



ELEXON BSC Audit Approach 2019/20 (Central Systems and CVA MOA)

Year ending 31 March 2020

Classification: Confidential

Contents

03 The BSC Audit Approach

04 Key BSC findings in CVA Market 2018/19

05 Operational Approach

10 Appendices

Appendix A
BSC Audit requirements

Appendix B
Risk approach: Scoping detail 2018/19

Appendix C
Risk assessment

Appendix D
BSC Audit findings rating methodology

Appendix E
Glossary of terms

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The BSC Audit Approach 2019/20

Following changes in BSC Audit Scope in the previous year, we will continue to deliver this work this year in two distinct streams of work: Central Systems and Central Volume Allocation Meter Operator (CVA MOA) which will remain within the scope of an ISAE 3000 Assurance Conclusion; and Supplier and Supplier Volume Allocation (SVA) Agents will be within the scope of Process Assessment engagement.

Assurance Conclusion (ISAE 3000): We will continue to issue an Independent ISAE 3000 Assurance Conclusion over Central Systems and CVA MOA.

Foundation Programme. This year ELEXON introduced us to the Foundation Programme, a fundamental transformation of BSC Central Systems operations. We held inquiry meetings with ELEXON to understand the scope of the changes and their effect on our work. CRA system enhancements will become operational around November 2019 and we will consider whether any additional assurance procedures are required.

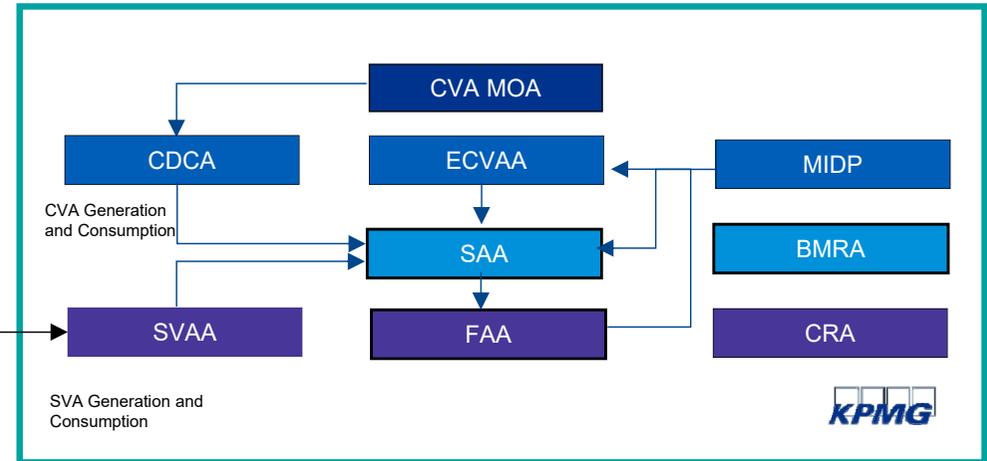
Other Central Systems agents will be upgraded after the 2019/20 period, and our 2019/20 approach to their testing of Settlement processes will largely remain consistent with prior years.

Data Modelling. The testing performed by the BSC Auditor will be supported and focused by the use of models and re-performance of calculations using data from a number of parties within the industry. We utilise this data and models as part of the suite of tests we perform over the operation of the Central Settlements Systems.

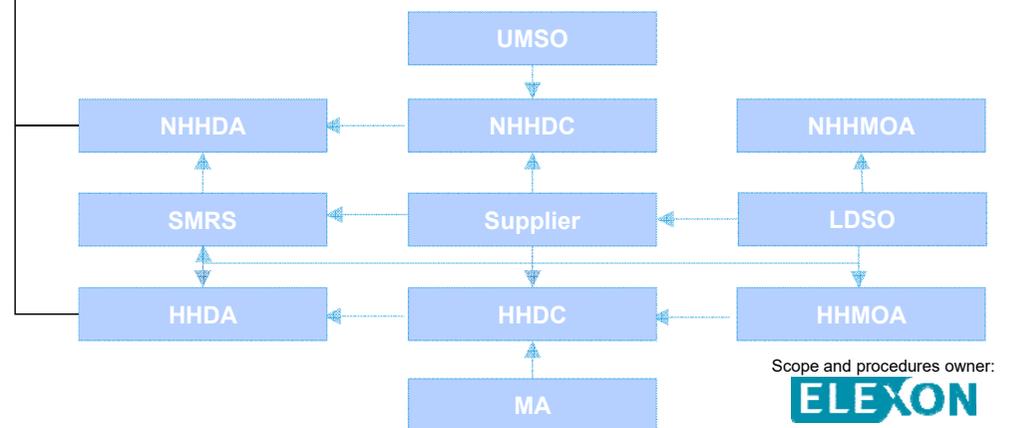
Materiality. For the Assurance conclusion work over Central Systems and CVA MOA, the materiality threshold for the year ending 31 March 2020 BSC Audit is 1.2 TWh. We will issue a Reasonable Assurance Report and present it to PAB and Panel.

Process Assessment: For the SVA Market, we will not be issuing an Assurance Conclusion over the SVA market. The diagram opposite outlines how the scope of the BSC Audit in the prior year is split between Process Assessment and the ISAE 3000 Assurance Conclusion.

Assurance Conclusion (ISAE3000) – CVA MOA and Central Systems



Process Assessment – SVA Market (BSC Parties and BSC Party Agents)



Key BSC Audit findings in CVA Market 2018/19

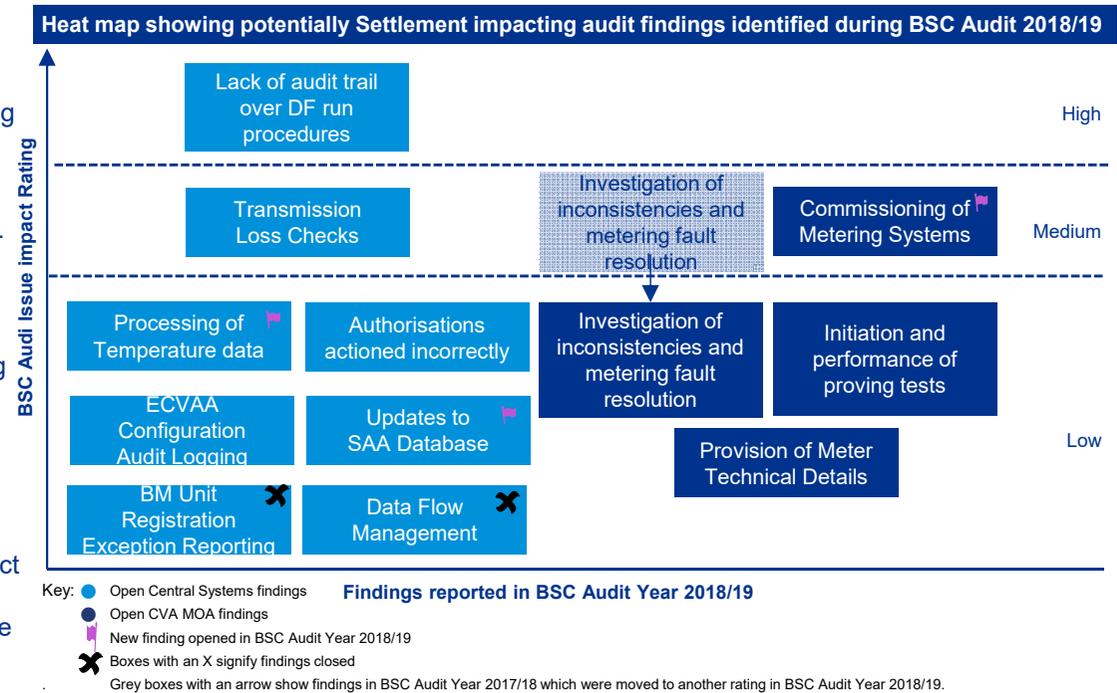
BSC Audit 2018/19 findings summary

There has been a reduction in the number of Settlement findings raised across the CVA market from 14 down to 9 (a 35% reduction), compared to last year. This decrease is due to the reduction in CVA MOA issues, with Central Systems remaining unchanged with six Settlement impacting findings.

Key themes that have emerged in our findings were:

- Both Central Systems and CVA MOA use processes of high technical complexity. There is a reliance on a few knowledgeable individuals and existing system limitations will create a significant potential impact on Settlement if these processes fail.
- Central Systems utilises legacy IT systems limited in functionality which is making it difficult to address BSC Audit findings and industry changes. We observed several manual work arounds to processes, giving potential for manual errors.

The diagram on the right indicate the individual categories of open findings from the BSC Audit 2018/19 split into CVA MOA and Central Systems and their potential impact to Settlement. The previous year position of a finding is indicated by a grey box. Arrows indicate the direction of change and the solid box dictates 2018/19 impact position. New or re-opened finding categories have been shown using a flag icon within the box. Boxes that have an X signify findings that have been closed during the 2018/19 BSC Audit.



Root cause	Additional comments	Material Issues (MLPs)	
		Central Systems	CVA MOA
Minor Manual Error	One-off error	2 (7)	1 (10)
Training and Knowledge	Lack of knowledge	1 (6)	1 (5)
Process Design Weakness	Process is not appropriately designed	1 (1)	1 (0)
System Issues	System misconfiguration or limitation	2 (1)	0 (0)
Other	Other reasons outside above	0 (5)	0 (2)
TOTAL		6 (20)	3 (17)



Operational approach

Operational Approach: BSC Audit phases



1. Planning

Risk assessment and entity selection

For ISAE3000 Assurance Conclusion work over CVA MOA and Central Systems, the scoping of entities and work programs will be done by KPMG with inputs from ELEXON. Utilising information and available data, the risk associated with each market participant to the completeness, validity and accuracy of allocations and Settlement is determined. The sources of data include:

- TAA Audit Findings;
- Number of (and changes in the number of) MPANs managed by the market participant;
- Open Audit Issues, including the length of time those issues have been open;
- Accumulated knowledge and experience of the industry and market participants;
- OSM knowledge with respect to changes in people, processes and systems at participants; and
- Output from the Qualification Service and re-Qualification requests.

A rotational approach is followed to make sure that each market participant is subject to full scope assurance procedures at least once every four years in relation to CVA MOA agents. We will continue performing testing in three intensities: full, medium and limited.

A separate Audit Selection Document provides further details as to the rotational approach, selection criteria and market participants in scope for the BSC Audit Engagement during each assurance period.

3. Fieldwork and data modelling

The audited entity selection process and design of the assurance procedures are informed by the mapping of Industry Risks per the Risk Evaluation Register to relevant sections of the BSC, The Code Subsidiary Documents ('CSDs') and the BSC Audit Scope as set by PAB.

2. Entity Engagement

Audit Planning Memorandum ('APM') and Data Requests

Prior to each testing period, a planning meeting will be held with nominated representatives at in-scope entities. For new market entrants, an extended planning meeting will be scheduled to introduce the BSC Audit. Prior to the planning meeting, a draft Audit Planning Memorandum ('APM') will be sent to each in-scope entity outlining the timeframes, key contacts and data requested.

The APMs are being re-designed for 2019/20 BSC Audit period and will provide further details on the work that will be performed, including a description of the processes that will be covered. This will allow entities to plan more effectively the meetings that will be held on the site visits and the resources they will have to allocate to BSC Audit.

3. Fieldwork and data modelling

Site visits for fieldwork will generally take place between November 2019 and March 2020. The timing of this work will be agreed with entities during the entity engagement phase. We will aim to finish all site work by 31 March 2020.

Operational Approach: BSC Audit phases (cont.)



Detailed Testing

Detailed testing involves inspection of a selection of transactions and records at the entities where we are performing test to verify that they have been created and/or processed in compliance with the BSC or to establish completeness and accuracy at the data flow or metering system level information.

The number of items selected for detailed inspection at each entity will be determined dependent on the:

- Size of the population of items/number of transactions;
- Maturity of the processes operated by the entity;
- Knowledge, experience and skills of the process operators;
- Changes to IT systems at the entity;
- Inherent risks associated with the processes operated by the entity; and
- Open issues/observations relating to non-compliance with the BSC.

Data modelling techniques

The BSC contains complex calculations with respect to deriving generation and consumption, aggregation, allocation, apportionment and Settlement. A number of models will be utilised to support the BSC Audit. The models use source data provided by Market Participants and re-perform the calculations to check their arithmetical accuracy.

Specific data requests to support the operation of the models are included in the Audit Planning Memoranda sent to in-scope entities.

Moderation

Moderation procedures will be performed to ensure consistency.

4. Clearance Meetings and Reporting

Observations

At the conclusion of testing at each site visit, the BSC Auditor will classify and rank observations based on whether they have resulted in a non-compliance with the BSC and whether it has resulted in a potential impact on the completeness and/or accuracy of Settlement, or not. KPMG will discuss observations with entities as they arise to determine compensating or mitigating activities in place at the entity. A clearance meeting will be held with entities to discuss and formally agree observations raised by KPMG.

Operational Approach: BSC Audit phases (cont.)



For Assurance Conclusion, the ratings for observations have been defined as follows:

- Settlement impacting non-compliance – a non-compliance with the BSC which, if uncorrected, will impact on the completeness and/or accuracy of Settlement. In this case we will assess the impact as High, Medium or Low, depending on the estimated overall potential impact on Settlement;
- Management Letter Points (MLPs) - findings which have no Settlement impact
 - Immaterial non-compliance – a non-compliance with the BSC which is unlikely to have a direct impact on the completeness and/or accuracy of Settlement;
 - Process improvement – the BSC appears to have been complied with but the BSC Auditor has identified the potential for process and/or control improvements at the entity.

Reporting

Following clearance meetings, immaterial non-compliance and process improvement observations will be reported to the audited entity as MLPs within an overall audit issues document that will set out the Settlement impacting non-compliances noted from our testing. All the findings will be reported at MPAN level and the root-cause of the issue will be included. The final issue document will be shared with ELEXON.

KPMG will take into account any comments raised by entities on MLPs raised during on-site work, but they will not be discussed in detail during clearance meetings.

All Settlement Impacting Non-compliances will be reported

Where non-compliances have resulted in an impact to Settlement the potential impact will be assessed across all affected MPANs and aggregated over the assurance period.

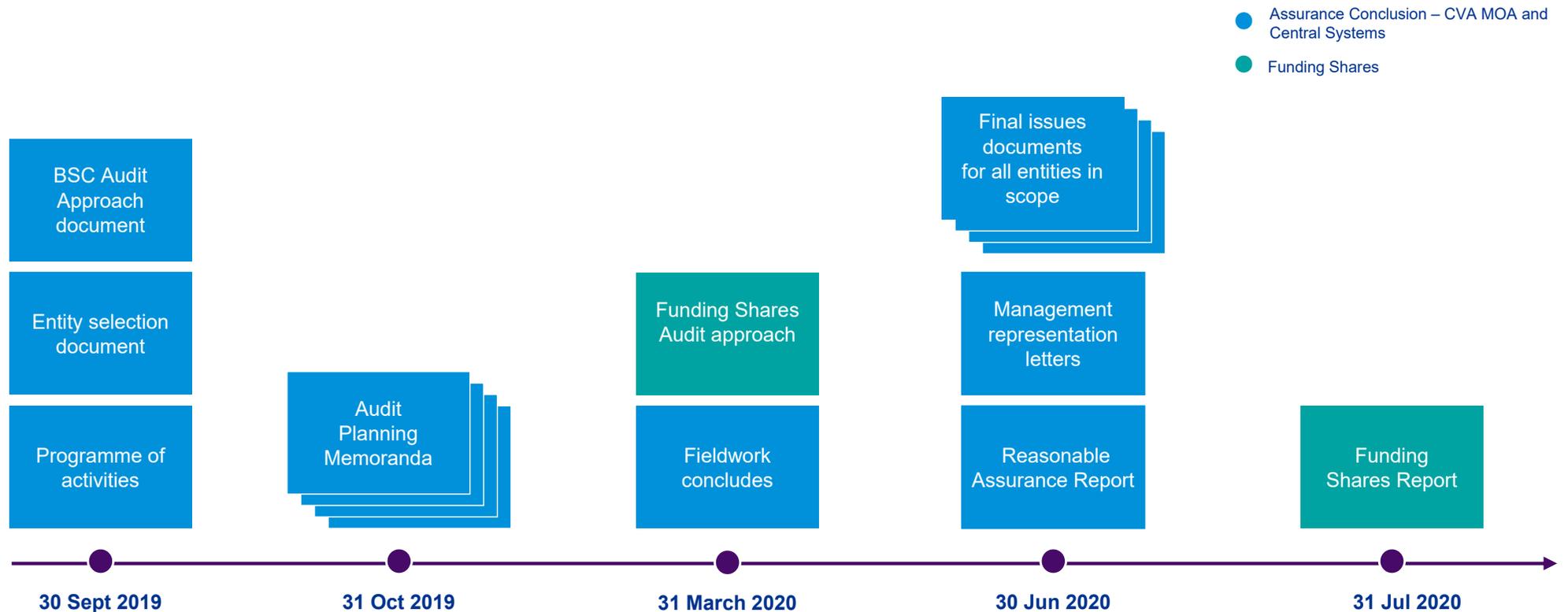
For the Assurance conclusion work over Central Systems and CVA MOA, a Reasonable Assurance Report will be issued and presented to the PAB and Panel. The materiality threshold for the year ending 31 March 2020 BSC Audit is 1.2 TWh. Where non-compliance has an aggregated Settlement impact greater than the materiality threshold, the CVA MOA and Central Systems Assurance Conclusion in the BSC Audit Report will be qualified by the BSC Auditor.

Issues of significance will be reported in full within the 'Statement of Significant Matters' (SSM) section of the Reasonable Assurance Report. This section therefore contains matters which are of sufficient importance by their nature that we feel it appropriate to bring them to the attention of the recipients of the report. We will work with ELEXON to produce "worst case" scenario error calculations and also report on key issues.

For Assurance Conclusion work, we will be requesting ELEXON to submit a management representation letter prior to the Reasonable Assurance Report being issued.

Operational approach: BSC Audit phases (cont.)

An indicative time-line for delivery of the annual BSC Audit is illustrated below.





Appendices

Appendix A BSC Audit requirements

Appendix B Risk approach: Scoping detail 2019/20

Appendix C Risk assessment

Appendix D BSC Audit findings rating methodology

Appendix E Glossary of terms

Appendix A

BSC Audit requirements

Section H paragraphs 5.1.2 to 5.1.4 of the Code sets out the objective and scope of the BSC Audit as follows:

'The objective of the BSC Audit is to provide assurance (to such levels as the Panel considers appropriate) that the provisions of the Code and Code Subsidiary Documents in relation to Settlement and in relation to the calculation of Funding Shares have been complied with in the Audit Year.'

The scope of the BSC Audit (save to the extent covered by the scope of the audit to be carried out by the BM Auditor under paragraph 5.1.6) shall include:

- a. The submission and application of standing and periodic data, used in connection with Settlement, by Parties and Party Agents;
- b. The processes applied to such data pursuant to the Code and Code Subsidiary Documents;
- c. The determinations and calculations made by Market Index Data Providers in the provisions of Market Index Data (but only to the extent provided in the relevant Market Index Data Provider Contract);
- d. The determinations and calculations made by BSC Agents and BSCCo where it provides the Profile Administration Services for the purposes of Settlement; and
- e. The systems processes and procedures used and applied (by BSC Agents and BSCCo) for the purposes of or in connection with the foregoing.

The scope of the BSC Audit shall not include:

- a. The registration of Metering Systems in accordance with the Master Registration Agreement; and
- b. The application by BSCCo of the compensation provisions under Section M4.

The Scope of the BSC Audit is designed to meet the requirements of the Code and the Code Subsidiary Documents, subject to those areas specifically excluded in the 'Auditor Agreement'.

In determining the Scope KPMG made a number of assumptions with regards to the meaning of Section H paragraphs 5.1.2 to 5.1.4 and these are set out below:

- 'Settlement' – means the determination and Settlement of amounts payable in respect of Trading Charges (including Reconciliation Charges) in accordance with the Code (including where the context admits Volume Allocation);
- 'The submission and application of standing data and periodic data' – submission arises from the point of capture by the relevant Party Agent, unless otherwise indicated, and the data relates only to data used in or required by Settlement;
- 'The processes applied to such data' – validation, calculation and allocation performed on Settlement data by Party Agents; and
- 'BSC Agents for the purposes of Settlement' – the Technical Assurance Agent, the Teleswitch Agent and the Profile Administrator have been specifically excluded from the scope of the BSC Audit due to the technical nature of their activities.

The coverage of the fieldwork for the period for those Metering Systems physically located in England, Wales and Scotland.

CVA MOA and Central Systems ISAE3000 Opinion (Assurance Conclusion)

Our scope for metering systems will encompass:

- a. All Settlement Runs performed by the SAA in respect of Settlement Days from 1 April 2019 to 31 March 2020 in BSC Assurance Opinion;
- b. For avoidance of doubt, coverage will exclude Post Final Settlement Reconciliation ('DF') Runs which will be considered as a corrective technique only.

As a result the specific Settlement Days that will be considered as part of the assurance period are those from 16 February 2018 to 31 March 2020 (approximately a 26 month period).

Where a Settlement impacting error is detected, either by the BSC Auditor or by a BSC management process that will not be corrected through RF an assessment will be undertaken as to whether that error has been, or will be subject to correction via the BSC Trading Disputes procedure and the effectiveness of these processes assessed by the BSC Auditor. The Trading Disputes process is considered to be a corrective technique that includes both Extra Settlement Determinations ('ESD') and DF Runs.

Appendix B

Risk approach: Scoping detail 2019/20

Background and BSC requirements

Per Section H, paragraph 5 of the Balancing and Settlement Code ('the Code') the objective of the BSC Audit is to 'provide assurance (to such level as the Panel considers appropriate) that the provisions of the Code and Code Subsidiary Documents in relation to Settlement have been complied with in the Audit Year'. The detailed BSC requirements for the BSC Audit are provided in Appendix A of this document.

The provisions of the Code and Code Subsidiary Documents in relation to Settlement over which the Panel requires assurance are agreed annually and recorded in the 'BSC Audit Scope'. The latest BSC Audit Scope for the BSC Year '1 April 2019 to 31 March 2020' is published on ELEXON's website.

For avoidance of doubt, we are planning to perform this work by using information available via investigation of processes, system configuration and flows. There will be no work performed by investigating the actual meters on sites. We are also not providing an ISAE3000 Assurance Conclusion over SVA parties from 2019/20.

Compliance for ISAE3000 Assurance Conclusion will be assessed to the extent that requirements as documented in the Code and Code Subsidiary Documents (BSCPs, CoPs or PSLs) relate to the scope as defined by the Panel.

Section H of the BSC also requires that assurance is provided annually by the BSC Auditor that the provisions of the Code and Code Subsidiary Documents in relation to Funding Shares have been complied with in the Audit Year. Funding Shares is subject to alternative procedures and, as such, a separate Funding Shares Approach document will be produced.

CVA MOA and Central Systems ISAE3000 Opinion (Assurance Conclusion)

KPMG LLP, as the BSC Auditor for the year ending 31 March 2020, will provide the BSC Audit Report which contains a reasonable assurance conclusion based opinion based on Settlement calculations and allocations over CVA MOA and Central Systems with respect to the Balancing and Settlement Code and Code Subsidiary Documents. References to the BSC Assurance Conclusion in this 'BSC Audit Approach Document' relate to the KPMG Assurance Conclusion which forms part of the 'BSC Audit Report' and references to the 'BSC Audit Engagement' are to the Assurance work we are performing.

The Assurance Conclusion for the year ending 31 March 2020 will be in respect of all Reconciliation Runs processed in that year regardless of the audit period in which the relevant Settlement Day sits. Hence all Settlement Days from 16 February 2018 to 31 March 2020 will be considered, as at least one Settlement Run for each of these Settlement Days (SF, R1, R2, R3 or RF) will have occurred in the assurance period. This means that any errors identified may have arisen from Settlement Days spanning a 26 month period (approximately).

The BSC Auditor undertakes its procedures in accordance with International Standard on Assurance Engagements 3000 – 'Assurance Engagements other than Audits and Reviews of Historical Financial Information (revised)' ('ISAE 3000 (revised)') issued by the International Auditing and Assurance Standards Board. The expression 'audit' used in connection with this engagement is determined to mean a reasonable assurance engagement performed in accordance with ISAE 3000 (revised) where referred to CVA MOA and Central Systems work.

Appendix B

Risk approach: Scoping detail 2019/20 (cont.)

CVA MOA and Central Systems ISAE3000 Opinion (Assurance Conclusion) (cont.)

Our reporting will take into account a number of factors including:

- Whether instances of non-compliance have resulted in a Settlement impacting error (in isolation or in aggregate); and
- Whether the issue has been, or will be corrected by the normal course of operation of Settlement, including the BSC Trading Disputes process.

BSC Assurance Conclusion considers the work of the Process Assessment which feeds into ELEXON PAF, TAA and BM Auditor and will take into account issues which may have a material impact on the conclusion of the assurance work performed under the BSC Audit engagement as part of its ongoing risk assessment.

ISAE3000 Assurance Conclusion Materiality

Materiality for the BSC Audit year ending 31 March 2020 will be 1.2 TWh as set out on Elexon's website.

The assessment of what is material is a matter of professional judgement and will be discussed between the BSC Auditor and ELEXON prior to publication of the BSC Audit Report.

Consideration of other work in our Assurance Conclusion

- The Balancing Mechanism ('BM') Audit is conducted by the BM Auditor who is appointed by the Transmission Company pursuant to Section H paragraph 5.1.6 of the BSC.
- Section L of the Code requires that the Technical Assurance Agent ('TAA') monitors compliance by Parties in relation to Half Hourly Metering System through spot visits at a representative selection of sites where Metering Equipment is installed. Instances of non-compliances should be provided to the BSC Auditor.

Appendix C

Risk Assessment

Using the top Risks from the 2019/20 Risk Evaluation Register, we have set out the extent to which these will be considered by the Assurance Conclusion over CVA MOA and Central Systems. We have outlined five risks with the highest impact banding, but have also considered RER and other appropriate risks in completion.

CVA market and Central Systems risks with the highest impact banding considered for Assurance Conclusion

Industry Risk reference	Industry Risk description	BSC Parties Impacted
021	The risk that CVA Metered Data is not retrieved, or processed correctly, or at all, by the CDCA	CVA MOA
023	The risk that a fault with CVA Metering Equipment is not resolved, such that Metered Data is recorded incorrectly or cannot be retrieved	Registrant
020	The risk that CVA Metering Equipment is installed, programmed or maintained incorrectly including where Commissioning is performed incorrectly or not at all	CVA MOA
022	The risk that changes to CVA Metering Equipment are not notified to CDCA	Registrant, CVA MOA
030	The risk that the ECVAAs do not carry out processes correctly, such that output files are inaccurate	Registrant

Appendix D

BSC Audit findings rating methodology

Overview

The categorisation of reporting findings will not change from previous years. The findings are categorised as either Issues or Management Letter Points ('MLP's) depending on whether there is a potential impact on the completeness and/or accuracy of Settlement.

An impact rating of High, Medium or Low is applied to each issue arising from the Assurance Conclusion.

Ratings will be applied by the BSC Auditor using its professional judgement. A number of underlying principles which provide guidance as to how this will be applied are set out in this document.

Issues will be considered across the entities in scope by the BSC Auditor at an issues 'moderation' meeting to ensure the determination of ratings is consistent.

How each finding will be considered?

Each finding will be individually determined but will also be considered in the context of similar findings raised on other entities.

Two entities may have the same underlying issue but if one entity has a mitigating process or control and is responsible for a much lower error rate, impact or residual risk as a result, then a different impact rating may apply.

One split moderation session will be performed during the year, following completion of the fieldwork at all market participants. The aim of this session is to ensure a ratings consistency across each of the entities in scope.

Ratings for findings have been defined as follows:

- **Settlement Impacting Non-Compliance** – a non-compliance with the BSC that, if left uncorrected, may have an impact on the completeness and/or accuracy of Settlement. In this case we will assess the impact as High, Medium or Low, depending on the estimated overall potential impact on Settlement.
- **Immaterial Non-Compliance** – a non-compliance with the BSC that is unlikely to have a direct impact on the completeness and/or accuracy of Settlement. These observations will be categorised as 'Management Letter Points' (MLPs); and
- **Process Improvement** – the BSC appears to have been complied with but the BSC Auditor has identified the potential for process improvements at the entity in scope. These observations will also be categorised as 'Management Letter Points' (MLPs).

Appendix D

BSC Audit findings rating methodology

How will we determine the impact of these factors?

For each Settlement Impacting Non-Compliance issue we will rate these as High, Medium or Low after gaining an understanding of the following:

- Nature of the issue;
- Extent of potential impact of the issue on Settlement in MWh;
- Improvement / deterioration (both quantitatively and qualitatively) since the previous BSC Audit;
- Whether the number and/or nature of exceptions indicates the issue is pervasive or more widespread;
- Impact of the issue on other Audited Entities or Trading Parties;
- Extent to which a compliance issue might impact other issues (especially those which have a direct impact on Settlement); and
- Existence of any mitigating factors (see below).

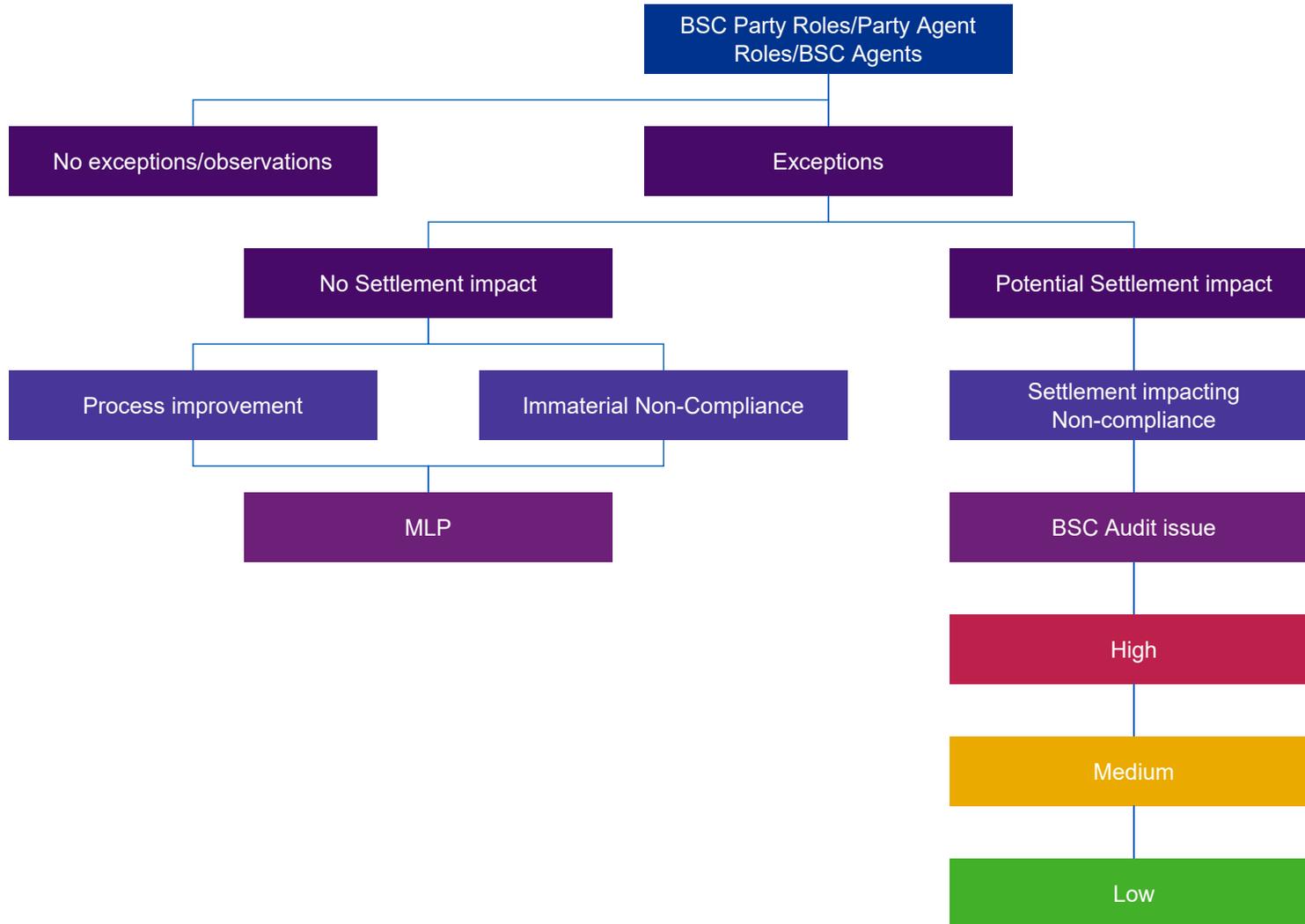
Mitigating factors might include the following:

- Other controls or procedures applied by the entity that reduce the potential impact of the error/non-compliance arising
- Whether the issue has been resolved in the BSC Audit period (the importance of the issue remains the same but the required focus to be placed on it by ELEXON/PAB will be less)

The diagram in the following page summarises the rating methodology followed for Assurance Conclusion work.

Appendix D

BSC Audit findings rating methodology (cont.)



Appendix E

Glossary of terms

Acronyms used in this document have the following meanings (as defined in the Balancing and Settlement Code), unless otherwise stated.

Acronym	Definition	Acronym	Definition	Acronym	Definition
Approach	BSC Auditor's Audit Approach for the year ended 31 March 2019	ECVAA	Energy Contract Volume Aggregation Agent	NHHDC	Non Half Hourly Data Collector
Audit Year	Year ended 31 March 2019	EFR	Error and Failure Resolution	NHHMOA	Non Half Hourly Meter Operator Agent
BM	Balancing Mechanism	ELEXON	ELEXON Limited	PAB	Performance Assurance Board
BMRA	Balancing Mechanism Reporting Agent	FAA	Funds Administration Agent	PAF	Performance Assurance Framework
BMU	Balancing Mechanism Unit	HHDA	Half Hourly Data Aggregator	Panel	BSC Panel
BSC	Balancing & Settlement Code	HHDC	Half Hourly Data Collector	SAA	Settlement Administration Agent
BSCCo	Balancing & Settlement Code Company	HHMOA	Half Hourly Meter Operator Agent	SSM	Statement of significant matters
BSCP	Balancing & Settlement Code Procedure	LDSO	Local Distribution System Operator	SEAE	Suppliers Energy Allocation Error
CDCA	Central Data Collection Agent	MA	Meter Administrator	Statement	Statement of significant matters
Central Systems	BSC Central Services	MDD	Market Domain Data	SMRS	Supplier Meter Registration Service
Code	Balancing and Settlement Code	MIDP	Market Index Data Provider	SVA	Supplier Volume Allocation
CRA	Central Registration Agent	MLP	Management Letter Point	SVAA	Supplier Volume Allocation Agent
CVA	Central Volume Allocation	MPAN	Metering Point Administration Number	TAA	Technical Assurance Agent
CVA MOA	Central Volume Allocation Meter Operator Agent	MOA	Meter Operator Agent	TDC	Trading Disputes Committee
DF	Dispute Final Run	NHH	Non Half Hourly	TWh	TeraWatt Hour(s)
DTN	Data Transfer Network	NHHDA	Non Half Hourly Data Aggregator	UMSO	Unmetered Supplies Operator



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