

The Technical Assurance of Performance Assurance Parties

Investigating the Fault Investigation Process

Findings Report



Contact: Elizabeth Montgomerie

Technical Auditor

Telephone: 0207 380 4224

Email: elizabeth.montgomerie@elexon.co.uk



Contents

.....	1
What is the Technical Assurance of Performance Assurance Parties (TAPAP)?	3
Why investigate the Fault Investigation Process?	3
Who did we audit, and why?	4
What did we look at?	6
Key findings	7
The prescribed process may not be fit for purpose	7
There is a decreasing level of expertise.....	8
Bespoke contractual and process arrangements	8
In the NHH Market.....	8
In the HH Market	10
Information used in data flows.....	11
BSC Audit Issues	12
Getting it right first time	13
Next Steps	16
Recommendations	16
Appendix 1: Table of Results	18
Appendix 2: Related Settlement Risks	19



What is the Technical Assurance of Performance Assurance Parties (TAPAP)?

The Technical Assurance technique is used as a detective tool and forms part of the [Performance Assurance Framework \(PAF\)](#). It consists of an on or off-site check of compliance, against the BSC and its Code Subsidiary Documents, commonly known as a TA check or audit. We also use this process to investigate particular processes, to find out more about them which can lead to opportunities for improvement to the BSC arrangements.

The Performance Assurance Board (PAB) agrees a scope of work for Technical Assurance, within the Risk Operating Plan (ROP) every year. The scope details checks designed to provide assurance on high-risk processes and any gap areas not covered by other PAF techniques.

The ROP and TA scope for 2012/13 was approved by the PAB in October 2011. One of the TA checks in scope was 'investigating the Fault Investigation process'.

Why investigate the Fault Investigation Process?

The rationale for carrying out this investigation:

The Meter Technical Details process review (presented to the PAB in January 2012 (PAB132/06)) concluded that the Fault Investigation process as set out in BSCP514 is weak and required further evaluation.

The BSC Audit results from 2010/11 and 2011/12 show that:

- MOAs are not responding to the fault investigation request (D0001¹ dataflow) in the required timescales
- There are issues with the usefulness of the fault investigation request (D0001 dataflow) and the responses (D0002² and D0005³ dataflow)

¹ Request Metering System Investigation

² Fault Resolution Report or Request for Decision on Further Action

³ D0005 - Instruction on Action



- The response (D0002 dataflow) is being used inappropriately, where a response is provided to the fault investigation request to meet the BSCP timescales, but the problem may not have been fully resolved. The response has been sent to 'buy' more time and to avoid being non-compliant with the BSC
- BSC Audit Market Issue 2051 (Inconsistent action taken in response to the D0001 data flow):
 - It continues to highlight the need for the requirements around the sending of the data flows to be clarified, to ensure consistent use of the processes
 - There are still 17 open BSC Audit issues that relate to this Market Issue.

Who did we audit, and why?

We followed the process and requirements of BSCP535 – Technical Assurance.

We audited Meter Operator Agents (MOAs), Data Collectors (DCs), Licenced Distribution System Operators (LDSOs) and Suppliers because all of these roles are involved directly or indirectly in the Fault Investigation process.

We selected candidates based on different pieces of information:

Meter Operator Agents

Six MOA candidates were selected. Three Half Hourly (HH) and Three Non Half Hourly (NHH)) based on BSC Audit Issues from the 2011/2012 BSC Audit related to the Fault Investigation process, HM14⁴ PARMS Serial data⁵, and Market share based on MSID count using SMRS data.

Data Collectors

Four DC candidates were selected. Two HH and two NHH based on them being the DCs most associated with the MOAs selected and/or having the largest Market Share based on MSID count.

Licenced Distribution System Operators

The LDSO candidate was selected based on its association with Trading Disputes that the Trading Disputes Committee (TDC) has considered in relation to Meter faults, because of its own Metering System audit schedule.

⁴ Timely HH Meter Investigation Requests

⁵ We selected the HHMOAs that had the greatest number of late D0002s.



Suppliers

Two Supplier candidates were selected, one HH and one NHH. They were associated with the Trading Disputes that the TDC had considered in relation to Meter fault investigation or having the largest percentage Market Share.



What did we look at?

The check was designed to investigate:

- Timescales in responding to Fault Investigations requests (D0001) and the response in the form of the D0002 to the DC.
- Reconciliation of D0001s, D0002s and (where applicable) D0005s at the selected MOAs.
 - Focusing on the MOAs with the largest volume of MSIDs.
 - To see if the response (D0002) resolved the issue first time or whether subsequent D0001s were necessary.
 - This involved an analysis of a sample at all candidates of D0001s issued compared with the D0002s and D0005s sent /received.

The check also looked at:

- A review of the internal procedures and processes in place and supporting documentation.
- The LDSO processes for identifying a fault and how they then initiate the Fault Investigation process with the respective Supplier.
- The understanding of the flow of data from the LDSO to see if the resolution of a Meter fault identified is communicated back to them once resolved.



Key findings

The most important aspects of investigating any type of fault or problem are:

- a. There must be some form of identifying Meter faults
- b. There must be a well-defined, formalised and agreed process for alerting all involved parties of suspected faults
- c. There must be good quality information in the investigation of a fault
- d. There must be adequate expertise to investigate
- e. There must be good quality information coming out - in the result of the investigation, and
- f. The outcome of the investigation must be communicated to all parties involved.

Through our review of this process we found specific non-compliances against individual role types. You can see an overview of these at Appendix 1. We also highlighted gap areas or weaknesses in the process; these are described in this section.

The prescribed process may not be fit for purpose

The process is described in BSCPs 502, 504 and 514. These BSCPs prescribe the process for responding to a suspected issue or fault with the Metered Data from and MSID. However the process is very much geared towards acting within given timescales:

- The DC and / or Supplier must request a Metering System investigation within a prescribed period of time
- The MOA must update the DC and / or Supplier of its progress on the investigation within a prescribed period of time, and
- The MOA must tell the DC and / or Supplier of the outcome of an investigation within a prescribed period of time.

This results in Parties focusing on meeting these timescales and not on the quality of information included in the requests and responses. We have seen a small amount of 'out of timescales' non-compliances, but we have also seen a number of investigations requested for the same Metering System. This suggests that MOAs are closing investigations without thoroughly investigating because the timescales in the process are too tight operationally. They are focusing on meeting the requirements of the BSCP and not on rectifying the fault and telling all involved parties about it.



The process in BSCP514 has been described to us as vague, woolly and that it has a lack of clarity about what the process actually should be. The process starts (for both HH and NHH) with someone informing the Supplier of a request to investigate the Metering System and the Supplier / DC then instigating this with a D0001 data flow. All of the parties that we audited stated that the use of woolly words in the process without any supporting guidance can give rise to inconsistency. For example “...as the Supplier or NHHDC **see necessary**” and “...**as soon as possible** following...”.

Industry also highlighted that they were unaware of, or said there wasn't any guidance to support the process. ELEXON does have a best practice guide available for the HH market; however it appears that this is not used, probably because those that manage the process do not know it exists. It also hasn't been reviewed since 2004.

There is a decreasing level of expertise

Once again, and we're hearing this from many area of the market place, Parties have expressed anecdotally that they are seeing a decreasing pool of expertise to deal with investigations and installations which means that the risk of installations being incorrect from day one could be increasing, as could be the ability to deal with complex investigations, should the need arise.

Bespoke contractual and process arrangements

Parties have bespoke arrangements in place for fault investigations depending on the Supplier Hub arrangement and whether a MSID is NHH or HH; meaning there isn't a consistent approach for the process across all Suppliers. It is highly dependent on the commercial arrangements between the Supplier and Supplier Agents and in the HH market, between the HHMOA and the end customer.

In the NHH Market

Related to all NHH Settlement Risks listed in Appendix 2.

We found (supported by the BSC Auditor findings) that Suppliers and DCs are performing all the required validation of data coming out of the Metering Systems. Processes are prescribed by the Supplier and then written into commercial contracts and Service Level Agreements; in essence, operating under the Supplier Hub concept.

All NHHDCs said that they populated the D0010⁶ and D0004⁷ flows with the information the Data Retriever found on site, as was agreed with the Supplier. It was the Supplier who made the decision what and when to investigate. Depending on what the Supplier wants to see in the data flows, depends on how they are populated, for example, some want to see the Site Visit Check Code in the D0002, some do not.

⁶ Meter Readings

⁷ Notification of Failure to Obtain Readings



In the NHH world the DC is split into two roles (not distinguished by the BSC), data retriever (obtaining Meter readings) and data processing unit (processing the Metered data). See figure 1 for a high level perspective of Supplier Hub Management in the NHH market. The different combinations of companies and roles mean that the process has to be flexible enough to accommodate this, in what can be quite a complex set up.

Considering this information, the NHHDCs asked: is BSCP504⁸ still fit for purpose?

In our opinion, this should be considered as part of a review of the fault investigation process and also fed back into the wider ELEXON operations to consider for a larger review.

In practice the data retriever is responsible for telling the Supplier and data processor about the premise and Metering System, mostly in electronic format (hand held units). The data processor then sends the Industry data flows (D0004 or D0010 et al.) accordingly. The Supplier then chooses what to do next and instructs the MOA (if the Supplier chooses to) to investigate the Metering System through the D0001.

Much of the process is electronically recorded, transferred and stored, thereby minimising the opportunity for human error through manual intervention.

Smart Metering and AMR Metering

Related to all NHH Settlement Risks listed in Appendix 2.

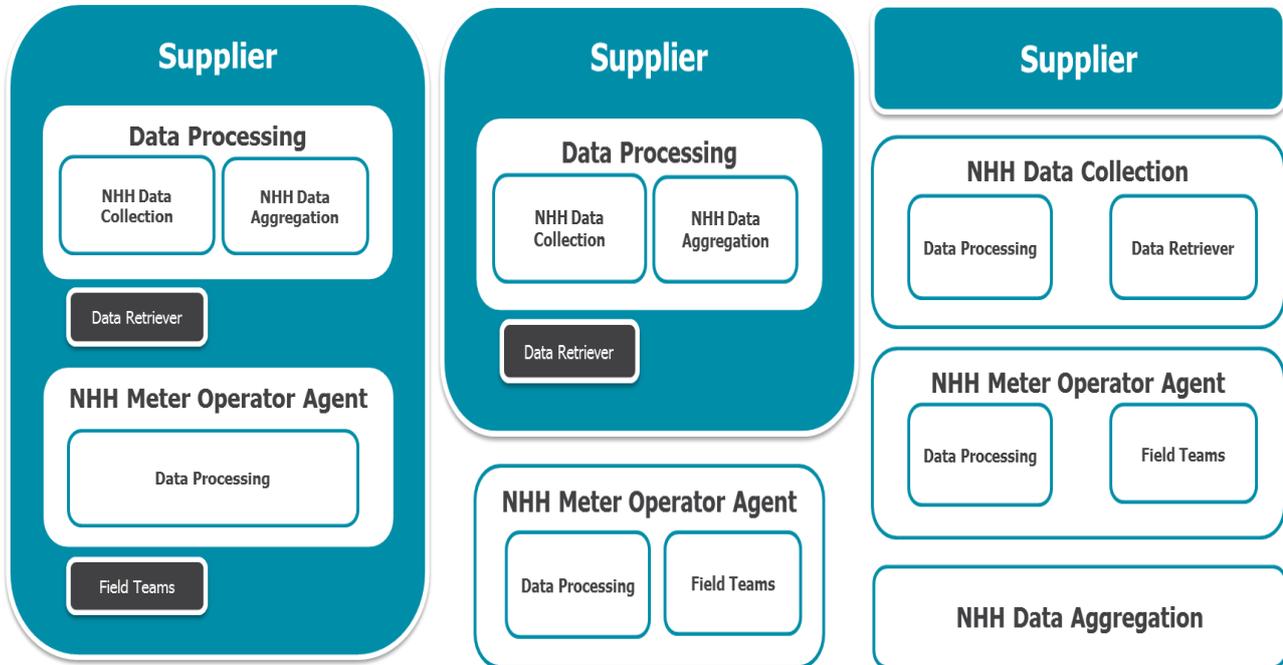
If we are to perform a review of the Fault Investigation process then we will also need to consider the impact of Smart and AMR metering. Perhaps in these instances the process would be better aligned to those used in the HH market?

A growing volume of both types of these Meters means that we need to look at how to manage this process before the market is overwhelmed and Settlement is impacted. We have the opportunity to use what we already know about the NHH and HH processes to learn and implement better solutions for smart and AMR Meters.

⁸ Non-Half Hourly Data Collection for SVA Metering Systems Registered in SMRS



Figure 1: High Level view of NHH Supplier Hub Management



In the HH Market

Related to all HH Settlement Risks listed in Appendix 2.

As is the case in the NHH Market, we found (supported by the BSC Auditor findings) that Suppliers and DCs are performing all of the required validation of data coming out of the Metering Systems. However, this is where the process starts to differ. Processes are prescribed by the BSCP (namely 514), however it is often hindered by the commercial contracts that an end use customer has in place with the HHMOA, this regularly devalues the Supplier Hub principle – you can see a high level view at Figure 2 and how there can be conflicts between the Supplier requirements and the end use Customer requirements on the HHMOA.

There is still a large volume of manual processing in the HH market leading to human error in processing the Meter Technical Details, meaning that data collected could be incorrect. Settlement Risk 22 is the risk that HHMOAs do not provide correct Meter Technical Details to the HHDCs resulting in Meter readings being misinterpreted or not collected and has a Net Significance of 20, this highest of all Settlement Risks. The errors produced by human manual intervention could be contributing significantly to this risk.

The DC rarely keeps the Supplier updated on progress and so the Supplier can receive the D0002 with no / little understanding of what has happened and why. The key issue here is that the Supplier does not know what is happening with his customer and bypasses the concept of the Supplier Hub entirely. This can happen because the



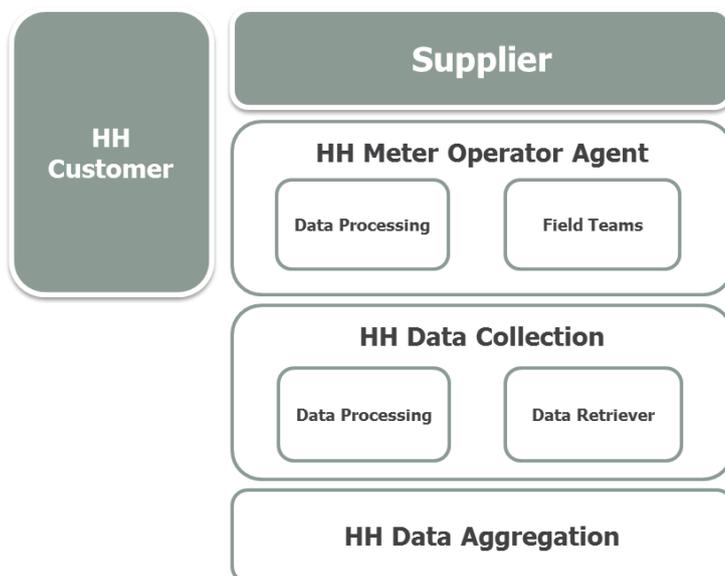
HHMOA contracts with the Customer and the HHMOA will only perform a standard maintenance of the Metering System without first having the Customer's agreement (depending on the contract they have in place).

Some HHMOAs struggle with investigating a fault within 5 working days of receipt of a D0001; again showing that perhaps the timescales of the process in BSCP514 are inappropriate. However we have also seen a number of duplicate D0001s sent by the HHDC to the HHMOA because the HHDC consistently cannot dial or contact the Meter but the HHMOA can (because the HHMOA uses different software to test dial the Meter to the HHDC).

We also noticed that there is a difference in the information and performance of sending the D0005 data flow to update the DC on progress. Where the D0005 is required to be sent, the information in the D0005 is minimal and its purpose is to comply with the BSCP.

MOAs have said that they get very little information from DCs about the fault they are being asked to investigate. Although this is likely to be because the DC has tried to dial the HH Meter and has been unable to, thereby gathering very little detail about what may be wrong with it.

Figure 2: High Level View of HH Supplier Hub Management



Information used in data flows

We found that the information used in the data flows in this process varies across parties; some provide more information than others. Some provide information that is ad hoc and written by the user each time, other provide standardised information, based on matrices. Some use the Site Visit Check Code data item, some don't and this is true of both HH and NHH Markets, however it could be very useful in order to identify what the D0002 is for. We



heard many parties tell us that one problem they see is that Suppliers do not know what the D0002 flow is being sent to them for and therefore cannot process it effectively.

Fault resolution plans for additional supporting information to the D0005 are rarely used, and if they are there is no traceability to the D0005 (that it corresponds to) suggesting that Settlement Risk 2861 and 2862 is happening more often than originally thought, see Appendix 2 for details.

BSC Audit Issues

Where individual BSC Audit Issues were raised with parties that we audited under this TA check, we took the opportunity to see how they were progressing in rectifying the issues. The parties are managing action plans and making improvements to the processes thanks to the Error and Failure Resolution technique and proactive management between parties and the Operational Support Managers at ELEXON.



Getting it right first time

The role of the LDSO

This section is related to Settlement Risks 29, 35, 36, 112, 113, and 116. See Appendix 2 for details.

Where the LDSO performs urgent Metering Services, MOAs very rarely get to know about it and can be left in the dark, as can the Registrant which can lead to incorrect MTDs and therefore inaccurate data in Settlement.

Furthermore, information gathered from the LDSO that we audited showed that some LDSOs are aware of the issues in communicating necessary industry information and have yet to make improvements. These problems lead to a lack of knowledge about an MSID by the MOA which can lead to incorrect MTDs and again, inaccurate data in Settlement.

A typical example:

A MOA sends a D0170⁹ to request that the LDSO send a D0215¹⁰, so that he can program the Meter correctly. The MOA does not have access to the measurement transformers and cannot therefore reliably 'know' what the CT and VT ratios are to program the Meter. The MOA relies on the LDSO informing him through the D0170/D0215 process. The LDSO does not send the D0215 and the MOA cannot program the Meter accordingly.

This is not a new issue; in fact we have found this type of communication breakdown between the LDSO and MOA in every TA check that we have done over the last 5 years. Additionally this has also been regularly seen by BSC Auditor. A summary of 2011-2012 BSC Audit issues found at LDSO's shows the types of communication problems:

- Failure to respond to D0170 Flows
- Lack of controls / timeliness over responding to requests to change energisation status
- Failure to process emergency disconnections appropriately
- Disconnection of metering systems without receipt of a D0134¹¹
- Failure to deal with backlogs

We need to help LDSOs understand the impact that their actions have on processes, parties and Settlement data. There is a cost associated to poor communications between LDSOs, MOAs and Registrants in terms of Settlement Data, a Registrants reputation and the end customer.

In the case of the fault investigation process, it may prove beneficial to include them in the process in a more formal aspect, particularly in the HH market.

⁹ Request for Metering System Related Details

¹⁰ Provision of Site Technical Details

¹¹ Request to Change Energisation Status



Process controls

There is no doubt that getting the Metering System set up correctly in the first place will benefit Settlement, as well as other key areas (e.g. Customer billing).

Controls (such as commissioning, process performance monitoring and validation) are already in place to 'prevent' Metering System faults (such as Measurement Transformer mismatches, wiring errors and other incorrectly programmed or set up Meter Technical Details). However, we consistently see the same issues arising. This means that making sure these controls happen, and happen successfully cannot always take place. These issues are:

- Poor or no communications between parties
- Manually worked processes,
- Problems with access to Metering Systems
- Unclear processes.

Electronic data transfer would really help standardise how the LDSO communicates with other parties. Currently there isn't a contacts database / list of good enough quality contacts and parties are really struggling to find anyone that can help them when trying to get hold of the LDSO.

Commissioning is effectively the last line of assurance for a Metering System, if it doesn't take place, then the risk to Settlement increases. We know that in the HH market (from the TAA) that over a third of Metering Systems inspected had non-compliances for a lack of or incomplete commissioning records.

Will Modification proposal P283¹² help in making sure commissioning is completed, as is required?

If it's approved, we will be able to monitor the process and continue to review whether it does or does not better support the commissioning process and we can then refine it as necessary.

Is there more that we can do? How can we incentivise LDSOs and MOAs to make sure that a Metering System is working accurately from installation, how do we ensure that full commissioning is done?

What if MOAs and LDSOs were required under the BSC to have audit procedures in place specifically for the commissioning process?

- ELEXON could monitor these audits, through various Performance Assurance Techniques (e.g. TAPAP, TAM, BSC Audit, EFR)
- ELEXON could monitor and manage performance:

¹² P283 - Reinforcing the Commissioning of Metering Equipment Processes



- Monitor non-compliances in the commissioning process
 - Root cause analysis and rectification
- Audit the commissioning internal audit process
 - Monitor non-compliances of the output from such audits
 - EFR to manage rectification
 - TAPAP audits
 - PAB Escalation

To know the answers to these questions and others raised in this TAPAP check we believe that a review group should be assembled.



Next Steps

Recommendations

1. Review the process for its fitness for purpose by bringing together a review group to look at the process now that we have a more holistic viewpoint (through this TAPAP check) with the objectives of:

Clarifying the problems, why is the process unfit for its purpose?

- **Define our problem** – be clear about what the problems are, the cost of poor quality and what we want to achieve. In part we've done this through the BSC Audit and the TAPAP checks.
Review the process – We've already done this through the BSC Audit at a high level, the TAPAP checks at a low level, there is more to do to really establish the root causes of the issues we found and the impact on the Settlement Risks related to the process.
Improve the process – Identify (what can we change) and develop the best solutions to take forward bearing in mind the obligations of the BSC and the voice of industry.
- **Verify the improvements** – We would do this as a matter of course through our change management procedures by looking at what success would look like (success criteria) if a change were implemented. We would also need to specify how we would monitor the process (PARMS, BSC Audit, TAPAP checks). We may also need to refine any 'kinks' at this point.
Embed the solutions – We will need to ensure that any improvements are thoroughly embedded as business as usual; we'll do this through the BSC Audit and also the TAPAP checks and by continued monitoring of the PARMS data and Settlement Risks (through the Performance Assurance Processes).

This will be a review group looking only at this process made up of experts in the process that will meet a defined number of times and not a new on-going review group.

2. Explore the idea that parties are required to internally audit key controls to ensure that the Metering System is 'right first time' – avoiding the cost of poor quality.
 - We know that there are already a number of key controls around installing a Metering Systems and making sure that it is set up correctly. Commissioning of a Metering System is a significant control.
 - We are working on Modification P283¹³ which will standardise the approach by making sure that where commissioning can't be completed it is escalated to the Registrant to manage.
If the Modification is approved then we'd need to look at ensuring that the new requirements have been

¹³P283 - Reinforcing the Commissioning of Metering Equipment Processes



fully embedded. Once fully refined and implemented, then we should see Metering System faults that are the result of installation inaccuracies fall (Measurement Transformer mismatches).

- We recommend that we feed into the TAMEG to consider what a requirement on the LDSO and MOAs to audit the commissioning process could look like, with ELEXON (or other appropriate part) focusing on auditing LDSOs and MOAs to gain assurance that actions are taken to identify root causes, correct non-compliance and continuously improve the processes.



Appendix 1: Table of Results

Role	Number of Non-Compliances	Type of Non-Compliances	Number of Observations	Type of observations
HHMOA	Compliant		3	<ul style="list-style-type: none"> Long period of investigation. SVCC used inappropriately. Lack of reporting to control the process
HHMOA	5/7 MPANs	<ul style="list-style-type: none"> BSCP514 5.4.1.3 After receipt of D0001, investigation HHMS within 5 working days (D1 receipt and D2 date of action). 	0	
	2/7 MPANs	<ul style="list-style-type: none"> BSCP514 5.4.1.12 Send D0002 within 5 wds of resolving the fault. (Date of d2 sent and date of action). 		
HHMOA	Compliant		3	<ul style="list-style-type: none"> Long period of investigation. SVCC not used. Used the D2 as a rejection flow for MOA having no contract in place with the customer.
NHHMOA	Compliant		0	
NHHMOA	3/10 MPANs	<ul style="list-style-type: none"> BSCP514 6.4.1.7 Within 5 working days of resolving a problem under the investigate inconsistencies process, NHHMOA must send a D0002 and a D0010 to the NHHDC and the Supplier. 	0	
NHHMOA				
NHHMOA	7/15 MPANs	<ul style="list-style-type: none"> BSCP514 6.4.1.7 Within 5 working days of resolving a problem under the investigate inconsistencies process, NHHMOA must send a D0002 and a D0010 to the NHHDC and the Supplier. 	0	
NHHMOA				
NHHDC	Compliant		0	
NHHDC	Compliant		0	
HHDC	1/10 MPANs	<ul style="list-style-type: none"> BSCP502 3.4.2.2 Within 2 working days of detecting an inconsistency, HHDC should send a D0001 to the HHMOA. 	0	
HHDC	Poor document control	<ul style="list-style-type: none"> PSL100 Section 9 - Process Auditability, document control. 	0	
NHHSUP	Compliant		0	
HHSUP	2/10 MPANs	<ul style="list-style-type: none"> BSCP514 5.4.1.2 Within 2 working days of suspecting a fault, you (or your appointed HHDC) should send a D0001 to the HHMOA. 	1	<ul style="list-style-type: none"> Inappropriate use of the 'date fault suspected' data item in the D0001.
LDSO	Compliant		0	
LDSO				
Total	7		7	

Appendix 2: Related Settlement Risks

SRIN	HH/ NHH	Risk Description	Noted Controls	Control Strength	Net Sig.	Assumptions
SR0022	HH	The risk that HHMOAs do not provide correct Meter Technical Details to the HHDCs resulting in Meter readings being misinterpreted or not collected.	COP4 requirements. Proving Test. (If requested) Commissioning. D0001 (Request Metering System Investigation).	Low	20	This includes the MOAs failure to provide accurate Meter Technical Details whether such an action is initiated by a Supplier request or otherwise. This would be new connection or change of agent as the risk of non-provision of MTD is separate risk.
SR0027	NHH	The risk that NHHMOAs make changes to the Metering System and do not inform NHHDCs resulting in Meter readings being misinterpreted or not collected.	Meter Reading Validation Process. D0004 (Notification of Failure to Obtain Reading). D0001 (Request Metering System Investigation).	Medium	10	Examples of changes include reconfiguration or replacement of MS or changes to SSCs. This includes where LDSOs have made the changes, passed the information to MOAs but MOAs have not passed information to DCs as well as where MOAs are responsible for making changes. This also covers the D0313 data flow (Auxiliary Meter Technical Details) for AMR Metering Systems.
SR0028	HH	The risk that HHMOAs make changes to the Metering System and do not inform the HHDCs resulting in Meter readings being misinterpreted or not collected.	D0001 (Request Metering System Investigation). DC Validation.	Low	12	Examples of changes include reconfiguration or replacement of MS. This includes where LDSOs have made the changes, passed the information to MOAs but MOAs have not passed information to DCs as well as where MOAs are responsible for making changes
SR0029	NHH	The risk that LDSOs make changes to Metering Systems and do not inform the NHHMOAs resulting in Meter readings being misinterpreted or not collected.	Validation Process. D0004 (Notification of Failure to Obtain Reading). D0001 (Request Metering System Investigation).	Medium	2	Changes mean, for example, reconfiguration, replacement of MS. Changes to SSC. Not disconnection.
SR0035	NHH	The risk that LDSOs do not send Site Technical Details to NHHMOAs resulting in Meter reading being misinterpreted or not collected.	Read Validation Process. D0004 (Notification of Failure to Obtain Reading). D0001 (Request Metering System investigation).	Low	6	The MOA might not be able to create accurate Meter Technical Details. The risk includes the failure of the MOA to request Site Technical Details as well as the failure of the LDSO to send them.
SR0036	HH	The risk that LDSOs do not send Site Technical Details to HHMOAs resulting in Meter reading being misinterpreted or not collected.	Read Validation Process. D0001 (Request Metering System investigation).	Low	6	The MOA might not be able to create accurate Meter Technical Details. The risk includes the failure of the MOA to request Site Technical Details as well as the failure of the LDSO to send them.
SR0040	NHH	The risk that NHHMOAs do not provide correct Meter Technical Details to NHHDCs	Meter Reading Validation Process. D0004 (Notification of Failure to Obtain Reading).	High	7	This includes the failure to provide any Meter Technical Details whether such an action is initiated by a Supplier request or otherwise.



SRIN	HH/ NHH	Risk Description	Noted Controls	Control Strength	Net Sig.	Assumptions
		resulting in Meter readings being misinterpreted or not collected.	D0001 (Request Metering System Investigation).			<p>This also includes the NHHDC's failure to process and use correct Meter Technical Details.</p> <p>This also covers the D0313 data flow (Auxiliary Meter Technical Details) for AMR Metering Systems.</p>
SR0072	NHH	The risk that NHHDCs process incorrect Meter readings, resulting in erroneous data being entered into Settlement.	Meter Reading Validation. The NHHDC informs the Supplier of incorrect Meter register mappings. Investigate inconsistencies process. Site visit checks by the NHHDC. EAC/AA validation.	Medium	16	<p>Erroneous data includes, for example, transposed digits, transposed registers, undetected or falsely detected meter rollovers and incorrect multipliers.</p> <p>This incorporates the risk that readings for remotely read NHH Metering Systems are not being passed from the meter to the Data Collector (logically) unchanged and that error flags are missed or misinterpreted as a result of errors in data protocols (protocol approval in BSCP601 only applies to Half Hourly Metering systems).</p> <p>This includes the Impact of errors arising following CoS events where failures in the old Supplier's and/or their NHHDC's validation and processing of meter readings result in erroneous values being passed to the new Supplier's hub, accurate COS readings failing validation or inaccurate values being deemed, and erroneous consumption values being calculated and submitted into Settlement.</p> <p>Note that the related risks to SR0072 are SR0010, SR0047 and SR0095.</p>
SR0074	NHH	The risk that NHHDCs do not collect and / or enter valid Meter readings resulting in old/default data entering Settlement.	D0004 (Notification of Failure to Obtain Reading). DC sends D0012 (Confirmation of Inclusion of the Metering Point in the Reading Schedules) (Read Cycle). D0019 (Metering System EAC/AA data) sent to Supplier.	Low	15	It is assumed that the DC has been successfully appointed by the Supplier and is aware of its appointment.



SRIN	HH/ NHH	Risk Description	Noted Controls	Control Strength	Net Sig.	Assumptions
			D0001 (Request Metering System Investigation). D0095 (NHHDA exceptions)			
SR0078	HH	The risk that HHDCs process incorrect Meter readings, resulting in erroneous data being entered into Settlement.	Meter Reading Validation Specified Correctional processes Meter Compliance Testing. Meter Advance Reconciliations (MARs). Meter Fault Flag monitoring. Proving Tests. Protocol Approval. Investigate inconsistencies process. Automatic trimming of clock.	Medium	6	Erroneous data includes, for example, transposed registers or incorrect multipliers. The manual override of automated validation can strengthen or weaken the controls, depending on how it is applied.
SR0112	HH	The risk that HHDCs use data from faulty Metering Systems resulting in incorrect data being entered into Settlement.	Meter Advance Reconciliations (MARs). Error flags. Meter Reading Validation. Proving Tests. COP4 Testing. Investigate inconsistencies process. Commissioning. Periodic Calibration Testing. Safety site visits. Automatic trimming of clock.	Low	12	None Identified.
SR0113	HH	The risk that the LDSO-owned Settlement Metering Equipment is not maintained, resulting in incorrect data entering Settlement.	Commissioning. Error Flags on Meters. National Measurement Transformer Error Statement.	Low	8	None Identified.
SR0114	HH	The risk that HH Metering Systems are tampered with resulting in energy being understated (or overstated) in Settlement.	Meter Advance Reconciliations (MARs). Error flags. Meter Reading Validation. D0001 (Request Metering System Investigation).	Medium	7	None Identified.



SRIN	HH/ NHH	Risk Description	Noted Controls	Control Strength	Net Sig.	Assumptions
			Annual Site Safety Visits. Automatic trimming of clock. Unique Meter Passwords			
SR0115	NHH	The risk that NHHDCs use data from faulty Metering Systems resulting in incorrect data being entered into Settlement.	MOA informing the DC, resulting in default data being used. Meter Reading Validation. Investigate inconsistencies process. D0001 (Request Metering System Investigation). Site visit checks by the NHHDC. Commissioning.	Medium	5	None Identified.
SR0116	HH	The risk that Import/Export Metering Systems are incorrectly installed/configured resulting in inaccurate data entering Settlement.	Proving Tests (if appropriate). COP4 Testing. D0001 (Request Metering System Investigation). Investigate inconsistencies process. Commissioning.	Low	12	None Identified.
SR0174	NHH	The risk that NHHMOAs do not provide correct Meter Technical Details to the LDSO resulting in the LDSO not receiving data of sufficient accuracy to enable the calculation of LLFs correctly.	D0001 Requests Metering System Investigation	Low	8	Unless the LDSO receives accurate data, errors at BSP Metering Systems or incorrect Loss Factors may not be detected and increases in network losses will not be as traceable as they should be. This will lead to errors being smeared across all Suppliers rather than energy being correctly allocated.
SR0175	HH	The risk that HHMOAs do not provide correct Meter Technical Details to the LDSOs resulting in the LDSOs not receiving data of sufficient accuracy to enable the calculation of LLFs correctly.	D0001 Requests Metering System Investigation	Low	8	Unless the LDSO receives accurate data, errors at BSP Metering Systems or incorrect Loss Factors may not be detected and increases in network losses will not be as traceable as they should be. This will lead to errors being smeared across all Suppliers rather than energy being correctly allocated.



SRIN	HH/ NHH	Risk Description	Noted Controls	Control Strength	Net Sig.	Assumptions
SR2681	HH	The Risk that HHMOAs do not resolve faults in a timely manner, resulting in estimated data entering Settlement.	Investigating inconsistencies process. The D0005 'Instruction on Action' should be sent containing the high level points so that an audit trail can be maintained. Further details should be given in the fault resolution plan. Any other correspondence between the Supplier, HHMOA and HHDC which is required to resolve the fault should be sent in a format and by a method agreed by those Participants involved.	Low	4	The fault has already been detected and reported to the MOA.
SR2682	NHH	The Risk that NHHMOAs do not resolve faults in a timely manner, resulting in estimated data entering Settlement.	Investigate inconsistencies process	Low	4	The fault has already been detected and reported to the MOA
SR2834	HH	The Risk that Suppliers do not notify change of DC to other associated agents resulting in the HHMOAs not sending MTDs to the right DCs and meter readings being misinterpreted or not collected	D0001 Requests Metering System Investigation	Low	9	None identified.
SR2835	NHH	The Risk that Suppliers do not notify change of DC to other associated agents resulting in the NHHMOAs not sending MTDs to the right DCs and meter readings being misinterpreted or not collected	D0001 Requests Metering System Investigation	Low	6	None identified.



SRIN	HH/ NHH	Risk Description	Noted Controls	Control Strength	Net Sig.	Assumptions
SR2865	HH	The risk that HHDCs do not process Meter Technical Details correctly or at all resulting meter reading being misinterpreted or not collected	Meter Reading Validation. Proving Test. D0001 (Request Metering System Investigation)	Medium	6	This risk assumes the MOAs have compliantly sent the MTDs.
SR2866	NHH	The risk that NHHDCs do not process Meter Technical Details correctly or at all resulting meter reading being misinterpreted or not collected.	Meter Reading Validation Process. D0004 (Notification of Failure to Obtain Reading). D0001 (Request Metering System Investigation).	High	2	This risk assumes the NHHMOA has sent MTDs compliantly
SR2868	NHH	The risk that non Half Hourly Import/Export Metering Systems are incorrectly installed/configured resulting in inaccurate data entering Settlement.		Low	12	None identified.