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Risk Operating Plan 2016/17

For Industry Consultation

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RISK OPERATING PLAN 2016/17

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INTRODUCTION

Description of the Risk Operating Plan

The Risk Operating Plan (ROP) is part of the risk based Performance Assurance Framework (PAF) as defined in Section Z of the Balancing and Settlement Code (BSC). The ROP sets out how the Performance Assurance Board (PAB) will provide assurance in respect of Settlement. It describes the Performance Assurance Techniques (PATs) that the PAB can deploy against each class of Performance Assurance Party (PAP) for each Settlement Risk. The ROP also sets out the forecasted cost of providing this assurance.

Management of Central Volume Allocation (CVA) and Central Systems Settlement Risks

The BSC mandates the PATs that we deploy in order to manage CVA and Central Systems Settlement Risks. These risks are considered to have a significant effect on Settlement and are given the highest level of net significance (25) as a matter of course. In particular, the BSC states that:

- The scope of the BSC Audit will encompass Central Systems including the Balancing Mechanism Reporting Agent, Central Registration Agent, Central Data Collection Agent, CVA Meter Operator Agents (MOA), Energy Contract Volume Aggregation Agent, Funds Administration Agent, Market Index Data Provider(s), Settlements Administration Agent, and Supplier Volume Allocation Agent;
- CVA Meter Operator Agents will be subject to the Supplier Volume Allocation Qualification, re-Qualification and Removal of Qualification processes; and
- CVA Metering Systems will be within the scope of the Technical Assurance of Metering Systems technique delivered by the Technical Assurance Agent.

Management of Supplier Volume Allocation (SVA) Settlement Risks

The PAB has set a minimum net significance threshold of four, below which no assurance techniques will be applied, unless mandated by the BSC. Net significance is based on the gross probability and impact scoring set out in the Risk Evaluation Methodology.

High Impact Settlement Risks

Any Settlement Risks identified as having the most severe impact (i.e. a gross impact of 5) will be subject to PATs irrespective of the minimum net significance threshold. Currently there are no Settlement Risks, which fulfil this criterion.

Types of Performance Assurance Techniques

While a PAT is assigned to a Settlement Risk, it may not be deployed in all cases.

Mandatory Performance Assurance Techniques are those PATs, which the PAB is required to apply, to a class of PAPs (e.g. Supplier, Data Collector, Meter Operator) because they are mandated by the BSC (e.g. Supplier Charges). Mandatory PATs may provide assurance in respect of one or more identified Settlement Risks.

Standard Performance Assurance Techniques are the default PATs that the PAB will apply uniformly across the class of PAPs that have been assigned to the relevant Settlement Risk. Standard Performance Assurance Techniques may not always be applied to a class of PAP and, where this is the case, an explanation will be provided in the Risk Operating Plan.

Non-Standard Performance Assurance Techniques are extra PATs that the PAB may consider applying to derive additional assurance that one or more PAPs are addressing the Settlement Risks that have been assigned to it. Where the PAB apply a Non-Standard Performance Assurance Technique the PAB will provide an explanation to

the PAP in line with the relevant BSC Section or Code Subsidiary Document. Where the PAB observes significant failures over a range of risks, it will look to deploy Breach and Default and Removal of Qualification techniques.

Performance Assurance Techniques Triggered by Performance Assurance Parties

Qualification, re-Qualification and Bulk Change of Agent are PATs that a class of PAP can trigger. Where a Settlement Risk is below the minimum net significance threshold, these PATs will still be recorded against those Settlement Risks.

Within Period Revisions

Whilst the ROP will be reviewed on an annual basis in line with the Annual Performance Assurance Timetable, a 'within period revision' of the ROP may be performed to facilitate variations to risks and/or assurance techniques. This provides the flexibility to refocus should a significant risk arise during the Performance Assurance Operating Period[1].

PERFORMANCE ASSURANCE TECHNIQUES

There are 16 PATs available to manage Settlement Risks.

Performance Assurance Technique	Technique Category	Technique Type
Qualification (Qual)	Preventative	Non-standard
Re-Qualification (re-Qual)	Preventative	Non-standard
Bulk Change of Agent (BCoA)	Preventative	Non-standard
Education	Preventative	Non-standard
Performance Monitoring & Reporting (PM)	Detective	Mandatory
Material Error Monitoring (MEM)	Detective	Standard
Technical Assurance of Metering Systems (TAM)	Detective	Standard
BSC Audit (BSCA)	Detective	Standard
Technical Assurance of PAPs (TAPAP)	Detective	Non-standard
Peer Comparison (PC)	Incentive	Standard
Removal of Qualification	Incentive	Non-standard

[1] Equivalent to a period of one year, 1 April – 31 March.

Breach and Default	Incentive	Non-standard
Supplier Charges (SC)	Remedial	Mandatory
Error and Failure Resolution (EFR)	Remedial	Non-standard
Trading Disputes	Remedial	Non-standard
Change Mechanisms	Remedial	Non-standard

Table 1: Performance Assurance Techniques

These techniques and the class of PAP that they may be applied to are described in more detail in Appendix 1. Further details on the PATs are in the PAF Techniques Guiding Principles and in the Risk Evaluation Methodology.

DEPLOYMENT OF PERFORMANCE ASSURANCE TECHNIQUES

The PAB are more likely to deploy PATs against those risks with the highest net significance (net significance 12 and above). More frequent and detailed reporting is undertaken for these top risks and there is a greater focus on performance improvement. The following table shows:

- The top Settlement Risks for 2016/17;
- The PATs and how we apply them; and
- The class of Performance Assurance Party (PAP) that we apply the PATs to.

Settlement Risk Number	Settlement Risk Title	Net Sig.	Deployment of PATs *	Affected PAPs
SR0022	The risk that Half Hourly Data Collectors (HHDCs) do not use the correct Meter Technical Details resulting in Meter readings being misinterpreted or not collected.	20	BSC Audit (BSCA) – as set out in annual audit scope	Supplier, DC, MOA
			Error Failure & Resolution (EFR) – case by case basis following monitoring of poor performance	Supplier, DC, MOA
			Peer Comparison (PC) – as directed by PAB, not routinely applied	Supplier, MOA
			Performance Monitoring (PM) – as directed by PAB	Supplier, MOA
			Qualification(QUAL) – new participants	Supplier, MOA, DC
			Re-qualification (R-QUAL) – case by case following a material change to qualified system/process	MOA, DC
			Technical Assurance of Metering (TAM) – as set out in annual TAM scope, not routinely applied	Supplier, MOA, DC
			Technical Assurance of Performance Assurance	Supplier, MOA, DC

Settlement Risk Number	Settlement Risk Title	Net Sig.	Deployment of PATs *	Affected PAPs
			Parties (TAPAP) – as set out in annual TAPAP scope, not routinely applied	
SR0072	The risk that Non Half Hourly Data Collectors (NHHDCs) process incorrect Meter readings, resulting in erroneous data being entered into Settlement.	12	BSCA – as set out in annual audit scope EFR – case by case basis following poor performance, not routinely applied to DC MEM – as directed by PAB QUAL – new participants R-QUAL – case by case following a material change to qualified system/process TAPAP – as set out in annual TAPAP scope, not routinely applied	Supplier, DC Supplier, DC Supplier, DC Supplier, DC DC Supplier, DC
SR0073	The risk that stolen energy notified by Revenue Protection units is not used in calculations by Suppliers and NHHDCs resulting in inaccurate data being entered into Settlement.	15	No regular data is available to monitor the extent of this risk or those Parties who are contributing the most.	n/a
SR0074	The risk that NHHDCs do not collect and / enter valid Meter readings resulting in old/default data entering Settlement.	15	BSCA – as set out in annual audit scope EFR – case by case basis following poor performance, not routinely applied to DC PC – as directed by PAB PM – as directed by PAB Supplier Charges (SC) - as directed by PAB TAPAP - as set out in annual TAPAP scope, not routinely applied	Supplier, DC Supplier, DC Supplier Supplier Supplier Supplier, DC
SR0024	The risk that Non Half Hourly Meter Operator Agents (NHHMOAs) do	12	BSCA – as set out in annual audit scope EFR – case by case basis following poor	Supplier, MOA, DC Supplier, MOA, DC

Settlement Risk Number	Settlement Risk Title	Net Sig.	Deployment of PATs *	Affected PAPs
	not provide Meter Technical Details to the correct NHHDCs resulting in Meter readings being not collected.		performance, not routinely applied to DC PC – as directed by PAB, not routinely applied PM – as directed by PAB TAPAP – as set out in annual TAPAP scope, not routinely applied	 Supplier, MOA Supplier, MOA Supplier, MOA
SR0025	The risk that Half Hourly Meter Operator Agents (HHMOAs) do not provide Meter Technical Details to the correct HHDCs resulting in Meter readings being not collected.	12	BSCA – as set out in annual audit scope EFR – case by case basis following poor performance, not routinely applied PC – as directed by PAB, not routinely applied PM – as directed by PAB QUAL – new participants R-QUAL – case by case following a material change to qualified system/process TAM – as set out in annual TAM scope TAPAP – as set out in annual TAPAP scope, not routinely applied	Supplier, MOA, DC Supplier, MOA, DC Supplier, MOA, DC Supplier, MOA, DC Supplier, MOA, DC MOA, DC Supplier, MOA, DC Supplier, MOA, DC
SR0028	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.	12	BSCA – as set out in annual audit scope EFR – case by case basis following poor performance PM – as directed by PAB QUAL – new participants R-QUAL – case by case following a material change to qualified system/process TAM – as set out in annual TAM scope TAPAP – as set out in annual TAPAP scope, not routinely applied	Supplier, MOA, DC Supplier, MOA, DC Supplier, MOA, DC Supplier, MOA, DC MOA, DC Supplier, MOA, DC Supplier, MOA, DC

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Settlement Risk Number	Settlement Risk Title	Net Sig.	Deployment of PATs *	Affected PAPs
SR0081	The risk that HHDCs do not process valid half hourly readings resulting in estimated data being entered into Settlement.	12	BSCA – as set out in annual audit scope EFR – case by case basis following poor performance PC – as directed by PAB PM – as directed by PAB QUAL – new participants R-QUAL – case by case following a material change to qualified SC – as directed by PAB TAPAP – as set out in annual TAPAP scope, not routinely applied	Supplier, DC Supplier, DC Supplier Supplier, DC Supplier, DC DC Supplier Supplier, DC
SR0111	The risk that Non Half Hourly Metering Systems are tampered with resulting in under-accounting of energy in Settlement.	12	No regular data is available to monitor the extent of this risk or those Parties who are contributing the most.	n/a
SR0112	The risk that HHDCs use data from faulty Metering Systems resulting in incorrect data being entered into Settlement.	12	EFR – case by case basis following poor performance TAM – as set out in annual TAM scope	Supplier, DC Supplier, DC
SR0116	The risk that Half Hourly Import/Export Metering Systems are incorrectly installed/configured resulting in inaccurate data entering	12	EFR – case by case basis following poor performance TAM – as set out in annual TAM scope	Supplier, MOA Supplier, MOA

Settlement Risk Number	Settlement Risk Title	Net Sig.	Deployment of PATs *	Affected PAPs
	Settlement.			
SR0188[2] (previously SR2868)	The risk that non Half Hourly Import/Export Metering Systems are incorrectly installed/configured resulting in inaccurate data entering Settlement.	12	No regular data is available to monitor the extent of this risk or those Parties who are contributing the most.	n/a

Table 2: Top Settlement Risks and impacted Performance Assurance Parties.

CHANGES TO THE RISK OPERATING PLAN 2016/17

New Settlement Risk

We introduced a new Settlement Risk in the Risk Evaluation Register 2016/17 to capture the new Balancing and Settlement Code (BSC) obligations to settle Advanced Meters in Profile Classes (PCs) 5-8 half hourly:

SR0189 (net significance: 8) –

The risk that a PC 5-8 Non Half Hourly Advanced Metering System is settled non half hourly instead of half hourly resulting in energy potentially being allocated to the wrong Settlement Period or collected outside required timescales.

We propose the following techniques be available for deployment against this risk effective following the Performance Assurance Board's (PAB's) approval of the Risk Operating Plan (ROP) 2016/17.

Risk Reference	Risk Valid From	Net Significance	ROP Effective From	Technique Name	Role Name
SR0189	3 August 2015	8	Immediate	Qualification	HH/NHH Supplier, HH/NHH MOA, HH/NHHDC
				Re-Qualification	HH/NHH MOA, HH/NHHDC
				BSC Audit	HH/NHH Supplier, HH/NHH MOA, HH/NHH DC
				Technical Assurance of Performance Assurance Parties	HH/NHH Supplier, HH/NHH MOA, HH/NHH DC
				Error and Failure Resolution	HH/NHH Supplier, HH/NHH MOA, HH/NHH DC

Table 3: Deployment of PATs against SR0189

Error and Failure Resolution (EFR)

BSC Modification P322[3] has introduced changes to BSC Section Z and includes new powers for the PAB (Z8.4.1):

"…the Performance Assurance Board shall determine what Performance Assurance Technique(s) … it considers should be applied in relation to any failure by a Supplier to: (a) submit a Supplier Migration Plan in accordance with the requirements of paragraph 8.3; (b) comply with any requirement of the Performance Assurance Board or Performance Assurance Administrator made in accordance with paragraph 8.3; and/or (c) comply with its Supplier Migration Plan (including any Supplier Migration Plan revised or updated in accordance with paragraph 8.3)."

The PAB will consider any BSC Party that does not comply with the P322 requirements as candidates for EFR.

Peer Comparison

In January 2015, the PAB approved the use of SP11[4] for the public Peer Comparison technique. This followed Technical Assurance of Performance Assurance Parties (TAPAP) checks, conducted in 2014, due to the implementation of CP1387[5].

[3] P322 'Revised Implementation Arrangements for Mandatory Half Hourly Settlement for Profile Classes 5-8'.
[4] SP11 monitors the timely appointment of Data Collectors and Meter Operator Agents in the half hourly and non half hourly markets. This Serial relates to the obligation for 100% of Supplier Agents to be appointed prior to the agent Effective From Date. Late appointments can result in Meter Technical Details being rejected and Meter readings being misinterpreted or not collected.
[5] Clarifications to BSCP533 (PARMS Calculation Guidelines) and Appendices.

We provided details of the performance metrics we will use for SP11 Peer Comparison in a paper we presented to the PAB (PAB168/08A). Reporting commenced in July 2015. We now publish updated SP11 Peer Comparison reports on a monthly basis on the BSC Website.

Performance Reporting and Monitoring

P322[6] outlines new arrangements to migrate sites in Profile Classes (PCs) 5-8 with Advanced Meters to Half Hourly Settlement. The Modification introduced a start and end date to facilitate a phased migration approach. To enable this, performance monitoring will be in place and the PAB will monitor migration month by month. We will create a bespoke committee report, compiled from Electricity Central Online Enquiry Service (ECOES). This report will show, for each Supplier, the sites in PC5-8 with Advanced Meters still being settled non half hourly. If the PAB feel it necessary, it could then take performance management action on Suppliers it felt were not making sufficient improvement.

We are also reviewing the Performance Reporting and Monitoring technique in order to facilitate the provision of more consistent information and reduce the reporting burden on BSC Parties and Party Agents. We are exploring the possibility of centralising the data we use to produce performance reports. We will present any changes to the deployment of the Performance Reporting and Monitoring technique that arise subsequent to the review to the PAB as a Within Period Revision.

Qualification and re-Qualification

We have amended the Qualification/re-Qualification Service Document for the year ending 30 September 2016. We presented the amendments to the PAB at its meeting in September 2015. We have updated the document to reflect current practice and address recommendations to improve the Qualification/re-Qualification process. The changes were effective from 1 October 2015.

The key proposed changes made to the Qualification/re-Qualification Service Document are:

- **Testing Environment –** The process for witness testing has been updated to clarify that the test of infrastructure design, operation, and performance should simulate the production/live environment as closely as possible. The Applicant should inform the Qualification Service Provider (QSP) of any variances between the test/pre-production environment and the live/production environment. The Applicant should provide the QSP with the rationale for differences and how these differences may affect any scenario witness testing.
- **Quality of testing and number of outstanding defects** – The QSP will place an emphasis on the quality of system/process testing output and the number of outstanding defects encountered by the Applicant. The QSP will account for these factors in the resulting risk rating.
- **Regression Plans –** The Applicant's risk assessment will also take into account, among other factors, its regression plans, which is the ability to roll back to previous systems or processes.
- **Delays in implementation of project plans –** The QSP will investigate reasons for delays in the project and factor this in the risk assessment of the application.
- **Audit Issues –** For Re-Qualification applications, the QSP will investigate any outstanding BSC audit issues and request details of rectification plans from the Applicant.

[6] P322 Revised Implementation Arrangements for Mandatory Half Hourly Settlement for Profile Classes 5-8.

Supplier Charges

We will be undertaking a review of Supplier Charges including how we calculate the charges. The review will commence in January 2016. We believe that Supplier Charges currently do not provide a strong incentive. We will present any changes to the deployment of this technique to the PAB as a Within Period Revision.

Technical Assurance of Metering Systems

In 2014/15, the PAB increased the Central Volume Allocation (CVA) main sample size from 5% to 14.75%. This was to provide additional assurance on Metering Systems that measure (or are capable of measuring) higher levels of energy and to ensure that all CVA sites were audited by 2018. In order, to fully audit the CVA sites the PAB have amended the scope of the Technical Assurance Agent (TAA) audit to include checks to all circuits registered to a selected CVA Metering System Identifier (MSID) (as opposed to the current process, which is to check one circuit per CVA MSID) during a site visit. The extension of the audit scope will come into effect in the 2016/2017 audit year.

The number and materiality of Category 1.04 non-compliances (Half Hourly Metering Systems with incorrectly programmed Current Transformer/Voltage transformer (CT/VT) ratios) has been increasing year on year and continues to be a significant market issue. The TAA will carry out a specific sample of around 100 sites with dual ratio CTs to help to identify root causes behind the non-compliances. It will undertake the sampling in 2016/17.

Trading Disputes

In July 2014, the Trading Disputes Committee (TDC) upheld a Trading Dispute caused by a manual error that affected the Post-Final Settlement Run for 41 Settlement Days. The manual error related to the Supplier Volume Allocation Agent (SVAA) end dating a Data Aggregator in error. As a result Half Hourly (HH) consumption was understated by 144,000 MWh, causing Non-Half Hourly (NHH) Suppliers to overpay their Trading Charges. ELEXON calculated the total materiality of the Trading Dispute to be £6,344,398.

The TDC determined that four Settlement Days did not meet the applicable Dispute Deadline, and as such, were not subject to correction. The four Settlement Days not subject to correction equated to a materiality of £860,370.

Following the processing of the Trading Dispute, ELEXON conducted a lessons learned activity. One element of the activity was the consideration of the Dispute Deadline for Settlement Errors at the Post-Final Settlement Run. It was highlighted that, unlike other Trading Dispute types, the TDC (or as the case may be the BSC Panel) cannot use its discretion to extend the Dispute Deadline for Settlement Errors at the Post-Final Settlement Run in exceptional circumstances. The TDC and BSC Panel endorsed a BSC Modification to align this discretion with other Dispute Deadline types. We are currently in the process of raising a Modification to facilitate this change.

Other Techniques

We are not proposing any changes to the deployment of the following techniques:

- BSC Audit;
- Bulk Change of Agent;
- Breach & Default;
- Change Mechanisms;
- Education;
- Removal of Qualification; and
- Technical Assurance of Performance Assurance Parties.

We will continue to deploy these techniques against any relevant risk in the usual manner or if Parties and/or Party Agents meet the relevant conditions, e.g. a particularly material issue arises or a BSC Party or Party Agent fails in a number of areas. We will present any changes to the deployment of these techniques to the PAB as a Within Period Revision.

ESTIMATED COSTS FOR EXERCISING PERFORMANCE ASSURANCE TECHNIQUES

The cost of delivering the Performance Assurance Framework in 2016/17 is shown below. We anticipate a £548,008 increase in expenditure compared to what we forecasted for 2015/16. This equates to ~£129,000 additional operational costs and ~£419,000 additional contractual costs. We explain the differences below.

Cost Type	ROP 2015/16 Forecast	ROP 2016/17 Forecast
Operational	£878,800	£1,007,530
Contractual	£2,005,634	£2,424,913
Total	£2,884,434	£3,432,442

Table 4: ROP Forecast Costs.

Operational Costs

We have based the 2016/17 forecast operational costs on current staff numbers, daily rates and staff allocated time to Performance Assurance Framework (PAF) activities. We reviewed the methodology for calculating operational costs this year to make it more reflective. The additional costs reflect:

- the wider pool of staff available to input into PAF related activities (e.g. Service Management staff who manage external PAF contracts, Change Management staff who manage PAF related changes to Code Subsidiary Documents and Modifications to the Code and Market Design and Analysis staff who contribute to Metering and analytical input to the PAF). This equates to ~1.7 Band B Full Time Equivalent; and
- a 2.5% year on year increase in operational costs to reflect potential ad hoc year on year cost increases.

Contractual Costs

We derived the 2016/17 contractual costs from the BSC budget numbers as of September 2015. These figures are subject to annual amendment to reflect contractual changes. The key differences compared to the 2015/16 forecast are:

- Additional costs for Technical Assurance of Metering. This is largely due to the increased number and type of TAA checks and the inclusion of potential ad hoc costs;
- Additional BSC Audit costs. This is largely due to the inclusion of ad hoc costs for additional work requested, additional audits and an overall increase in indicative costs; and
- Additional Qualification costs which, are demand-led, and therefore subject to change with the number of anticipated applications.

REFERENCES

Links
Risk Evaluation Methodology 2016/17
Risk Evaluation Register 2016/17
Performance Assurance Techniques
PAF Techniques Guiding Principles
Glossary

FURTHER INFORMATION

If you have any questions or require further information on the ROP please contact:

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APPENDIX 1

Performance Assurance Techniques for Performance Assurance Parties Application of Performance Assurance Techniques to top Settlement Risks

Performance Assurance Technique	Summary	HH/NHH	Impacted Class of PAP	BSC Obligation
Qualification (QUAL) Non-standard	The process is designed to provide assurance that new organisations entering the market in certain roles have developed their systems and processes to an appropriate standard in order to meet their obligations under the BSC. This constitutes the approval of "Qualified status" to new participants (applicants) seeking to enter Settlement based upon: a declaration from an officer of the applicant that it will meet the requirements of the BSC and an independent review of evidence and risk-based witnessing of testing.	HH/NHH	DA DC MA MOA LDSO Supplier SMRA UMSO	Defined in Section J of the BSC and detailed in BSCP537 "Qualification Process for SVA Parties, SVA Party Agents and CVA MOAs". Section Z of the BSC sets out PAB's responsibilities with regard to the Qualification process.
Re-Qualification (R-QUAL) Non-standard	Once an organisation is Qualified in a certain role (other than Suppliers), that organisation is required to maintain its Qualified status through the re-Qualification process when it makes material Changes to its previously Qualified systems and/or processes. This requires re-approval of "Qualified status" for existing participants (applicants) seeking to make material changes to their systems and processes: a declaration from an officer of the applicant that it will continue to meet the requirements of the BSC and an independent review of	HH/NHH	DA DC MA MOA LDSO SMRA UMSO	Defined in Section J of the BSC and detailed in BSCP537 "Qualification Process for SVA Parties, SVA Party Agents and CVA MOAs". Section Z of the BSC sets out PAB's responsibilities with regard to the Re-Qualification process.

Performance Assurance Technique	Summary	HH/NHH	Impacted Class of PAP	BSC Obligation
	evidence and risk-based witnessing of testing.			
Bulk Change of Agent (BCoA) Non-standard	Where responsibilities change for large volumes of Metering Systems, this preventative technique ensures that such Bulk Changes of Agent are only carried out where the Panel is satisfied that the Supplier, Supplier Agents and SMRAs involved can undertake the necessary procedures in a controlled and competent manner without adversely impacting their daily operations and other Suppliers within the SMRS; thereby protecting the integrity of Settlements.	NHH	DA DC MA MOA Supplier	Defined in Section J of the BSC and detailed in BSCP513 "Bulk Change of NHH Supplier Agent".
Education Non-standard	Publication of guidance on common (market) issues identified by the PAF and on the best ways to address them. This may include a view of root causes of these issues. It may also reference other areas of the BSC that may help in monitoring or controlling the issue in some way. This excludes sharing of business operational practices as these are confidential and are an area where competitive advantage may be gained. In addition to these communication and education mechanisms, ELEXON assigns an Operational Support Manager (OSM) to each BSC Party and Party Agent when they accede to the BSC. The OSM provides a first point of contact and is able to provide support and guidance regarding the BSC arrangements.	HH/NHH	DA DC MA MOA LDSO Supplier SMRA UMSO	Section C3.1.1 (e) of the BSC states that BSCCo is responsible for the provision of such facilities, services and information in connection with the implementation of the BSC as it may provide or the BSC Panel may require.

Performance Assurance Technique	Summary	HH/NHH	Impacted Class of PAP	BSC Obligation
Performance Monitoring and Reporting (PM) Mandatory	The Performance Reporting and Monitoring process constitutes a detective technique that complements the BSC Audit and Technical Assurance processes through the provision of quantitative data designed to identify performance at key control points in Settlement processes. The Performance Assurance Reporting and Monitoring System (PARMS) Serials and Standards are defined Service Levels on Suppliers, Non Half Hourly and Half Hourly Data Collectors, Non Half Hourly and Half Hourly Meter Operator Agents and Supplier Meter Registration Service Agents (SMRAs). The purpose of the Serials is to provide assurance that participants are meeting their obligations in the BSC and Code Subsidiary Documents. The Serial determines the process being measured, and the Standards are the measurement points within the process.	HH/NHH	DC MOA Supplier SMRA	The Serials and Standards are established in either Annex S-1 of the BSC or identified within Section J of the BSC as being further defined in BSCP533 "PARMS Data Provision, Reporting and Publication of Peer Comparison Data". Section Z of the BSC sets out PAB's responsibilities with regard to performance monitoring and reporting.
Material Error Monitoring (MEM) Standard	The Material Error Monitoring process constitutes a detective technique that complements the BSC Audit, Technical Assurance and Trading Disputes processes through the provision of quantitative data designed to quantify the contribution made by Performance Assurance Parties to error and the impact of such errors on Performance Assurance Parties.	NHH	DA DC LDSO MA MOA Supplier SMRA UMSO	Section C3.1.1 (n) of the BSC states that BSCCo is responsible for monitoring whether any Performance Assurance Party is or could be in Default of the BSC (in accordance with Section H3). Data is collected by the PAB in order to calculate and track identified material errors on a regular basis. This monitoring supports a range of assurance mechanisms including, but

Performance Assurance Technique	Summary	HH/NHH	Impacted Class of PAP	BSC Obligation
				not limited to, the BSC Audit as noted in section Z7.1.2(f) of the BSC. It enables BSCCo to model and communicate the impact of identified Settlement errors. The PAB establishes each set of reporting requirements as it considers necessary or appropriate in accordance with Sections Z1.4.2 and Z1.4.3 of the BSC.
Technical Assurance of Metering Systems (TAM) Mandatory, Standard, Non-standard.	The Technical Assurance Agent (TAA) service consists of a combination of sampled and targeted visits to sites with HH Metering Systems registered in SVA and CVA and is designed to monitor the compliance of these Metering Systems with respect to the requirements stated in the BSC and its Subsidiary Documents, in particular the Metering Codes of Practice (CoP). This provides a level of assurance that the metered values being passed into Settlement are representative of actual consumption.	HH	DC LDSO MOA Supplier	The Technical Assurance of Metering Systems is identified in Section Z of the BSC and the functions and activities of the Technical Assurance Agent (TAA) are set out in Section L of the BSC and detailed in BSCP 27 "Technical Assurance of Half Hourly Metering Systems for Settlement Purposes". Section Z of the BSC sets out PAB's responsibilities with regard to the Technical Assurance of Metering Systems process.
BSC Audit (BSCA) Standard	The BSC Audit involves reviewing systems and business processes at Performance Assurance Parties, as well as the Central Settlement Systems in order to provide a level of assurance that the calculations and allocations that have been performed within Central Volume Allocation (CVA) and Supplier Volume Allocation (SVA) are in accordance with the BSC and its subsidiary documents.	HH/NHH	DA DC MA MOA LDSO Supplier SMRA UMSO	The BSC Audit is set out under section H5 of the BSC. The BSC requires that the BSC Audit is a compliance-based audit.

Performance Assurance Technique	Summary	HH/NHH	Impacted Class of PAP	BSC Obligation
	The scope of the BSC Audit is set by the Panel for each audit year and includes the determination of the annual Audit Materiality Threshold. The BSC Auditor bases its opinion for a 'qualified' or 'unqualified' audit on the level of cumulative error discovered in Settlement against the acceptable level of error as defined by the Materiality Threshold. The Materiality Threshold was increased for the Audit Year starting in April 2005 following an industry consultation and is now set at 1.5TWh which represents approximately 0.5% of the total annual electricity supplied across Great Britain.			
Technical Assurance of Performance Assurance Parties (TAPAP) Non-standard	The service consists of a combination of routine and targeted checks and site visits which seek to ensure that each Supplier or Supplier Agent continues to meet its obligations in respect of the BSC. The scope of work for Technical Assurance is agreed by the PAB on an annual basis. The scope is designed to cover gap areas, recently introduced requirements and significant market issues. Targeted checks may also be performed by BSCCo as and when required. Checks can either be performed centrally or as part of a site visit to a market participant.	HH/NHH	DA DC MA MOA LDSO Supplier SMRA UMSO	The process of Technical Assurance is identified in Section Z of the BSC and defined in BSCP535 "Technical Assurance". Section Z of the BSC sets out PAB's responsibilities with regard to the Technical Assurance process.
Peer Comparison (PC)	Peer Comparison is designed to encourage performance improvement and compliance	HH/NHH	Supplier MOA DC – only	The process is identified in the BSC under section Z and is detailed in BSCP533

Performance Assurance Technique	Summary	HH/NHH	Impacted Class of PAP	BSC Obligation
Standard	with the required standard through the publication of named Peer Comparison data to Trading Parties and also publicly on the BSC Website. Suppliers and Supplier Agents are required to submit data for certain key performance Serials (Serials are defined above in the Reporting and Monitoring section). Graphs showing comparative performance levels are produced by BSCCo and then authorised for use by the PAB. A copy is also sent to all participants who appear on the graphs.		NHH at present	"PARMS data provision, Reporting and Publication of Peer Comparison Data". Section Z of the BSC establishes PAB's responsibilities with regard to Peer Group Comparison.
Removal of Qualification Non-standard	The PAB may remove previously granted Qualified status for Supplier Agents based upon historic performance and non-compliance with BSC requirements. As Suppliers must use Qualified Supplier Agents this constitutes a significant response to a breach of the BSC.	HH/NHH	DA DC MA MOA SMRA UMSO	Defined in Section J of the BSC and detailed in BSCP537 "Qualification Process for SVA Parties, SVA Party Agents and CVA MOAs". Section Z of the BSC sets out the PAB's responsibilities with regard to the Removal of Qualification process.
Breach and Default Non-standard	Formal notification may be provided to a BSC Party of persistent or material breach of the BSC. A failure to address this breach in all material respects with all reasonable diligence and so far as reasonably practicable may constitute a 'Default'. The Panel may apply specific provisions to Defaulting Parties including (but not limited to): notifying each other Party of such Default, suspending the right of the Party to submit: Energy Contract Volume Notifications, Metered Volume	HH/NHH	LDSO Supplier	The breach and Default provisions are set out in section H3 of the BSC. Section Z of the BSC establishes PAB's responsibilities with regard to the PAB Escalation Cycle detailed in BSCP534 "PARMS Techniques" which may lead to escalation to the Panel.

Performance Assurance Technique	Summary	HH/NHH	Impacted Class of PAP	BSC Obligation
	Reallocation Notifications, Bid-Offer Pairs, or, with the prior approval of the Authority, the right to register further Metering Systems and BM Units, or expelling the Party from the BSC in accordance with Section A5.			
Supplier Charges (SC) Mandatory	Supplier Charges constitute liquidated damages that Suppliers incur for failing to meet applicable Performance Levels set out in the BSC. Pursuant to the BSC, each Supplier has agreed that each of the Supplier Charges represent a genuine pre-estimate of loss likely to be suffered by other Parties as a result of the failure of a Supplier to meet the appropriate Performance Level. The PARMS system calculates Supplier Charges per calendar month (reporting period) and by Grid Supply Point Group (GSPG). The charges are capped for each Supplier based on the Supplier energy take in the GSPG thus limiting the liability of any participant in any one reporting period. Ninety percent of the total capped Supplier Charges are then redistributed to other Non Half Hourly Suppliers in each GSPG pro-rated according to the energy registered to each Supplier for that month with a further ten percent of the total charge distributed to Trading Parties.	HH/NHH	Supplier	Supplier Charges are applied for failure to meet obligations set out in Annex S-1 of the BSC and are applied only to those Serials defined within Annex S-1. The process for managing Supplier Charges is detailed within BSCP536 "Supplier Charges". Section Z of the BSC sets out PAB's responsibilities with regard to Supplier Charges.
Error and Failure	The Error and Failure Resolution (EFR) processes are managed by	HH/NHH	DA DC	Section C3.1.1 (n) of the BSC states that BSCCo is

Performance Assurance Technique	Summary	HH/NHH	Impacted Class of PAP	BSC Obligation
Resolution (EFR) Non-standard	BSCCo and constitute a remedial assurance technique that is composed of a number of activities. The objective of the technique is to provide a structured and managed framework for the rectification of Party and Party Agent issues including areas of non-compliance and underperformance against obligations and standards prescribed in the BSC and identified through other PATs. The process includes the provision of general support and information. This technique ensures that action is taken to resolve issues identified by PATs, in particular issues found during the BSC Audit and Technical Assurance checks.		MA MOA LDSO Supplier SMRA UMSO	responsible for monitoring whether any Party is or could be in Default of the BSC (in accordance with Section H3). The Error and Failure Resolution Process allows BSCCo to track areas of non-compliance and is identified in the BSC under section Z and detailed in the associated BSCP. Section Z of the BSC establishes PAB's responsibilities with regard to Error and Failure Resolution which interfaces with the PAB Escalation Cycle detailed in BSCP538 "Error and Failure Resolution".
Trading Disputes Non-standard	The process for resolving Trading Disputes is a remedial technique that provides a mechanism for the correction of identified Settlement Errors. A Trading Dispute can arise where errors in the data, processes and/or rules used for the purposes of Settlement are identified and where such errors affect the amounts paid to or from Trading Parties. Trading Disputes can also arise as a result of errors in the determination of whether a Party is in Credit Default.	HH/NHH	Trading Parties	The process for settling Trading Disputes under the BSC is set out in Section W of the BSC and is detailed in BSCP11 "Trading Disputes". Section W of the BSC sets out TDC's responsibilities with regard to Trading Disputes.
Change	The PAB, on identifying a	HH/NHH	DA	Amendments to the BSC, Code

Performance Assurance Technique	Summary	HH/NHH	Impacted Class of PAP	BSC Obligation
Mechanisms Non-standard	perceived weakness or defect in the arrangements set out in the BSC, may recommend to the Panel that a Modification Proposal is raised. Alternatively, the PAB may instruct ELEXON to raise a Change Proposal to address the identified defect. This provides a mechanism to correct areas of weakness within the design of Settlement under the BSC. This limits the scope of the technique to only those applications of the change process made in order to address specific defects relating to Settlement Risks. It is distinct from the more general Change Management function and the assurance that it may provide to Trading Parties.		DC MA MOA LDSO Supplier SMRA UMSO	Subsidiary Documents, BSC Systems and associated documentation are subject to a formal change procedure as set out in Section F of the BSC.