better validation methods than those proposed.	CP1302 is consistent with current Active Power procedures and the Expert Group felt that the solution proposed will provide the most benefit with the least impact on parties.

2.6   CP1303 Impact Assessment responses

2.6.1   We received 13 responses; of these 6 agreed, 4 disagreed and 3 were neutral. One of the respondents who agreed with CP1303 believed that it would reduce the amount of time dealing with missing readings. We agree with the respondent and believe that CP1303 will provide assurance that Reactive Power data is accurate and consistent with actual Meter readings.

2.6.2   The table below represents a summary of the views expressed by respondents who disagreed with CP1303. For a more detailed overview please refer to section 7 of Appendix 1.

Comment	ELEXON's Response
HHDCs must not be allowed to vary their estimation methods.	The Expert Group felt that, in practice, HHDCs may need to vary their estimation methods to address the unpredictable nature of Reactive power. Therefore, CP1303 does provide some flexibility to HHDCs, and the requirements proposed in CP1303 can be considered the minimum requirements.
The proposed solution should be extended to include 4.2.2 'Standard Methods – Export Metering Systems'.	We believe that the solution proposed by the Working Group is sufficient as it allows HHDCs to vary their estimation methods in order to accommodate for Export Metering Systems.

2.7   We recommend, based on the anticipated improvement in the accuracy and consistency of Reactive Power data provided to LDSOs and majority industry support, that you:

- **AGREE** our suggested amendments to the redline text within CP1303;
- **APPROVE** CP1302 for implementation in the February 2010 Release; and
- **APPROVE** CP1303 for implementation in the February 2010 Release, noting that these obligations should only be applicable to Settlement Days after the implementation date.

2.8   Implementation Costs

	BSC Agent (Demand Led)	ELEXON Operational		Total		Impacts
	Cost	Man Days	Cost	Cost	Tolerance	
CP1302	£0	2	£440	£440	10%	BSCP502
CP1303	£0	2	£440	£440	10%	BSCP502

3   Update on CP1267

3.1   Background

3.1.1   We presented CP1267 at SVG102 (SVG102/01), recommending that SVG approved CP1267 v1.0. The SVG noted that we had investigated several other solutions as part of the assessment phase:

- do nothing;
- add a 'dummy' MPID into the MOA ID valid set in MDD; and
- extend the v1.0 solution to mandate the use of the 'Measurement Class' in the D0055 flow, (this option was issued for impact assessment as CP1267 v2.0).

But these were not progressed as they were either not cost efficient or robust enough.

3.1.2   While the SVG agreed that there was an issue with registering Unmetered Supplies (UMS) in Supplier Meter Registration Service (SMRS), the SVG raised questions about the materiality of the issue in light of the implementation costs. The SVG also queried whether there was an option to make manual changes to the SMRS data after an UMS registration (as this may be cheaper); and as a result, deferred a decision on CP1267 until ELEXON could assess the feasibility of this option.

3.2   Manual Updates to SMRS

3.2.1   At the moment, SMRS will reject any D0055 flow from a Supplier which contains an Unmetered Supplies Operator (UMSO) or Meter Administrator (MA) ID in the MOA ID field, where the UMSO or MA is not also a valid Meter Operator in MDD.

3.2.2   A manual change would involve a market participant requesting the SMRA to update the registration details contained in SMRS for a UMS MSID, after a valid D0055 has been rejected by SMRS.

3.2.3   St. Clements (the SMRS service provider) have indicated that the current SMRS system is incapable of manually and permanently altering any registration data. The system will delete or end date agents that are not valid (i.e. not part of the Meter Operator agent set) each time the valid set is loaded from MDD. This would mean LDSOs would need to manually update impacted registrations on a monthly basis. If a fully functional manual option were to be introduced in the SMRS, it would require a system change of the same magnitude as implementing CP1267 version 1.0.

3.3   BSC Obligations and Materiality

3.3.1   CP1267 was raised to address issues with registering UMSOs/MAs that are not Meter Operators. An example of this issue exists in the SWAE GSP Group where the UMSO 'SWAE' (SWAE is a valid UMSO in Market Domain Data) has ceased to be a Meter Operator. This prevents SWAE from being registered as an UMSO in SMRS and potentially hampers Suppliers as they would be unable to comply with their BSC obligations in accordance with Section S (2.5.2).

3.3.2   Section S 2.5.2 requires a Supplier to register the MA in SMRS for an Unmetered Supply.

3.3.3 Section J (6.1.4) also requires Suppliers to register MAs in SMRS.

3.3.4 Further, this situation also applies to UMSOs that are not Meter Operators. The issue arises because the SMRS prevents Suppliers from registering UMSOs/MAs that are not Meter Operators.

3.3.5 Therefore if the SMRS accepted all valid UMS registrations, it would enable Suppliers and the Supplier Meter Registration Agents (SMRAs) to comply with their Code obligations.

3.3.6 The current situation also creates administrative issues and potentially disadvantages independent MAs and UMSOs (that are not Meter Operators) as these agents cannot be registered in SMRS.

3.3.7 There is also an issue for Suppliers trying to register such agents, as they will receive rejection flows via D0057 with an inaccurate Rejection Reason Code.

3.3.8 The above issues could mean a delay in the flow of data into Settlement, as independent MAs or UMSOs that are not Meter Operators are more likely to have to chase up missing or late data for the UMS MSID recorded in SMRS.

3.3.9 There are 31,310 NHH UMS (1,217 in the SWAE GSP group) and 205 HH UMS MSIDs. These account for 1,858,924 MWh and 1,988,794 MWh per year respectively Source: Market Indicator Data as provided to ELEXON by the SVAA on a weekly basis.

3.3.10 While the numbers of HH UMS MSIDS are lower than NHH UMS MSIDs, demand per metering system is higher; where the demand per NHH UMS MSID is approximately 59 MWh and 9,701 MWh for HH UMS MSIDs.

3.3.11 This would mean that while the potential impact on Settlement error may be currently low, the impact on individual MAs/UMSOs may be high.

3.3.12 These issues, and others raised during the assessment process are described in the CP1267 Assessment Report contained in SVG102/01.

3.4 Implementation Costs

3.4.1 The costs for ELEXON to implement either version of CP1267 (version 1.0 or 2.0) are low and stand at under £1k. The main costs of either CP would be due to the SMRS system changes needed. We have discussed these costs with St Clements.

3.4.2 St. Clements have indicated that the implementation costs for CP1267 would vary, depending on how the solution is implemented in SMRS. However, implementing either version CP1267 would constitute a change to the core functionality of SMRS.

3.4.3 St Clements have estimated that the implementation /development costs would range from £10k – 50k. St Clements note that they would need to undertake more detailed analysis to confirm these indicative values. These costs do not include the individual costs for each of the 19 LDSOs to implement these changes.
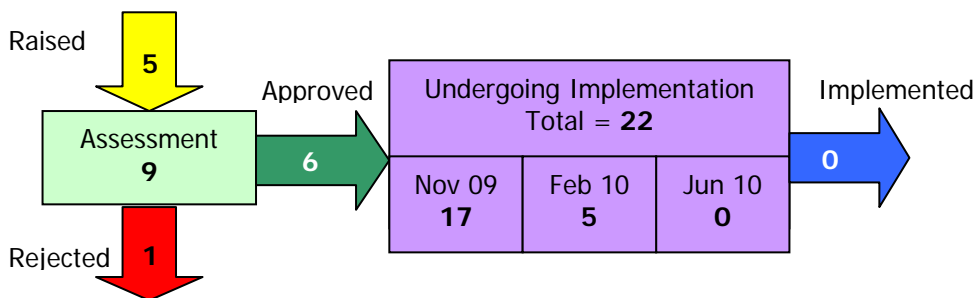
3.5 Recommendation

3.5.1 We invite you to:

- **APPROVE** CP1267 version 1.0 for inclusion in the November 2010 Release, as the solution resolves the underlying issue with Unmetered registrations, reduces the risk to Settlement and has some support from industry;

- **REJECT** CP1267 version 2.0 (if you do choose to approve CP1267, we recommend that it is included in the November 2010 Release), due to lack of support and the solution not being cost effective; and
- **AGREE** our suggested amendments to the redline text for CP1267 version 1.0 (shown in table 3 of Appendix 1 of SVG102/01).

4 Summary of Open Change Proposals

4.1 There are currently **31** open CPs, SVG own **19** CPs, SVG and ISG co-own **8** CPs, and ISG own the remaining 4 CPs. 5 new CPs have been raised since the last SVG meeting. Details of the new CPs are in Appendix 2 on page 28.

Please note:
- The numbers in the boxes indicate current number of CPs in a given phase.
- The numbers in arrows show the variance in the past month.

4.2 There are currently 4 open DCPs. Since the last SVG meeting no new DCPs were raised.

5 Summary of Recommendations

5.1 We invite you to:

a) **AGREE** the redlined text amendments to CP1303 and CP1267 v1.0;

b) **APPROVE** CP1302 and CP1303 for inclusion in the February 2010 Release, noting that these obligations should only be applicable to Settlement Days after the implementation date;

c) **NOTE** the update on CP1267;

d) **APPROVE** CP1267 v1.0 for inclusion in the November 2010 Release;

e) **REJECT** CP1267 v2.0; and

f) **NOTE** the status of all open Draft Change Proposals and Change Proposals.

David Barber

ELEXON Change Delivery

List of appendices
Appendix 1 – Detailed Analysis of CP1302 and CP1303
Appendix 2 – New Change Proposals
Appendix 3 – Release Information

List of attachments
Attachment A – CP1302 – BSCP502 redlined
Attachment B – CP1303 – BSCP502 redlined
Attachment C – CP1303 Housekeeping changes to BSCP502

Appendix 1 – Detailed Analysis of CP1302 and CP1303

1   Why Change?

1.1   Background

1.1.1   We raised CP1302 (Requirement on Half Hourly Data Collectors to Validate Reactive Power Demand Values) and CP1303 (Requirement on Half Hourly Data Collectors to Estimate Missing Reactive Power Demand Values) on 3 July 2009.

1.1.2   As described in paper **SVG97/04**, a Working Group on absent and erroneous Reactive Power data was established by the Supplier Volume Allocation Group (SVG). The Group investigated problems that arise when the metered data provided to Licensed Distribution System Operators (LDSOs) by Half Hourly Data Collectors does not include all of the Reactive Power data required by the LDSO (for purposes of DUoS charging and network management).

1.1.3   These Change Proposals form part of a package of six recommended to SVG by the Working Group. The four related Change Proposals were approved by ISG on the 28 July 2009 and SVG on the 4 August 2009:

- CP 1296, 'Mandatory Capability to Record Reactive Power Demand (kvar) Values in Code of Practice 5 (CoP5) Meters'
- CP 1297, 'Mandatory Capability to Record Reactive Power Demand (kvar) Values in Code of Practice 10 (CoP10) Meters
- CP 1298, 'Requirement on MOAs to Configure Meters to Record Half Hourly Reactive Power Data (for Half Hourly Settled CT-Metered Customers)'
- CP 1299, 'Requirement on Half Hourly Data Collectors to Collect and Report Reactive Power Data (where the Meter is configured to record it)'.

2   The Problem

2.1   When LDSOs do not receive Reactive Power data, they are forced to make their own estimates of the missing data, for the purpose of calculating kVA Demand and Reactive Power charges. This presents difficulties for Suppliers, who potentially find it difficult to pass on to customers charges based on estimated data. The issue is made more difficult – particularly for customer groups with sites spread across the country – by the inconsistent approaches to estimation adopted by different LDSOs.

2.2   Missing or erroneous Reactive Power data also creates issues for LDSOs, who require such data to understand the power flows on their networks, the capacity requirements of their customers, and the efficiency of customers' electrical usage.

2.3   The Working Group identified a number of potential root causes for missing and erroneous Reactive Power data. One of these is that there is currently no obligation on Half Hourly Data Collectors to validate Reactive Power data, and hence no mechanism to prevent manifestly erroneous data from being reported to Suppliers and LDSOs. We raised **CP1302** on behalf of the Working Group in order to address this issue.

2.4   For Active Power data, there are well-established methods of mitigating the impact of missing data by using historical data to estimate the values for missing Settlement Periods. However, there are currently no obligations on HHDCs to use similar methods for Reactive Power data. In practice a variety of approaches are taken i.e. some HHDCs estimate missing values if requested

to do so by Suppliers, while others do not estimate at all. We raised **CP1303** on behalf of the Working Group in order to address this issue.

3 Solution

3.1 **CP1302** proposes that the following existing requirements for validation of Active Power Meter Period Values should be extended to Reactive Power Meter Period Values:

- The requirement for a Cumulative/Total Consumption Comparison (or 'mini-MAR') in section 4.1.5 of BSCP502; and
- The requirement for a Main/Check Comparison (where check Meters exist) in section 4.1.7 of BSCP502.

3.2 **CP1303** proposes that Half Hourly Data Collectors should be obliged to provide estimates of missing Reactive Power period values where data is available to do so.

3.3 The Working Group believed that the estimation methods described in sections 4.2.1(b) to 4.2.1(h) of BSCP502 are applicable to Reactive Power. It is therefore proposed that:

- HHDCs should be obliged to provide estimates of missing Reactive Power data in those cases where it is possible to apply the estimation methods in 4.2.1(b) to 4.2.1(h);
- Estimation method (g) and (h) should be amended to include a requirement for HHDCs to use the Default EAC and Default Period Profile Class Coefficients (DPPCCs) provided in Market Domain Data (MDD) in conjunction with a Default Power Factor of 0.9 when determining missing Reactive Import Power values. Reactive Export Power values will not be estimated using the 0.9 power factor, in these instances the values will be estimated as zero. This is because Reactive Export values for an import site are minimal and generally tend towards zero; and
- The method used to provide the estimates should be as specified in 4.2.1(b) to 4.2.1(h), or any variant of those methods that the HHDC may reasonably choose. The reason for providing this flexibility is to allow HHDCs to use methods that take into account the nature of Reactive Power (e.g. adjusting the estimates to take account of the corresponding Active Power values in the same Settlement Period, where those are available). The methods outlined in 4.2.1(b) to (h) should therefore be seen as a minimum requirement.
- In addition, the Working Group believed that these estimation requirements should only apply where the Meter Technical Details indicate that the Meter has been configured to record Reactive Power period values, but it has not been possible to read these values from the Meter for one or more Settlement Periods. HHDCs are not required to (and should not) estimate Reactive Power values for Metering Systems that do not have Reactive Power channels defined in the Meter Technical Details.

3.4 Please see attachments A and B for the exact redline text changes.

4 CP1303 - Housekeeping Changes

4.1 The housekeeping change relates to the last paragraph of section 4.2 in BSCP502 v18.0. Within this paragraph there is a reference to Appendix 4.7, this should refer to Appendix 4.8. This incorrect reference came about as a result of CP1166 'Changes to allow use of inbound communications for CoP5 Metering' which introduced a new section 4.7 'Inbound Communication', which resulted in references to sections 4.7 and 4.8 becoming misaligned.

4.2 In addition to the above housekeeping change we have noted various additional references that are inconsistent within the document. These additional inconsistencies relate to sections 4.7, 4.8 and 4.9.

4.3 We recommend that these housekeeping changes be implemented as part of CP1303. These changes have been included as attachment C.

5 Intended Benefits

5.1 The reporting of erroneous Reactive Power data to LDSOs and Suppliers potentially leads to incorrect DUoS charges and other issues. **CP1302** extends the scope of existing validation processes (which has a proven track record of reducing error in Active Power data) to Reactive Power data also, where it is appropriate to do so. This will reduce errors in those industry processes that use Reactive Power data (e.g. DUoS charging), and reduce the administrative overhead of data errors on Suppliers, LDSOs and customers.

5.2 The estimation methods defined in section 4.2.1 of BSCP502 have a proven track record of mitigating the impact of missing Active Power data on settlement processes. **CP1303** extends these methods to Reactive Power (where appropriate to do so) will reduce the impact of missing data on DUoS charging and network management functions, and hence bring benefits to Suppliers, LDSOs and customers.

6 Industry Views

6.1 We issued CP1302 and CP1303 for impact assessment in July 2009 (via CPC00666).

6.2 CP1302 Impact Assessment responses

6.2.1 We received 13 responses; of these 8 agreed, 3 disagreed and 2 were neutral. One of the respondents who agreed with the proposal believed that CP1302 would lead to an improvement in data quality. We agree with the respondent and believe that CP1302 would provide assurance that Reactive Power data is accurate and consistent with actual readings.

6.2.2 Of the respondents who disagreed with CP1302, one did so because they believe that Suppliers have not expressed a need for HHDCs to validate Reactive Power data, and that the additional cost/effort involved in validating Reactive Power data would outweigh any benefit of CP1302.

6.2.3 *We contacted the respondent and highlighted that the reason Suppliers had not specifically requested HHDCs to validate Reactive Power data, was that in the past HHDCs had not been obligated to collect Reactive Power data. We highlighted that the Imbalance Settlement Group (ISG) and the Supplier Volume Allocation Group (SVG) have approved CP1299 which requires HHDCs to collect and report Reactive Power data (where the Meter is configured to record it). Because CP1299 had been approved there is likely to be a greater need for HHDCs to validate and/or estimate Reactive Power data going forward.*

6.2.4 The second respondent who disagreed believed that, in addition to the proposed validation methods, the HHDC should perform a Meter Advance Reconciliation (MAR) validation on Reactive Power data.

6.2.5 *We contacted the respondent and highlighted that the commissioning and proving tests performed as part of CoP4[1], BSCP502[2] and BSCP514[3] would provide the assurance for*

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[1] Code of Practice for the Calibration, Testing and Commissioning Requirements of Metering Equipment for Settlement Purposes
[2] Half Hourly Data Collection for SVA Metering Systems Registered in SMRS
[3] SVA Meter Operations for Metering Systems Registered in SMRS

accurate/valid data. We agreed that the MAR validation[4] has a proven track record of ensuring the consistency of Active Power data. However, we also noted that, following discussions with ELEXON's Metering experts, we believe that a MAR validation for Active Power data would also provide assurance that Reactive power data is consistent with actual Meter readings. We therefore believe that by continuing to perform the current MAR process we will ensure the consistency of Metered data (be it Active or Reactive). In addition, we believe that the Mini-MAR validation will provide enough comfort to Parties that Reactive Power data is consistent with the actual Meter readings and MTDs.

6.2.6   The third respondent who disagreed believed that CP1302 did not provide the best solution and that there were better methods of validating Reactive Power data.

6.2.7   We contacted the respondent and informed them that we believed the solution proposed by the Expert Group was the best solution as it was consistent with the current validation methods used by HHDCs. We noted that the majority of respondents support the Group's solution and we also believe that the CP1302 solution provides the most benefit with the least possible impact on Parties.

6.3   CP1303 Impact Assessment responses

6.3.1   We received 13 responses in relation to CP1303; of these 6 agreed, 4 disagreed and 3 were neutral. One of the respondents who agreed with CP1303 believed that it would reduce the amount of time dealing with missing readings. We agree with the respondent and believe that CP1303 will provide assurance that Reactive Power data is accurate and consistent with actual Meter readings.

6.3.2   Two of the respondents who disagreed with CP1303 did so because they believed that Suppliers had not expressed a need for HHDCs to estimate Reactive Power data and that the additional cost/effort involved in estimating this data would outweigh any benefits associated with CP1303.

6.3.3   This is the same argument raised by a respondent in response to CP1302, so please refer to section 6.2.3 (above) for our response.

6.3.4   The third respondent who disagreed believed that the solution should not allow HHDC to vary their estimation methods. They believed that this would allow HHDC use alternative estimation techniques which would create an inconsistency within the industry. The respondent believed that this was inconsistent with the principle of CP1303.

6.3.5   We contacted the respondent and highlighted that the Working Group had considered this issue at length. We indicated that the Working Group believed that the methods defined for Active Power in sections 4.2.1(b) to (h) of BSCP502 were reasonable methods of providing such estimates (for both leading and lagging power factors). In addition, we highlighted that the Working Group did not wish to preclude HHDCs from varying those methods to take into account Active Power data, or using other reasonable methods. The reason for providing this flexibility was to allow HHDCs to use methods that take into account the unpredictable nature of Reactive Power[5] (e.g. adjusting the estimates to take account of the corresponding Active Power values in the same Settlement Period, where those are available). The Working Group believed that the

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[4] MAR validation is an on-site check to confirm that the reading obtained remotely by the HHDC is consistent with the actual Meter reading.
[5] Reactive Power is less predictable than Active Power because it will vary depending on the amount and characteristics of equipment being used at any one time.

methods outlined in 4.2.1(b) to (h) should therefore be seen as minimum requirements. The respondent remained of their view.

6.3.6 The fourth respondent who disagreed believed that the estimation methods specified as part of CP1303 should be extended to include section 4.2.2 'Standard Methods – Export Metering Systems'. The respondent believed that this method would provide a better way for estimating Reactive Power data for those sites that had been identified as being capable of generation.

6.3.7 *We contacted the respondent and highlighted that the Working Group had not considered this option as they believed that the estimation methods for import sites would suffice when providing estimates for Reactive Power data. In addition, we highlighted that the Working Group had intentionally not been prescriptive in this regard as they did not want to preclude HHDCs from varying estimation methods to take into account other reasonable methods. With this in mind we believe that HHDCs should consider the estimation methods for import sites as minimum requirements, and adjust their estimation methods when necessary to take into account the nature of the site.*

7 Impacts and Costs

7.1 Indicative impacts and costs received from participants were similar for both CP1302 and CP1303. The impacts and costs below therefore relate to both CP1302 and CP1303.

Market Participant	Cost/Impact	Implementation time needed
Party Agents	Several MOAs and DCs highlighted that internal process and significant system changes would be needed for both CP1302 and CP1303.	Implementation timescales ranged from between 60 to 365WDs for both CPs. The majority of Party Agents believed that the February 2010 Release would be suitable. One respondent indicated that they would require more time to implement the necessary changes.
ELEXON (Implementation)	The estimated ELEXON implementation cost is 2 man days for each CP, which equates to approximately £880 in total.	February 2010 Release suitable

8 Implementation Approach

8.1 We note that one respondent requested 365 Working Days to implement CP1302 and CP1303 due to the impact on their Party Agent systems. We discussed this with the respondent, and highlighted that the majority of respondents had indicated that a February implementation date was possible. The respondent confirmed that they could meet the February Release; however, a later Release would be preferable, as implementing in February will increase the costs of their internal systems changes significantly.

8.2 We recommend that you approve CP1302 and CP1303 for the February 2010 Systems Release. In addition, we propose that you approve CP1303 on the basis that for Reactive Power data

estimation, these obligations will only be applicable for Settlement Days after the implementation date.

9 Recommendation

9.1 We recommend, based on the anticipated improvement in the accuracy and consistency of Reactive Power data provided to LDSOs, and majority industry support, that you:

- **AGREE** our suggested amendments to the redline text within CP1303; and
- **APPROVE** CP1302 for implementation in the February 2010 Release; and
- **APPROVE** CP1303 for implementation in the February 2010 Release, noting that these obligations should only be applicable for Settlement Days after the implementation date.

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Table 1: Industry Impact Assessment Summary for CP1302 - Requirement on Half Hourly Data Collectors to Validate Reactive Power Demand Values

IA History CPC number	CPC00666	Impacts	BSCP502		
Organisation		**Capacity in which Organisation operates in**		**Agree?**	**Days to Implement**
EDF Energy		Supplier, NHH Agent and HH MOP		Yes	0
British Energy Direct Limited		Supplier		Yes	-
EDF Energy Networks (EPN,LPN,SPN) EDF Energy (IDNO) Ltd		LDSO, SMRS, UMSO		Yes	-
Western Power Distribution		LDSO, MOA		Yes	0
E.ON		Supplier		Yes	-
TMA Data Management Ltd		NHHDC, NHHDA, HHDC, HHDA		Yes	90
ScottishPower		Supplier, LDSO, HHDA, NHHDA, HHDC, NHHDC, HHMOA, NHHMOA		Yes	60
Scottish and Southern		Supplier/Generator/ Trader / Party Agent / Distributor		Yes	-
Stark Software International Ltd		HHDC		No	180
IMServ Europe		HHDC, MOA		No	90
NPower Limited		Supplier, Supplier Agents		No	365
Gemserv		MRASCo Ltd		Neutral	-
E.ON UK Energy Services Limited		MOA NHHDC-DA		Neutral	0

Table 2: Impact Assessment Responses[6]

Organisation	Agree?	Comments	Impact?	ELEXON Response
EDF Energy Networks(EPN,LPN,SPN) / EDF Energy (IDNO) Ltd	Yes	**Capacity in which Organisation is impacted:** LDSO **Impact on Organisation:** System / Process	-	-
Western Power	Yes	**Comments:** Should improve data quality.	Yes	-

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[6] Please note that we have only included responses in this table where the respondent provided additional information.

Distribution		**Impact on Organisation's Systems and/or Processes?** Yes **Capacity in which Organisation is impacte**d: LDSO **Impact on Organisation:** Should reduce the number of queries we have in this area.		
E.ON	Yes	**Capacity in which Organisation is impacted:** HHDC **Impac**t **on Organisation:** system	Yes	-
Stark Software International Ltd	No	**Impact on Organisation's Systems and/or Processes?** Yes **Capacity in which Organisation is impacted:** HHDC **Impact on Organisation:** Significant system changes in both DR and DC to collect and store reactive register readings not currently needed. New validation rules to be implemented. New procedures. Additional training. Cost of implementation and subsequent operations significant. **Would implementation in the proposed Release have an adverse impact?** Prompt decision needed as Feb 10 is earliest possible date. **Other Comments:** I believe that better rules than those proposed could be implemented more cheaply and easily that would improve current quality and could be largely automated. E.g. Upper limits for reactive data and/or rules that compared reactive to validated active data in the same half hour.	Yes	We contacted the respondent and highlighted that we believe that the solution proposed by the SVG Expert Group was the best solution as it was consistent with the current validation methods used by HHDCs. We noted that the Working Group felt that these were the most sensible estimation methods to use. In addition, we highlighted that we believed that this solution would provide the most benefit with the least possible impact on parties (as it is consistent with current processes). The respondent remained of their view.
TMA Data Management Ltd	Yes	**Impact on Organisation:** System and process **Costs:** The financial impact of implementing this change is low	Yes	-
ScottishPower	Yes	**Capacity in which Organisation is impacted:** Supplier, LDSO, HHDC, HHDA, Generator	-	-

		Impact on Organisation: None		
		Would implementation in the proposed Release have an adverse impact? No		
IMServ Europe	No	Comments: We do not believe there is sufficient benefit to justify the additional cost/effort to implement these changes. At this time very few Suppliers have expressed either interest (or concerns) in regard to the estimation or validation of Reactive Power data to IMServ in their role as HHDC. This is despite the fact that a validation and estimation service is offered as a commercial agreement. Further, very few enquiries are received from Suppliers concerning Reactive Power data even for sites where Suppliers have taken a Validation and Estimation service. Impact on Organisation's Systems and/or Processes? Yes Capacity in which Organisation is impacted: HHDC Impact on Organisation: Whilst we can already provide this where specifically requested some configuration will be required to perform this for all settlement MPANs. There will also be a potential impact on processes with the extra checks being undertaken.		We contacted the respondent and highlighted that we believe that the reason Suppliers had not specifically requested HHDCs to validate Reactive Power Data, was that in the past HHDCs had not been obligated to collect this data (under the BSC or BSCPs). We highlighted that the ISG and SVG had now approved *CP1299 'Requirement on Half Hourly Data Collectors to collect and report Reactive Power Data (where the Meter is configured to record it)'* which would now formalise this process, and hence there will now be a requirement for HHDCs to collect Reactive Power data. With this in mind HHDCs will need to validate and estimate Reactive Power data in order to provide LDSOs with comprehensive data. The respondent remained of their view and believes that the cost of validating Reactive Power data is not fully justified.
Scottish and Southern	Yes	As this change only addresses the issue of erroneous kVArh data returned by HHDC and not missing data, we believe that it should only be progressed if the related change CP1303 is also approved.	-	-
NPower Limited	No	In principle we support the objective of the CP, however our rejection is based on the proposed solution, rather than a rejection of validating Reactive Power in general.	-	We contacted the respondent and highlighted that we did not believe that a MAR validation would be required in addition to the Mini-MAR validation. Our reasons for this are as follows:

We believe that MAR validation of Reactive Power data should also be a requirement on the HHDC, and should be added to section 4.8 of BSCP502. MAR validation "has a proven track record" of producing accurate Active Power data, and see no rationale in the CP as to why this has been excluded. We appreciate that the number of MAR sites is not significant but they do represent a proportionately higher volume of energy (CoPs 1, 2 and 3) which we believe should be validated. We also appreciate that some HHDCs may already perform validation of Reactive MAR reads, however as this is not an obligation in section 4.8 (Active Power only), we believe this should be added/mandated.

Impact: Systems and process changes

Comments: As CP1296, CP1297, CP1298, CP1299, CP1302 & CP1303 were raised to address the issue of "Absent and erroneous Reactive Power data" we believe that if approved they should go through as a package of changes in the same Release. For CP1302 & CP1303 our HHDC has stated that they will require a minimum of 365 days lead time from approval of the redline text to implement the necessary changes to their systems and processes. Therefore, 365 days should be recommended for all 6 CPs in order that they can be included in the same Release.

- We believe that the commissioning and proving tests performed as part of CoP4, BSCP514 & BSCP502 will provide the necessary level of assurance of accurate and/or valid data.

- We note that the current MAR validation (for Active Power data) has a proven track record of ensuring consistency of Active Power data. However, we believe that by continuing to perform the current MAR process we will ensure the consistency of all data, be it Active or Reactive (i.e. if the MAR validation confirms that the Active Power data is consistent with the actual Meter reading then the Reactive Power data is very likely to be consistent as well).

- We believe that the mini MAR will provide additional comfort that the Reactive Power data is consistent with the actual Meter readings and MTDs.

In addition, we believe that by including a MAR validation for Reactive Power data, we would be including an additional procedure that would add very little benefit as the number of MAR sites was small and decreasing over time.

We noted that if CP1302 were approved, the respondent could choose to raise a further CP to add in the use of MAR validation for Reactive Power data at a later date.

The respondent remained of their view and believed that MARs should be added into CP1302 to ensure that Reactive Power data is as accurate as possible.

Table 3: Comments on the redline text

We did not receive any comments on the redline text.

Table 4: Industry Impact Assessment Summary for CP1303 - Requirement on Half Hourly Data Collectors to Estimate Missing Reactive Power Demand Values

IA History CPC number	CPC00666	Impacts	BSCP502		
Organisation		**Capacity in which Organisation operates in**		**Agree?**	**Days to Implement**
EDF Energy		Supplier, NHH Agent and HH MOP		Yes	0
British Energy Direct Limited		Supplier		Yes	-
EDF Energy Networks (EPN,LPN,SPN) EDF Energy (IDNO) Ltd		LDSO, SMRS, UMSO		Yes	-
Western Power Distribution		LDSO, MOA		Yes	0
E.ON		Supplier		Yes	-
TMA Data Management Ltd		NHHDC, NHHDA, HHDC, HHDA		Yes	90
ScottishPower		Supplier, LDSO, HHDA, NHHDA, HHDC, NHHDC, HHMOA, NHHMOA		Yes	60
Scottish and Southern		Supplier/Generator/ Trader / Party Agent / Distributor		Yes	-
Stark Software International Ltd		HHDC		No	180
IMServ Europe		HHDC, MOA		No	90
NPower Limited		Supplier, Supplier Agents		No	365
Gemserv		MRASCo Ltd		Neutral	-
E.ON UK Energy Services Limited		MOA NHHDC-DA		Neutral	0

Table 5: Impact Assessment Responses[7]

Organisation	Agree?	Comments	Impact?	ELEXON Response
EDF Energy Networks (EPN,LPN,SPN)	Yes	**Capacity in which Organisation is impacted:** LDSO	-	-

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[7] Please note that we have only included responses in this table where the respondent provided additional information.

Organisation	Agree?	Comments	Impact?	ELEXON Response
EDF Energy (IDNO) Ltd		**Impact on Organisation**: System / Process		
Western Power Distribution	Yes	**Comments**: Should improve data quality. **Impact on Organisation's Systems and/or Processes?** Yes **Capacity in which Organisation is impacted:** LDSO **Impact on Organisation**: Should reduce time we spend dealing with missing readings.	Yes	-
E.ON	Yes	**Capacity in which Organisation is impacted:** HHDC **Impac**t on Organisation: system	Yes	-
Stark Software International Ltd	No	**Capacity in which Organisation is impacted:** HHDC **Impact on Organisation:** Significant system changes in both DR and DC to collect and store reactive register readings not currently needed. New estimation rules to be implemented. New procedures. Additional training. Cost of implementation and subsequent operations significant. **Would implementation in the proposed Release have an adverse impact?** Feb2010 is tight **Comments:** SSI asked suppliers if this was required and received little positive response. Some parties strongly believe that if not actual data then estimation is completely inappropriate. See detailed comments below re Redlined text	Yes	We contacted the respondent and highlighted that we believe that the reason Suppliers had not specifically requested HHDCs to validate Reactive Power Data, was that in the past HHDCs had not been obligated to collect this data (under the BSC or BSCPs). In addition we highlighted that ISG and SVG had now approved *CP1299 'Requirement on Half Hourly Data Collectors to collect and report Reactive Power Data (where the Meter is configured to record it)'* which would formalise this process, and hence the requirement for HHDCs to collect Reactive Power data would become necessary. In addition to the above comments, we highlighted that we had not received any responses to this impact assessment that were strongly opposed to estimating Reactive Power data.

Organisation	Agree?	Comments	Impact?	ELEXON Response
TMA Data Management Ltd	Yes	**Capacity in which Organisation is impacted:** HHDC **Impact on Organisation:** System and process **Would implementation in the proposed Release have an adverse impact?** No **Costs:** The financial impact of implementing this change would be medium	Yes	-
ScottishPower	No	In principle ScottishPower agree that the reactive channels should be estimated but think more consideration needs to be taken in regard to the estimation of reactive channels when a site is capable of generation. Estimation methods 4.2.1 E & F could potentially lead to erroneously high reactive estimates if the average load shape is calculated using periods when the site is importing and periods when it is exporting. For example, for 3 of the periods used to calculate the average load shape the site is exporting and for one it is importing. The AI channel will be estimated with a relatively small advance. The AE channel will be estimated at zero. Depending on how the site is operating large advances may be seen on either the RI or the RE channel, the reactive advances may also increase significantly when the site exports. If the distributor uses these values in their calculation of DUOS charges, they will see high reactive values for a time period with a corresponding AI advance, the erroneously high reactive values lead to a poor power factor and high DUOS charges. When a site is identified as being capable of generation we would suggest that the RI and RE channels should be estimated using rules more akin to those of the Export	Yes	We contacted the respondent and indicated that the Working Group believed that the methods defined for Active Power in sections 4.2.1(b) to (h) of BSCP502 were reasonable methods of providing such estimates (for both leading and lagging power factors). In addition we highlighted that the Working Group did not wish to preclude HHDCs from varying those methods to take into account Active Power data, or using other reasonable methods. The reason for providing this flexibility was to allow HHDCs to use methods that take into account the nature of Reactive Power e.g. adjusting the estimates to take account of the corresponding Active Power values in the same Settlement Period, where those are available. The Working Group believed that the methods outlined in 4.2.1(b) to (h) should therefore be seen as minimum requirements. The respondent remained of their view and believed that the estimation methods recommended by the expert group are not the correct ones. The respondent feels that estimation methods E and F could lead to

Organisation	Agree?	Comments	Impact?	ELEXON Response
		Metering Systems described in section 4.2.2. For estimation methods 4.2.2 A & E it may be better to leave the period values as Null rather than populating them with estimated zeros. **Impact on Organisation's Systems and/or Processes?** Yes **Capacity in which Organisation is impacted:** Supplier, LDSO, HHDC, HHDA **Impact on Organisation:** System and process changes **Would implementation in the proposed Release have an adverse impact? (please state impact)** No		erroneously high Reactive Power estimates. We noted that the Working Group felt that these were the most sensible estimation methods to use.
IMServ Europe	No	**Comments:** We do not believe there is sufficient benefit to justify the additional cost/effort to implement these changes. At this time very few Suppliers have expressed either interest (or concerns) in regard to the estimation or validation of Reactive Power data to IMServ in their role as HHDC. This is despite the fact that a validation and estimation service is offered as a commercial agreement. Further, very few enquiries are received from Suppliers concerning Reactive Power data even for sites where Suppliers have taken a Validation and Estimation service. **Impact on Organisation's Systems and/or Processes?** Yes **Capacity in which Organisation is impacted** HHDC **Impact on Organisation** Whilst we can already provide this where specifically requested some configuration will be required to perform this for all settlement MPANs. There will also be a potential impact on processes with the extra checks being undertaken.	-	We contacted the respondent and highlighted that we believe that the reason Suppliers had not specifically requested HHDCs to validate Reactive Power data, was that in the past HHDCs had not been obligated to collect this data (under the BSC or BSCPs). In addition we highlighted that ISG and SVG had now approved CP1299 'Requirement on Half Hourly Data Collectors to collect and report Reactive Power Data (where the Meter is configured to record it)' which would now formalise this process, and hence the requirement for HHDCs to collect Reactive Power data would become necessary. With this in mind HHDCs will need to validate and estimate Reactive Power data in order to provide LDSOs with comprehensive data. The respondent remained of their view and believes that the cost of validating Reactive Power data is not fully justified.

Organisation	Agree?	Comments	Impact?	ELEXON Response
NPower Limited	No	In principle we support the objective of the CP, however our rejection is based on the proposed solution, rather than a rejection of estimating Reactive Power in general. Estimation methodology: The CP recognises that the issue is made more difficult by the "inconsistent approaches to estimation adopted by different LDSOs". In allowing the HHDC to elect whether to "vary the standard methods 4.2.1(b) to 4.2.1(h) to use available Active Power is estimating Reactive Power values", the solution is merely substituting an inconsistent approach to estimation by the LDSOs with an inconsistent approach by the HHDCs. As such, the proposed solution does not resolve the issue raised in the CP. Furthermore, as this is something that directly impacts Supplier and Customer billing there must be consistency and transparency of approach. If the HHDC can choose the estimation methodology and Suppliers instruct HHDCs which methods to use this may result in: (1) when a customer changes Supplier (no change of HHDC) the HHDC may have to change the methodology used due to a differing request for approach from the Supplier; or (2) when there is a change of HHDC concurrent with change of Supplier the methodology may change. Both of these could lead to customers being able to get better deals from some Supplier/DC pairings and may also lead to queries and challenges from LDSOs when DUoS charges vary following these changes. We believe the option (use of the word "may" in 4.2.3 paragraph 2) for the HHDC to choose the estimation methodology should be removed, and replaced with a clear instruction as to the method of estimation to be used. Using available Active Power profile data (in conjunction with the standard Active Power estimation methodology in section 4.2.1) to aid the determination of the Reactive Power period values is more robust than just using the standard methods in	-	We contacted the respondent and highlighted that the working Group had discussed this issue at length. The methods defined for Active Power in sections 4.2.1(b) to (h) of BSCP502 were considered by the Working Group to be reasonable methods of providing such estimates (for both leading and lagging power factors). In addition the Group did not wish to preclude HHDCs from varying those methods to take into account Active Power data, or using other reasonable methods. The respondent did not agree with the Working Groups rationale and remained of their view. In relation to the respondent's comments regarding the definition of missing data, we suggest that an additional paragraph be included within section 4.2.3 to clarify when the HHDC should estimate missing Reactive Power data. For the suggested redline amendments please see table 6 point 2 below. We do not believe that this suggested amendment is material and that the inclusion of the additional paragraph will merely add clarity to the existing text. The respondent highlighted an inconsistent use of terms within the BSC and Code Subsidiary Documents. We indicated that CP1303 redlining was consistent with the other CSDs and with current industry standards. In addition we confirmed that we would look to correct any

Organisation	Agree?	Comments	Impact?	ELEXON Response
		isolation. This will provide the accuracy and consistency required by the industry. Definition of "missing" data: The wording in 4.2 paragraph 1 and 4.2.3 paragraph 1, does not provide sufficient clarity as to when the HHDC should provide estimated data. The "Note" section (paragraph 6, Proposed Solution) clearly states that estimations will only apply "where Meter Technical Details indicate that the Meter has been configured to record Reactive Power period values." This wording is absent from the redline text and is necessary to provide clarity to HHDCs as to their estimation obligations. **Impact:** Systems and process changes **Comments:** As CP1296, CP1297, CP1298, CP1299, CP1302 & CP1303 were raised to address the issue of "Absent and erroneous Reactive Power data" we believe that if approved they should go through as a package of changes in the same Release. For CP1302 & CP1303 our HHDC has stated that they will require a minimum of 365 days lead time from approval of the redline text to implement the necessary changes to their systems and processes. Therefore, 365 days should be recommended for all 6 CPs in order that they can be included in the same Release. There are inconsistencies in the use of kvar or kVAr, kvarh or kVArh in the BSC and Metering CoPs. The convention adopted when drafting the package of Reactive CPs was kvar and kvarh. Whilst we do not believe this to be a material issue we feel this should be highlighted in case other Parties believe there may be scope for confusion or legal challenge		inconsistency between the terms used (kVAr vs. kvar) in the CSDs compared to the BSC. However, we noted that it wouldn't be appropriate to include this type of changes within this CP. The respondent was happy with this clarification.

Table 6: Comments on the CP1303 redline text

No.	Organisation	Document name	Location	Severity Code[8]	Comments	ELEXON Recommendation
1	Npower	BSCP502	1.6.1		kvarh should be detailed in the Acronyms section	We agree with this comment. We do not believe that this is a material change and that it should be included. We recommend that the following be included within section 1.6.2 (acronyms): Kvarh kilovoltamperes reactive hour The respondent was happy with this response.
2	Npower	BSCP502	4.2.3		We believe there is no need to include "where possible" in paragraph 1, as "where it is not possible" is stated in paragraph 3. It may be appropriate to replace "where possible" in paragraph 1 with a statement which clarifies when HHDCs should estimate Reactive Power period values as per the "Note" in the CP: "These estimation requirements will only apply where the Meter Technical Details indicate that the Meter has been configured to Record period values, but has not been possible to read these values from the Meter for one or more Settlement Periods. HHDCs are not required to (and should not) estimate Reactive Power values for Metering Systems that do not have Reactive Power channels defined in the Meter Technical Details."	We agree with these comments. We suggest that the proposed redlining be amended to reflect these comments as they are consistent with the principles of CP1303 and do not materially impact CP1303. In the version of the CP1303 redlining that we sent out for impact assessment, section 4.2.3 is added into BSCP502. We recommend that the SVG agree the following amendments to the section 4.2.3 redlining: **4.2.3 Standard Methods – Reactive Power** Standard methods 4.2.1(b) through to 4.2.1(h) are also applicable to Reactive Import and Reactive Export, and the HHDC will use these methods ~~where possible~~ to provide estimates of missing Reactive Power data. These estimation requirements will only apply where the Meter Technical Details indicate that the Meter has been configured to Record period values, but has not been possible to read these values from the Meter for one or more Settlement Periods. HHDCs are not required to (and should not) estimate Reactive Power data for Metering Systems that do not have Reactive Power channels defined in the Meter Technical Details. The HHDC may vary the standard methods 4.2.1(b) to

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[8] High, Medium or Low

No.	Organisation	Document name	Location	Severity Code[8]	Comments	ELEXON Recommendation
						4.2.1(h) to use available Active Power in estimating Reactive Power values. Where it is not possible to use the above methods to provide estimates of missing Reactive Power data, the HHDC shall not provide estimated data. In particular, zero estimates shall be provided only when these represent genuine estimates of the missing Reactive Power data, and not as a method of signalling that estimates could not be provided. The respondent was happy with this response.
3	Npower	BSCP502	4.2.3		If paragraph 2 "The HHDC may vary the standard methods 4.2.1(b) to 4.2.1(h) to use available Active Power in estimating Reactive Power values" is to remain, it should read ""The HHDC may vary the standard methods 4.2.1(b) to 4.2.1(h) to use available Active Power **period values** in estimating Reactive Power values". The Active Power period values also need to be the same period values associated to those of the missing Reactive Power period values. This is not obvious from the wording.	We agree with these comments. However, we believe that any amendment made as a result of this comment should be consistent with point 4 below, to ensure consistency in BSCP502. We suggest that the proposed redlining be amended to reflect the changes as specified below. We do not believe that this is a material change to CP1303. CP1303 introduces a new section 4.2.3. We recommend that the SVG agree the following amendments to the 2nd page of the section 4.2.3: The HHDC may vary the standard methods 4.2.1(b) to 4.2.1(h) to use available Active Power data in estimating Reactive Power data. The respondent was happy with this response.
4	Npower	BSCP502	4.2		General inconsistent use of the terms "Reactive Power period values", "Reactive Power data", "Reactive Energy consumption" and "Reactive Power values". Is the HHDC estimating Reactive Energy (kvarh) or Reactive Power (kvar)?	We contacted the respondent and indicated that we believed that the terms should align with the current Active Power provisions. We suggest that the proposed redlining be amended in order to improve the consistency of the redline changes. This first paragraph of section 4.2 currently has the following redlining:

No.	Organisation	Document name	Location	Severity Code[8]	Comments	ELEXON Recommendation
						Missing Reactive Power period values will also be estimated in accordance with 4.2.3 below. We recommend that the SVG agree the following amendments to the section 4.2 redlining: Missing Reactive Power data will also be estimated in accordance with 4.2.3 below. In addition we recommend that the SVG agree to amend section 4.2.3 as specified in point 4 above. We do not believe that this change will materially impact CP1303. The respondent was happy with this response.
5	Npower	BSCP502	4.2		With respect to the Housekeeping Change contained within CP1303, the redlined text does not resolve the issue as there are several other instances in BSCP502 where there is a reference to Appendix 4.7 when it should refer to Appendix 4.8. For example, 3.2.4.12 & 3.2.7.13. Will these other instances also be addressed as part of the Housekeeping Change or will it just be the last paragraph of section 4.2 as noted in the CP?	We contacted the respondent and informed them CP1166 'Changes to allow use of inbound communications for CoP5 Metering' introduced a new section 4.7 'Inbound Communication', which resulted in references to sections 4.7, 4.8 and 4.9 becoming misaligned. We recommend that all of these references be corrected as part of CP1303. The proposed housekeeping changes can be found within attachment C. The respondent was happy with this response.
6	Npower	BSCP502	4.2		As Reactive Power values do not feed into Settlement, is it correct to associate missing Reactive Power values with "Settlement Periods"? For example, in 4.2.1(h) paragraph 2, "When estimating Reactive Energy consumption the HHDC will use the procedure specified above in	We contacted the respondent and highlighted that 'Settlement Period' is just the BSC term for a half hour period, and Reactive Power has to be assigned to half hour periods for reporting purposes. We therefore see no problem with using 'Settlement Period' within this context. The respondent was happy with this response.

No.	Organisation	Document name	Location	Severity Code[8]	Comments	ELEXON Recommendation
					conjunction with a default power factor of 0.9 to derive the Reactive Import estimates for the missing Settlement Periods".	
7	Npower	BSCP502	4.9		The Complex Site Supplementary form does not cater for the transfer of Reactive power configuration for complex metering. As this drives the HHDC requirements for validation and estimation for these sites we believe this configuration should also be included.	We contacted the respondent and highlighted that section 4.9 (Guide to complex Sites) does not specifically refer to Active Power. Section 4.9 refers to 'standing and dynamic Metered Data' which implies that Reactive Power (as well as Active Power) configuration for complex Metering should be provided to the HHDC's by the MOA. Therefore, we do not believe that section 4.9 would need to be amended in order to reflect Reactive Power data. The respondent remained of their view, and we confirmed that, they could choose to raise a further change if they strongly feel that additional clarity is needed.
8	Npower	BSCP502			There are several instances in BSCP502 where there is a reference to Appendix 4.8 when it should refer to Appendix 4.9. For example, 1.6.2 "Definitions", 3.2.1.3 & 3.2.4.4. Will this be addressed in a separate Housekeeping Change?	Please refer to point 5 above.
9	Npower	BSCP502	4.2		Section 4.2 paragraph 10 currently states: "If a data estimation has been completed and submitted to the HHDA and actual 'A' flag data OR information leading to more accurate estimated data becomes available, this revised	We agree with this comment and recommend that if SVG approve CP1303, that it should be approved so that the new obligations will only be applicable for Settlement Days after the implementation date of the CP. The respondent was happy with our clarification.

No.	Organisation	Document name	Location	Severity Code[8]	Comments	ELEXON Recommendation
					data shall be notified to the Supplier and LDSO and submitted to the HHDA for use in the next Volume Allocation Run." Given that the estimation methodology for Reactive Power period values proposed by CP1303 constitutes, in our opinion, a better quality estimation than that currently in place, the HHDCs will be non-compliant with this section if they do not re-submit data with the improved methodology for all sites, at every Settlement Run. We recommend a footnote is added referencing this paragraph stating that for Reactive Power data estimation the obligation is only applicable for Settlement Days after the implementation date of the CP.	
10	Stark Software International Ltd	BSCP502	4.2.1 g	M	Presumably the Supplier EAC *0.9 should be used, not the default EAC *0.9.	We contacted the respondent and highlighted that the use of a Supplier EAC was a reasonable alternative to the proposed solution. However we believed that the use of a default EAC was consistent with the existing estimation methods specified within BSCP502 i.e. when estimating Active Power data the HHDC uses a default EAC. We believe that the solution proposed by the Working Group is the best solution. The respondent remained of their view.
11	Stark Software International	BSCP502	4.2.3	M	The rules imply that if estimation is not possible then '0' should not be used ie use null. Some suppliers currently	We contacted the respondent and highlighted that the Working Group had considered this and believed that where the HHDC was not able to provide reasonable

No.	Organisation	Document name	Location	Severity Code[8]	Comments	ELEXON Recommendation
	Ltd				require padding out with zeros if reactive is absent.	estimates of missing data, the HHDC should not provide a value. The rationale for this was that they did not want to create an environment where HHDCs would be able to submit zero values without attempting to estimate first. In addition the Working Group did not want HHDCs to submit zero's when it was not possible to estimate data. The respondent remained of their view.

Appendix 2 – New Change Proposals

CP	CVA/ SVA	Title	Description	Raised
1304	SVA	Exclusion of certain Site Visit Check Codes (SVCC) within the Long Term Vacant (LTV) site process	A site will drop out of the LTV process if the Supplier has received a data flow with the Site Visit Check Code (SVCC) data item populated with a code other than 02 (Site not occupied). However, there are certain other codes that a Supplier may receive that do not indicate that the site is no longer vacant. Currently if one of the codes is received, the site must be removed from the LTV process – even though the site will still be vacant. CP1304 recommends changes to BSCP504 to prevent certain SVCCs from causing a site from falling out of the LTV process.	24/07/09
1305	SVA	Use of Site Visit Check Code (SVCC) 20 with additional information in the Long Term Vacant (LTV) process	Amongst other requirements, to enter the LTV process the Supplier must have: 1. received at least two D0004 data flows from the NHHDC, at least 3 calendar months apart and not more than 7 calendar months apart with the J0024 data item populated with code 02 'Site not Occupied'; and 2. not received any D0004s with the J0024 data item populated with anything other than 02 in the interim. Currently if the supplier receives a SVCC 20 (No Access), the site couldn't enter the LTV process. CP1305 proposes changes to BSCP504 to allow SVCC 20 to be used to enter a site into the LTV process when 'site not occupied' or 'long term vacant' is entered into the additional information field.	24/07/09
1306	SVA	Removal of second criterion for identifying a site as Long Term Vacant (LTV)	The second criterion for identifying a site as LTV is that the NHHDC is unable to gain access to read the Meter. CP1306 recommends removing the second criterion for identifying a site as LTV from BSCP504, as it is superfluous.	24/07/09
1307	SVA	Minor Changes to the Long Term Vacant Site Process	CP1307 proposes minor changes to BSCP504 to clarify 3 minor areas around the LTV Site process.	24/07/09
1308	SVA	Changes to Long Term Vacant Site process where a reading is obtained via a warrant	Where a reading has been obtained through entry via a warrant, a site will drop out of the LTV process and will be assigned a non zero Estimated Annual Consumption (EAC) value. However, it is then likely to re-qualify for LTV in the future as a warrant will not be obtained for further readings (and SVCC of 02 will start to be received again). When the site re-enters the LTV process, a reading is deemed for the beginning of the new LTV period based on the non-zero EAC. This deemed read will cause energy to enter Settlement for the period between the date that the reading was obtained via the warrant process, and the date of the next D0004 (with the 02 SVCC), while the site is vacant. CP1308 proposes changes to BSCP504 and would prevent energy to be allocated where there was no consumption by allowing the warrant read to be replicated at the start of the next LTV period.	24/07/09

Appendix 3 – Release Information

Key to Release Plan

Change Proposals and Modification Proposals in **BLACK** text represents SVA changes, **RED** text represents CVA changes and **BLUE** text represents changes which impact both the SVA and CVA arrangements.

The Authority decision dates are provided in the following format:	
P	Modification Proposal number
(< date)	Date by which a determination must be made by the Authority in order for the Modification Proposal to be implemented within the indicated release
Pro✓/Pro✗	Indicates that the Panel's recommendation to the Authority was to Approve/Reject the proposed Modification
Alt✓/Alt✗	Indicates that the Panel's recommendation to the Authority was to Approve/Reject the Alternative Modification

		Release Date			
		November 2009 Scope (Imp. Date 05 Nov 09)	**February 2010 Scope (Imp. Date 25 Feb 10)**	**June 2010 Scope (Imp. Date 24 Jun 10)**	**Standalone Releases**
Change Proposals	**Pending**		1267 v2.0, 1301, 1302, 1303, 1304, 1305, 1306, 1307, 1308	Currently there are no Change Proposals targeted at this Release.	There are currently no changes in a stand alone release.
	Approved	1248 v2.0, 1269, 1275 v2.0, 1278 v2.0, 1281, 1283, 1284, 1285, 1286, 1287, 1288, 1289, 1290, 1291, 1292, 1293, 1294	1295, 1296, 1297, 1298, 1299,		
Modifications	**Pending**		Currently there are no Modifications targeted at this Release.	Currently there are no Modifications targeted at this Release.	
	Approved	P217 Alt✓, P223 Alt✓, P234 Pro✓, P231 Pro✓, P232 Alt✓			
Updates		The November 2009 Release is currently progressing to time and quality. The scope of the Release now includes 5 Modifications and 17 Change Proposals. The ISG have approved a majority of the Code Subsidiary Documents for P217 with three CSDs outstanding for approval at the August meeting. An implementation workshop will be held for P223 in early August to assist Suppliers with the implementation of the Modification. All changes for the November 2009 Release will be implemented on 5 November 2009 with the exception of P223 which has an implementation date of 1 December 2009.			

CP Scope of the November 2009 Release

CP	Title	Impacts	BSC Agent (Demand Led)	ELEXON Operational		Total
				Man Days	Cost	
CP1248 v2.0	Early release of Meter Technical Details by the Non Half Hourly Meter Operator Agent	BSCP514, BSCP533 Appendix A and BSCP533 Appendix B	£4,200	3	£700	£4,900
CP1269	Publication of Additional Non Half Hourly Combination Data in Market Domain Data	BSCP509, BSCP509 Appendix, SVA Data Catalogue Vol. 1 and Vol. 2	£73,775	57	£12,540	£86,315
CP1275 v2.0	Supplier Agents – Access to Meter Protocols	CoP10, BSCP601	£0	2.5	£550	£550
CP1278 v2.0	Streamlining the SVA Standing Data Change Process	BSCP507, BSCP537 Appendix 1	£0	3.75	£825	£825
CP1281	Revenue Protection: requiring NHHDC to send EAC/AA data to the Supplier via the DTC.	BSCP504	£0	1	£220	£220
CP1283	Revisions to data correction processes in BSCP18	BSCP18, NETA IDD Part 2	£1,365	2	£440	£1,805
CP1284	Ability for Third Parties to raise Change Proposals and replacement of energywatch with National Consumer Council	BSCP40, PrA Service Description, Teleswitch Agent Service description	£0	2.5	£550	£550
CP1285	Unmetered Supplies: Clarification of Central Management System requirements	BSCP520	£0	1	£220	£220
CP1286	BSCP18 Operational Review: Additional flag in Transmission Company's BOAL file to indicate an amended Bid-Offer Acceptance	NETA IDD Part 2, BMRA URS, SAA URS	£0	2.5	£550	£550
CP1287	Correction of inconsistencies in BSCP536 'Supplier Charges'	BSCP536	£1,998	3	£660	£2,658
CP1288	Revisions to Meter test points within Code of Practice 4	CoP4	£0	1.25	£275	£275
CP1289	Correction to the Level 4 password requirement in Code of Practice 2	CoP2	£0	1.25	£275	£275
CP1290	Rationalise and Simplify Unmetered Supplies requirements following a review by an Expert Group	BSCP520	£0	3	£660	£660
CP1291	Clarify requirements on Meter Administrators relating to Equivalent Meters	BSCP520	£0	2	£440	£440
CP1292	Clarify Meter Administrator requirements relating to PECU arrays	BSCP520	£0	2.5	£550	£550
CP1293	Housekeeping changes to BSCP537 Appendix 1 – Self Assessment Document (SAD)	BSCP537 Appendix 1	£0	0	£0	£0
CP1294	Housekeeping Change to SVA Data catalogue Volume 2	SVA DC Vol. 2	£0	0	£0	£0
	Total[9]		**£81,338**	**88.25**	**£19,455**	**£100,793**

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[9] A Tolerance of 20% applies for both Demand Led costs and ELEXON Operational Costs

Draft CP Scope of the February 2010 Release

CP	Title	Impacts	BSC Agent (Demand Led)	ELEXON Operational		Total
				Man Days	Cost	
CP1295	Process for distribution of MDD Updates not included in D0269/D0270 flows	BSCP505, BSCP508, SVA Data Catalogue Vol. 1 and Vol. 2	£6,000	20	£4,400	£10,400
CP1296	Mandatory Capability to Record Reactive Power Demand (kvar) Values in Code of Practice 5 (CoP5) Meters	BSCP601, CoP5	£0	2	£440	£440
CP1297	Mandatory Capability to Record Reactive Power Demand (kvar) Values in Code of Practice 10 (CoP10) Meters	BSCP601, CoP10	£0	2	£440	£440
CP1298	Requirement on MOAs to Configure Meters to Record Half Hourly Reactive Power Data (for Half Hourly Settled CT-Metered Customers)	BSCP514	£0	2	£440	£440
CP1299	Requirement on Half Hourly Data Collectors to Collect and Report Reactive Power Data (where the Meter is configured to record it)	BSCP502	£0	2	£440	£440
	Total[10]		**£6,000**	**28**	**£6,160**	**£12,160**

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[10] A Tolerance of 20% applies for both Demand Led costs and ELEXON Operational Costs

CP1302 Attachment – REDLINE TEXT CHANGES TO BSCP502 V18 SECTION 4

Section 1 to Section 3 will not be impacted by CP1302

4 Appendices

4.1 Validate Meter Data.

Unless the HHDC is informed by the MOA that the retrieved data is incorrect, the HHDC shall accept Meter Period Value data collected from the Meter for validation processing.

The HHDC shall record all occurrences where data entering Settlements has been changed following instruction from the Supplier.

The HHDC shall retain the original reading value along with any alarms recorded in the Meter, the reason for failure where the value is invalid and the reason for accepting data previously flagged as suspect.

The data retrieval process shall include the following checks; however in the case where data is received from the Outstation automatically step 4.1.3 'Outstation Time' shall be performed at least every 20 calendar days by interrogation only.

The HHDC shall perform a validation check of Reactive Power Meter Period Values in addition to the Active Power Meter Period Values within step 4.1.5 'Cumulative/Total Consumption Comparison' and 4.1.7 'Main/Check Comparison'.

4.1.1 Outstation Id (Device Id)

When the Outstation is interrogated, or when data is received from the Outstation automatically the 'electronic serial number' of the Outstation is compared with that expected. If they differ then no data is collected (or processed further) and the failure is investigated in accordance with section 3.4.2.

4.1.2 Outstation Number of Channels

When the Outstation is interrogated, or when data is received from the Outstation automatically, the number of channels of the Outstation is compared with that expected. If they differ then no data is collected (or processed further) and the failure is investigated in accordance with section 3.4.2.

4.1.3 Outstation Time

When the Outstation is interrogated, the time of the Outstation is compared with that expected. If they differ by more than 20 seconds and less than 15 minutes then the outstation time is corrected by the data collection system. If the time differs by more than 15 minutes then the problem is resolved in accordance with section 3.4.2.

4.1.4 Alarms

When the Outstation is interrogated, or when data is received from the Outstation automatically, the individual alarms required by the relevant Code of Practice (CoP)

shall be investigated if flagged. Some MSs may not have all the alarm flags specified in the relevant CoP, in which case a Dispensation under BSCP32 should exist.

Each alarm shall be investigated in accordance with section 3.4.2.

4.1.5 Cumulative/Total Consumption Comparison

When the Outstation is interrogated, or when data is received from the Outstation automatically, and where the Outstation provides an electronic cumulative reading of the prime register equivalent to the total consumption of the Meter at that point in time. Using these readings, the following checks will be performed at least every seven days (i.e. on a daily or weekly basis or as agreed by the Supplier and HHDC).

i) The difference between the cumulative readings shall be calculated to ensure that the HH Metered Data used in Settlements sums to the Meter advance for the same interval[1], i.e. that the difference between cumulative readings and the sum of the Metered Period Data for the same date(s) and time(s) is within a suitable tolerance. It is recommended that the level of the tolerance should be set to take into account the period over which the check was performed. The recommended maximum levels are ±0.7% where the check is carried out on a weekly basis and ±5% where the check is carried out on a daily basis.

Specifically:
$\sum$(pulses * pulse multiplier) for all Meter periods in the time interval = (Meter advance * Meter multiplier) for the time interval.

The calculation below outlines how the discrepancy should be calculated when performing tolerance checks.

$$Discrepancy = \left(\frac{\sum HHE - MA}{MA} \right) \times 100\%$$

Where:

$\sum$HHE is the sum of HH Energy volumes in kWh and/or kvarh; and MA is the corresponding Meter Advance, i.e.

$$MA = M_2 - M_1$$

Where:

M2 is the cumulative reading (in kWh or kvarh) returned from the last time that the Meter was interrogated; and M1 is the cumulative reading (in kWh or kvarh) returned from the previous time that the Meter was interrogated or

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[1] Described as performing a mini-MAR.

data was received automatically over the same time period as the sum of HH period energy.

ii) Where a main and check Meter is fitted, the main and check Meter advances are compared for any discrepancy between the two values in excess of 1.5 times the class accuracy requirements for the individual Meters at full load, as defined in the relevant CoP.

Allowances shall be made for low load discrepancies. If the discrepancy is unacceptable it shall be investigated in accordance with section 3.4.2.

4.1.6 Maximum Permissible Energy by Metering System Code of Practice

During validation where the energy recorded exceeds the permissible allowed, in accordance with column 4 in the table below, for one or more given Settlement Period, the HHDC will notify the Supplier.

CoP	Max. kW	Max kWh / Half Hour	Permissible Allowed: kWh per Half Hour
1	675,000	337,500	400,000
2	100,000	50,000	50,000
3	10,000	5,000	5,000
5	1,000	500	600
6 & 7	76	38	50
10	76	38	50

Following instruction from the Supplier, the HHDC will enter the actual data into Settlements or will replace the actual data with estimated data and enter this into Settlements.

Where however the Supplier does not provide instructions to the HHDC, the HHDC will apply the following rules, either:

▪ use actual consumption data if the energy has exceeded the permissible allowed by no more than 20%; or
▪ use estimated consumption data, rather than the actual consumption data if the energy exceeded the permissible allowed by more than 20%.

Note that:

CoPs 1, 2 and 3 are circuit capacity based and it is assumed that the Maximum Demand will not exceed the maximum kWh / Half Hour value.

CoP 5 is demand based and may occasionally exceed the maximum kWh / Half Hour value.

CoPs 6 & 7 are whole current Meters and the values are based on maximum voltage and current values of 3 phases x 253 Volts x 100 Amps. For these MSs, the fact that they are fused at 100 Amps limits the energy passed. Therefore, any recorded

energy greatly higher than the maximum shown in the above table can be assumed to be erroneous.

4.1.7 Main/Check Comparison

Where main and check Meters are installed in accordance with the relevant CoP, ensure that the Metered Data recorded by each Meter is compared for each circuit. Allowance shall be made for low load discrepancies. Any discrepancy between the two values in excess of 1.5 times the accuracy requirements of that prescribed for the individual Meters at full load, as defined in the relevant CoP, shall be investigated in accordance with section 3.4.2.

4.1.8 Site Checks of SVA Metering System - Site Visit Report

The following checks shall be carried out by the HHDC on the HH MS when visiting a Site:

1. Any evidence of suspected faults to the MS including phase/fuse failure.
2. Any evidence of damage to metering and associated equipment.
3. Any evidence of tampering of any sort with the MS or associated equipment, particularly seals.
4. Any evidence of supply being taken when the Meters are de-energised.
5. Any potential safety concern with the metering or associated equipment.

NB   The Local Interrogation Unit (IU) or Hand Held Unit (HHU) should be set to ensure agreement with the UTC clock at least every week.

Sites with polyphase MSs should be visited at least annually and single phase at least at two yearly intervals to perform the checks described above. Sites traded in Measurement Class E are exempt from this requirement, but Suppliers are expected to arrange for the inspection of Measurement Class E Meters in accordance with provisions 12.14 – 12.16 of the Standard Conditions of the Electricity Supply Licence, notwithstanding that these provisions refer to Non-Half-Hourly Meters. Site visits made for other reasons may be used to carry out these checks.

Any problems are investigated in accordance with section 3.4.2 and a report is issued. The HHDC shall ensure that where a site visit was not possible, the reasons are explained sufficiently such that appropriate action can be taken to improve the chances of securing a successful site visit.

4.1.9 Reporting

Ensure that all cases of suspected MS faults are investigated in accordance with section 3.4.2 and are reported to the Supplier, MOA and LDSO, as appropriate.

Ensure that the original metered value (where obtained) and alarm(s), together with the reason for the changes to that value are retained.

SECTION 4.2 - END OF DOCUMENT IS NOT IMPACTED BY CP1302.

CP1303 Attachment REDLINE TEXT CHANGES TO BSCP502 V18 SECTION 4.2 – SEE BELOW:

Section 1 to section 4.1 are not impacted by CP1303.

4.2   Data Estimation.

Data will be estimated for Import and Export Metering using one of the following data estimation methods in the order of precedence specified below and will apply equally to above and below 100kW MSs. Data will be flagged appropriately as indicated below. Alternatively, the Revenue Protection Service may advise on required adjustments. Missing Reactive Power period values will also be estimated in accordance with 4.2.3 below.

When the HHDC receives information from the MOA, Revenue Protection Service, site reports or other sources concerning metered data which has been or will be collected and processed, the Meter Period Value data shall be estimated in accordance with this BSCP where the HHDC believes the data to be in error. The HHDC shall inform the Supplier where an error might affect a different Supplier or data affects the Final Reconciliation Volume Allocation Run.

The HHDC shall retain any original value collected, whether such value is processed before or after receipt of any details of invalid data from the MOA, Revenue Protection Service, site reports or other source, and any alarms set up at the Meter.

Details of all data estimations and the rational behind using the chosen method must be recorded for Audit purposes.

The HHDC will notify the relevant Supplier and (where appropriate) the LDSO of the data estimation method in accordance with 4.2.4~~3~~ below.

Data estimation shall, wherever possible, be constructed using previous actual 1 Metered Data and not previously estimated data.

HHDCs should take particular care when carrying out data estimation using, or during, public holiday periods, e.g. Christmas and New Year, where abnormal consumption patterns may be experienced. Profiles from similar periods in previous years may be used where applicable and available.

HHDCs should consider local information, where available, when carrying out estimations and use appropriate actual historical data if this is considered to give a more accurate data estimation, e.g. when estimating consumption of energy for a building known to be a school during the month of August, the average load shape could be based on actual data for the same day of week and Settlement Periods from the previous year.

Having estimated data using one of the methods below, a report is to be produced in accordance with 4.2.4~~3~~ below.

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[1] 'Actual' data means collected Metered Data – 'A' flagged – which has successfully passed a main / check data comparison (in accordance with Appendix 4.1.7) and Maximum validation (in accordance with Appendix 4.1.6).

If a data estimation has been completed and submitted to the HHDA and actual 'A' flag data OR information leading to more accurate estimated data becomes available, this revised data shall be notified to the Supplier and LDSO and submitted to the HHDA for use in the next Volume Allocation Run.

Where a MAR has failed, in accordance with Appendix 4.7, due to a data estimation being included in the period of reconciliation, that period of data estimation shall be re-estimated.

4.2.1   Standard Methods – Import Metering Systems

a.   <u>Main Meter data available but check Meter data missing.</u>
Data from main Meter used providing that data is in line with previous load shape for same day of week and Settlement Periods.

Data Flag 'A'

b.   <u>Main Meter data missing and check Meter installed.</u>
Data copied from the check Meter providing that data is in line with previous load shape for same day of week and Settlement Periods.
Data Flag 'A'

Note that a. and b. **do not apply** where main and check data is collected, but the data fails the main / check validation as described in Appendix 4.1.7.

c.   <u>One Settlement Period missing or incorrect where a prime Meter register reading can be taken.</u>
Missing or incorrect Settlement Period data calculated from the prime Meter register advance and the other actual HH data recorded for the specific period of the calculation. Note that the prime Meter register advance will not correlate to Settlement Periods.
Data Flag 'A'

d.   <u>Two or three Settlement Periods missing or incorrect for prime Meter register or one Settlement Period missing or incorrect where a prime Meter register reading cannot be taken.</u>
Manual values may be entered which ensure a match with real data trends.
Data Flag 'E'

e.   <u>Meter advance available.</u>
kWh and/or kvarh consumption calculated in the order of precedence below:
(i)   HH data constructed by using the average load shape based on **actual** Metered Data for the same day of week and Settlement Periods over the previous or following month taking into account weekends and public holidays.
(ii)   HH data constructed by using the average load shape based on **actual** Metered Data for the same day of week and Settlement Periods over the previous or following 2-3 weeks taking into account weekends and public holidays.
(iii)   HH data constructed by using the average load shape based on **actual** Metered Data for the same day of week and Settlement Periods over

the previous or following week taking into account weekends and public holidays.

(iv) Where actual Metered Data is not available to satisfy the criteria for (i), (ii) or (iii) above, the HH data shall be constructed using the average load shape based on **actual** data for the same day of week and Settlement Periods over the nearest 4 week period to that for which a data estimation is required.

(v) Operational data or additional information will be used to construct the load shape supplied from another source (MOA, Supplier). Information to be supplied by the Supplier to the HHDC in a format agreed by both parties.

Data Flag 'E' except in (v), where the data is automatically retrieved by the MOA via an Interrogation Unit, in which case it will have an 'A' flag.

f.   Meter advance unavailable.
        kWh and/or kvarh consumption calculated in the order of precedence below:

(i) The average energy values and load shape will be constructed based on **actual** Metered Data for the same day of week and Settlement Periods over the previous or following month taking into account weekends and public holidays.

(ii) The average energy values and load shape will be constructed based on **actual** Metered Data for the same day of week and Settlement Periods over the previous or following 2-3 weeks taking into account weekends and public holidays.

(iii) The average energy values and load shape will be constructed based on **actual** Metered Data for the same day of week and Settlement Periods over the previous or following week taking into account weekends and public holidays.

(iv) Where actual data is not available to satisfy the criteria for (i), (ii) or (iii) above, the average energy values and load shape will be constructed based on **actual** Metered Data for the same day of week and Settlement Periods over the nearest 4 week period to that for which a data estimation is required.

(v) Operational data or additional information will be used to construct the load shape supplied from another source (MOA, Supplier). Information to be supplied by the Supplier to the HHDC in a format agreed by both parties.

Data Flag 'E'

g.   No Meter advance, historical data, operational data or additional information available.
        The HHDC will use the EAC and Profile Class Id provided by the Supplier together with the Default Period Profile Class Coefficients (DPPCCs) provided in Market Domain Data (MDD), to perform the estimation of consumption. For the avoidance of doubt, DPPCCs are defined in clock time (British Summer Time during the summer months) and therefore the estimated data based upon this method will also be in clock time.

When estimating Reactive Energy consumption the HHDC will use the Default EAC and Default Period Profile Class Coefficients (DPPCCs) provided in Market Domain Data (MDD) in conjunction with a default power factor of 0.9 to determine missing Reactive Import values. The default power factor of 0.9 shall not be used when estimating Reactive Export values, in these instances a value of zero shall be submitted.
Data Flag 'E'

h. No EAC or Profile Class Id available.
Where the Supplier has not provided the data specified in 'g', the HHDC will use the DPPCCs for Profile Class 6 'Non Domestic Maximum Demand Load Factor Band 20 – 30 %', and with the HH Default EAC provided in MDD, derive the HH estimates for the missing Settlement Periods.

When estimating Reactive Energy consumption the HHDC will use the procedure specified above in conjunction with a default power factor of 0.9 to derive the Reactive Import estimates for the missing Settlement Periods. The default power factor of 0.9 shall not be used when estimating Reactive Export values, in these instances a value of zero shall be submitted.
Data Flag 'E'

SECTION 4.2.2 IS NOT IMPACTED BY CP1303.

4.2.3   Standard Methods – Reactive Power

Standard methods 4.2.1(b) through to 4.2.1(h) are also applicable to Reactive Import and Reactive Export, and the HHDC will use these methods where possible to provide estimates of missing Reactive Power data.

The HHDC may vary the standard methods 4.2.1(b) to 4.2.1(h) to use available Active Power in estimating Reactive Power values.

Where it is not possible to use the above methods to provide estimates of missing Reactive Power data, the HHDC shall not provide estimated data. In particular, zero estimates shall be provided only when these represent genuine estimates of the missing Reactive Power data, and not as a method of signalling that estimates could not be provided.

4.2.43 Reporting

The report identifies all MSs for which Meter period estimated data ('E' flag data only) has been used, showing the dates and Settlement Periods affected. The HHDC will additionally provide full details of the data estimation method used to the Supplier, and where appropriate, to the LDSO (this information may be provided by any method agreed with the Supplier and the LDSO).[2]

SECTION 4.3 – TO THE END OF THE DOCUMENT WILL NOT BE IMPACTED BY CP1303.

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[2] For the avoidance of doubt, the data estimation method may be provided using the D0022 Additional Information Field, or by any other method agreed between the HHDC, Supplier and LDSO (e.g. spreadsheets, emails) providing that an audit trail of such information is maintained.

CP1303 - Housekeeping Changes to BSCP502

CP1166 introduced a new section 4.7 'Inbound Communication' within BSCP502. The renumbering resulted in references to Sections 4.7, 4.8 and 4.9 becoming misaligned (4.10 'Service Levels' is not impacted as this was added after CP1166).

These require correction and it is suggested that they be made as part of CP1303.

Section/Ref in BSCP502 v18.0	Current Text	Correction Required
3.2.4.12 (INFORMATION REQUIRED)	This reading is required for use in the Meter Advance Reconciliation process – Appendix 4.7 - Meter Advance Reconciliation[10].	This reading is required for use in the Meter Advance Reconciliation process – Appendix 4.~~7~~8 - Meter Advance Reconciliation[10]
3.2.7.13 (INFORMATION REQUIRED)	This reading is required for use in the Meter Advance Reconciliation process – Appendix 4.7 - Meter Advance Reconciliation[11].	This reading is required for use in the Meter Advance Reconciliation process – Appendix 4.~~7~~8 - Meter Advance Reconciliation[11].
3.4.1.1 (INFORMATION REQUIRED)	Refer to Appendix 4.1, Appendix 4.2, Appendix 4.3, and where relevant Appendix 4.7.	Refer to Appendix 4.1, Appendix 4.2, Appendix 4.3, and where relevant Appendix 4.~~7~~8.
3.4.1.4 (WHEN)	Following visiting site and in accordance with timescales in Appendix 4.1 and 4.7.	Following visiting site and in accordance with timescales in Appendix 4.1 and 4.~~7~~8.
3.4.1.4 (INFORMATION REQUIRED)	Refer to Appendix 4.1 and where relevant Appendix 4.7. D0135 Report Possible Safety Problem. D0136 Report to Supplier of Possible Irregularity. D0008 Meter Advance Reconciliation Report in accordance with Appendix 4.7.	Refer to Appendix 4.1 and where relevant Appendix 4.~~7~~8. D0135 Report Possible Safety Problem. D0136 Report to Supplier of Possible Irregularity. D0008 Meter Advance Reconciliation Report in accordance with Appendix 4.~~7~~8.
4.2 'Data Estimation' (last paragraph of section_	Where a MAR has failed, in accordance with Appendix 4.7, due to a data estimation being included in the period of reconciliation, that period of data estimation shall be re-estimated.	Where a MAR has failed, in accordance with Appendix 4.~~7~~8, due to a data estimation being included in the period of reconciliation, that period of data estimation shall be re-estimated.

4.8.2 (last paragraph in section)	A MAR is not obligatory providing that the Cumulative / Total Consumption Comparison as described in Appendix 4.1.5 can be carried out. Where the Cumulative / Total Consumption Comparison validation cannot be carried out, a MAR shall be performed as described in 4.7.1.	A MAR is not obligatory providing that the Cumulative / Total Consumption Comparison as described in Appendix 4.1.5 can be carried out. Where the Cumulative / Total Consumption Comparison validation cannot be carried out, a MAR shall be performed as described in 4.~~7~~8.1.
1.6.1 'Acronyms'	Complex Site See Appendix 4.8	Complex Site See Appendix 4.~~8~~9
1.6.2 'Definitions' (3rd paragraph)	'Complex Site' is defined under Appendix 4.8 'Guide to Complex Sites'.	'Complex Site' is defined under Appendix 4.~~8~~9 'Guide to Complex Sites'.
3.2.1.3 (INFORMATION REQUIRED)	D0010 Meter Readings. D0268 Half Hourly Meter Technical Details [8]. If site is complex, send Complex Site Supplementary Information Form. Refer to Appendix 4.8 Guide to Complex Sites.	D0010 Meter Readings. D0268 Half Hourly Meter Technical Details [8]. If site is complex, send Complex Site Supplementary Information Form. Refer to Appendix 4.~~8~~9 Guide to Complex Sites.
3.2.4.4 (INFORMATION REQUIRED)	D0002 Fault Resolution Report or Request for Decision on Further Action. D0268 Half Hourly Meter Technical Details [8]. If site is complex, send Complex Site Supplementary Information Form. Refer to Appendix 4.8 Guide to Complex Sites.	D0002 Fault Resolution Report or Request for Decision on Further Action. D0268 Half Hourly Meter Technical Details [8]. If site is complex, send Complex Site Supplementary Information Form. Refer to Appendix 4.~~8~~9 Guide to Complex Sites.
3.2.5.2 (INFORMATION REQUIRED)	D0268 Half Hourly Meter Technical Details [8]. If site is complex, send Complex Site Supplementary Information Form. Refer to Appendix 4.8 Guide to Complex Sites.	D0268 Half Hourly Meter Technical Details [8]. If site is complex, send Complex Site Supplementary Information Form. Refer to Appendix 4.~~8~~9 Guide to Complex Sites.
3.2.7.5 (INFORMATION REQUIRED)	D0002 Fault Resolution Report or Request for Decision on Further Action. D0268 Half Hourly Meter Technical Details. If site is complex, send Complex Site Supplementary Information Form. Refer to Appendix 4.8 Guide to Complex Sites.	D0002 Fault Resolution Report or Request for Decision on Further Action. D0268 Half Hourly Meter Technical Details. If site is complex, send Complex Site Supplementary Information Form. Refer to Appendix 4.~~8~~9 Guide to Complex Sites.
3.3.1.2 (INFORMATION REQUIRED)	D0010 Meter Readings. D0268 Half Hourly Meter Technical Details [8]. If site is complex, send Complex Site Supplementary Information	D0010 Meter Readings. D0268 Half Hourly Meter Technical Details [8]. If site is complex, send Complex Site Supplementary Information Form.

	Form. Refer to Appendix 4.8 Guide to Complex Sites.	Refer to Appendix 4.~~8~~9 Guide to Complex Sites.
3.3.6.5 (INFORMATION REQUIRED)	D0010 Meter Readings. D0268 Half Hourly Meter Technical Details [8]. If site is complex, send Complex Site Supplementary Information Form. Refer to Appendix 4.8 Guide to Complex Sites.	D0010 Meter Readings. D0268 Half Hourly Meter Technical Details [8]. If site is complex, send Complex Site Supplementary Information Form. Refer to Appendix 4.~~8~~9 Guide to Complex Sites.
3.3.9.1 (INFORMATION REQUIRED)	D0010 Meter Readings. D0268 Half Hourly Meter Technical Details [8]. If site is Complex, send Complex Site Supplementary Information Form. Refer to Appendix 4.8 Guide to Complex Sites.	D0010 Meter Readings. D0268 Half Hourly Meter Technical Details [8]. If site is Complex, send Complex Site Supplementary Information Form. Refer to Appendix 4.~~8~~9 Guide to Complex Sites.
3.3.10.5 (INFORMATION REQUIRED)	D0010 Meter Readings. D0268 Half Hourly Meter Technical Details[8]. If site is Complex, send Complex Supplementary Information Form. Refer to Appendix 4.8 Guide to Complex Sites.	D0010 Meter Readings. D0268 Half Hourly Meter Technical Details[8]. If site is Complex, send Complex Supplementary Information Form. Refer to Appendix 4.~~8~~9 Guide to Complex Sites.
3.4.3.11 (INFORMATION REQUIRED)	D0268 Half Hourly Meter Technical Details. If site is Complex refer to Appendix 4.8.	D0268 Half Hourly Meter Technical Details. If site is Complex refer to Appendix 4.~~8~~9.
3.5.1.1 (INFORMATION REQUIRED)	D0005 Instruction on Action. D0268 Half Hourly Meter Technical Details [8]. If site is complex, send Complex Site Supplementary Information Form. Refer to Appendix 4.8 Guide to Complex Sites.	D0005 Instruction on Action. D0268 Half Hourly Meter Technical Details [8]. If site is complex, send Complex Site Supplementary Information Form. Refer to Appendix 4.~~8~~9 Guide to Complex Sites.
3.5.2.1 (INFORMATION REQUIRED)	D0005 Instruction on Action. D0268 Half Hourly Meter Technical Details [8]. If site is complex, send Complex Site Supplementary Information Form. Refer to Appendix 4.8 Guide to Complex Sites.	D0005 Instruction on Action. D0268 Half Hourly Meter Technical Details 8. If site is complex, send Complex Site Supplementary Information Form. Refer to Appendix 4.~~8~~9 Guide to Complex Sites.
3.5.3.1 (INFORMATION REQUIRED)	D0005 Instruction on Action. D0268 Half Hourly Meter Technical Details [8]. If site is complex, send Complex Site Supplementary Information Form. Refer to Appendix 4.8 Guide to Complex Sites.	D0005 Instruction on Action. D0268 Half Hourly Meter Technical Details [8]. If site is complex, send Complex Site Supplementary Information Form. Refer to Appendix 4.~~8~~9 Guide to Complex Sites.

3.5.4.1 (INFORMATION REQUIRED)	D0005 Instruction on Action. D0268 Half Hourly Meter Technical Details [8]. If site is complex, send Complex Site Supplementary Information Form. Refer to Appendix 4.8 Guide to Complex Sites.	D0005 Instruction on Action. D0268 Half Hourly Meter Technical Details [8]. If site is complex, send Complex Site Supplementary Information Form. Refer to Appendix 4.~~8~~9 Guide to Complex Sites.
4.9 'Guide to Complex Sites'.	This Appendix 4.8.1 to 4.8.7 provides a non-exhaustive list of Examples of Complex Sites. These examples illustrate the need to create rules that accurately describe the aggregation necessary to derive the total energy for a customer. The aggregation rule contains terms that define each metered quantity at each Meter Point and form part of the total energy. The HHMOA is required to define the terms in the aggregation rule relative to the data.	This Appendix 4.~~8~~9.1 to 4.~~8~~9.7 provides a non-exhaustive list of Examples of Complex Sites. These examples illustrate the need to create rules that accurately describe the aggregation necessary to derive the total energy for a customer. The aggregation rule contains terms that define each metered quantity at each Meter Point and form part of the total energy. The HHMOA is required to define the terms in the aggregation rule relative to the data.