

Technical Assurance Agent Annual Report: BSC Year 2018/19

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References

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1 Glossary of terms and acronyms

Term/Acronym	Definition
100kW Metering System	As defined in Section X, Annex X-1. Section L2.2 requires the Metering Equipment for a 100kW Metering System to be Half Hourly Metering Equipment.
BMU	Balancing Mechanism Unit
BSC	Balancing and Settlement Code
BSCP	Balancing and Settlement Code Procedure
Category 1 non-compliance	A non-compliance that is deemed to be currently affecting the quality of data for Settlement purposes
Category 2 non-compliance	A non-compliance that is deemed to have the potential to affect the quality of data for Settlement purposes
CDCA	Central Data Collection Agent
CDCC	Consumption Data Comparison Check
Commissioning	A process to ensure that the energy flowing across a Defined Metering Point is accurately recorded by the associated Metering System
CoP	Code of Practice
CT	Current Transformer
CVA	Central Volume Allocation
DC	Data Collector
DMP	Defined Metering Point
ECOES	Electricity Central Online Enquiry Service
EFR	Error and Failure Resolution
HHMS	Half Hourly Metering Systems
HV	High Voltage
LDSO	Licensed Distribution System Operator
LV	Low Voltage
MAR	Meter Advance Reconciliation
MC	Measurement Class
MC 'C'	Measurement Class C – Half Hourly metered at 100kW premises
MC 'E'	Measurement Class E – Half Hourly metered at below 100kW premises with current transformer
MCI	Multi Circuit Inspection
ME	Metering Equipment
MOA	Meter Operator Agent
MRM	Meter Register Multiplier
MSID	Metering System Identifier
MTD	Meter Technical Details
NC non-compliance	Consumption data held by Data Collector outside tolerance when compared with metered energy data
NMTES	National Measurement Transformer Error Statement
Observation	A non-compliance that is deemed neither to affect nor have the potential to affect the quality of data for Settlement purposes
OSWF	Offshore Wind Farm
PAB	Performance Assurance Board
SAP	Senior Authorised Person
SVA	Supplier Volume Allocation
TAA	Technical Assurance Agent
TAAMT	TAA Management Tool
TAM	Technical Assurance of Metering
TAMEG	Technical Assurance of Metering Expert Group
TAPAP	Technical Assurance of Performance Assurance Parties
UTC	Co-ordinated Universal Time
VT	Voltage Transformer

2 Introduction

2.1 The purpose of the Technical Assurance Agent (TAA) Annual Report

The Technical Assurance of Metering (TAM) technique monitors compliance of 100kW Metering Systems registered and energised in Settlement, as documented in the Balancing and Settlement Code (BSC) and its Code Subsidiary Documents (CSDs).

The TAA Annual Report provides our opinion as the TAA on the health of the 100KW Metering System population as per our findings throughout the 2018/19 audit year and trends over the previous three audit years.

The TAA has interpreted the more detailed data contained in Appendix 1 – 2018/19 Audit Statistics and the following pages provide a summary of our interpretation including key findings in the following sections.

3 Executive Summary

3.1 The Scope of the 2018/19 audit

This year the TAA Agent has completed 1,541 SVA and 69 CVA inspections. As part of this year's audit scope we have introduced the process of auditing all circuits associated to a CVA MSID. We have also commenced the process of auditing offshore CVA windfarms.

This year has also seen the introduction of a revised audit process to identify those HHMS that have been commissioned following the introduction of BSC Modification P283 which provides market participants with guidance as to the commissioning of HHMS serviced by CTs and VTs.

The breakdown of inspections for the audit year is as follows:

- Supplier Volume Allocation (SVA) Half Hourly (HH) Metering Systems:
 - **Total Inspection Visits - 1,541¹**
 - Main Sample² – 1,537
 - Re-inspection - 4
 - Specific Sample³ – 0
 - Targeted⁴ – 0
- Central Volume Allocation (CVA) Metering Systems:
 - **Total Inspection Visits - 69⁵**
 - Main Sample – 64
 - Offshore wind farms – 4
 - Re-inspection - 1

¹ 1% of the SVA Metering System population

² A representative sample of Metering Systems.

³ Focuses on an area of perceived risk to Settlement - SVA only.

⁴ Where non-compliance is suspected.

⁵ 5% of the CVA Metering System population.

- Targeted – 4

3.2 Key audit findings

This section provides the reader with a high level overview of the TAA's key findings from this audit year. More detailed information relating to these findings can be found in the following sections of the report:

- Statement on the health of the Metering System population (Section 4);
- Key Issues identified (Section 5); and
- Appendix 1 2018/2019 more comprehensive audit findings (Section 7).

3.2.1 High level summary

- The TAA are pleased to report a reduction in Category 1 non-compliances recorded in the SVA market from **32** in 2017/18 to **21** in 2018/19.
- The TAA have noted an increase in Category 1 non-compliances in the CVA market from **2** in 2017/18 to **5** in 2018/19.
- The TAA is pleased to report a reduction of 50% in **Category 2.02 non-compliances** recorded in the SVA market. Category 2.02 non-compliances are related to Inaccuracy of standing data (non-key MTD fields) held by the Data Collector.
- The TAA reports a slight increase in the total number of **Category 2 non-compliances recorded in the SVA market** from 2017/18 to 2018/19. This year **3070** Category 2 non-compliance have been recorded compared to **2894** in 2017/18. Why?
- The TAA also reports a slight increase in the total number of **Category 2 non-compliances recorded in the CVA market** from 2017/18 to 2018/19. This year **547** Category 2 non-compliances have been recorded compared to **336** in 2017/18. It should be noted that this increase in non-compliances can be attributed to the revised audit scope with the introduction of multi circuit inspections (MCI).
- The TAA is seeing no marked improvement with the management of commissioning records in both the CVA and SVA markets. However we are hoping to see an improvement in Commissioning with the most recent Industry change, the Introduction of data flows which will allow Licensed Distribution System Operators (LDSOs), Suppliers and Meter Operator Agents (MOAs) the ability to exchange information using the Data Transfer Network. Implemented 1st November 2019

3.3 No Access performance

- The TAA are disappointed to report a marked increase in **No Access** figures in the SVA market in 2018/19. We have noted an increase of 6% in No Access figures from 10% last year to 16% this year. There is no particular identifiable route cause for this increase.
- The TAA have noted a slight increase in No Access figures in the CVA market in 2018/19. This can be attributed the introduction of multi circuit inspections. Some of the MSIDs selected for audit were found to have an incorrect number of circuits registered.
- It is worth noting a number of measures are being explored collaboratively between the TAA and ELEXON with the aim of reversing this trend.

3.4 Category 1 non-compliances⁶

3.4.1 SVA Category 1 non-compliances

The 2018/19 audit has identified the following number of SVA Category 1 non-compliances.

Category ⁷	1.01	1.02	1.03	1.04	1.06
Number of Category 1 NCs	1	9	4	7	0
% of SVA Category 1 NCs identified	4.8%	42.9%	19.0%	33.3%	0.0%
% of total SVA Inspection Visits undertaken	0.1%	0.7%	0.3%	0.5%	0.0%

3.4.2 CVA Category 1 non-compliances

The 2018/19 audit has identified the following number of CVA Category 1 non-compliances.

Category	1.01	1.02	1.03	1.04	1.06
Number of Category 1 NCs	0	1	2	0	2
% of CVA Category 1 NCs identified	0.0%	20.0%	40.0%	0.0%	40.0%
% of total CVA circuit inspections undertaken	0.0%	0.5%	1.0%	0.0%	1.0%

3.4.3 SVA Category 2 non-compliances

The 2018/19 audit has identified the following number of SVA Category 2 non-compliances.

3.4.3.1 Non-certificate related SVA Category 2 non-compliances:

Category	2.01	2.02	2.03	2.09	2.10	2.11	2.13	2.14
Number of Category 2 NCs	35	18	20	11	27	40	286	44
% of SVA Category 2 NCs identified	1.1%	0.6%	0.7%	0.4%	0.9%	1.3%	9.3%	1.4%
% of total SVA Inspection Visits undertaken	2.7%	1.4%	1.5%	0.8%	2.0%	3.0%	22.0%	3.4%

3.4.3.2 Certificate related SVA Category 2 non-compliances:

Category	2.06	2.15	2.15L	2.15M	2.16	2.17
Number of Category 2 NCs	534	777	76	94	675	433
% of SVA Category 2 NCs identified	17.4%	25.3%	2.5%	3.0%	22.0%	14.1%
% of total SVA Inspection Visits undertaken	41.0%	59.7%	5.8%	7.2%	51.8%	33.3%

⁶ A non-compliance against the BSC or CSD, which is deemed to be currently affecting the quality of data for Settlement purposes.

⁷ See Appendix 2 for descriptions of all categories of non-compliance.

3.4.4 CVA Category 2 non-compliances

The 2018/19 audit has identified the following number of CVA Category 2 non-compliances

Category	2.01	2.02	2.03	2.06	2.10	2.11	2.13	2.15	2.16	2.17
Number of Category 2 NCs	1	14	33	84	10	2	82	113	155	53
% of CVA Category 2 NCs identified	0.18%	2.6%	6.0%	15.4%	1.8%	0.4%	15.0%	20.7%	28.3%	9.7%
% of total CVA circuit inspections undertaken	0.5%	6.7%	15.6%	39.8%	4.7%	0.9%	38.9%	53.6%	73.4%	25.1%

4 Statement on the health of the Metering System population

This section gives our opinion on the health of the SVA and CVA markets based on our findings during the 2018/19 audit year. The TAA has formulated its opinion by looking at trends in non-compliances reported over the previous years and through discussions with key Market Participants whilst undertaking TAA activities.

4.1 The SVA market

4.1.1 Good news

The TAA is pleased to report a reduction by approximately **35%** in the number of Category 1 non-compliances identified in comparison to 2017/18. The TAA recorded **21** Category 1 non-compliances in 2018/19 in comparison to **32** recorded in 2017/18. This decrease is because of a reduction of Category 1.03⁸ non-compliances. A breakdown of Category 1 non-compliances is available in Table 6 of Appendix 1

The TAA has reported a 50% reduction in the number of Category 2.02⁹ non-compliances. We believe this in the main is down to an improvement i.e. more timely transfer of metering information intra industry between market participants which emphasizes a point we are trying to make throughout in that where and when processes are dully followed end results (findings) are typically more *positive*. A breakdown of Category 2.02 non-compliances is available in Table 10 of Appendix 1.

4.1.2 Bad news

The TAA has identified a significant increase in the number of Category **1.04¹⁰ non-compliances**, from 2 reported 2017/18 to 7 in 2018/19; this equates to a 250% increase from 2017/18. These non-compliances have been assigned to Metering Systems commissioned prior to the implementation of BSC Modification P283¹¹.

The TAA has concerns with the time taken by parties to rectify Category 1 non-compliances. Category 1 non-compliances took approximately 30 days to resolve on average.

At the time of preparing our report, eight Category 1 non-compliances that were identified this year have not been rectified. Details of rectification timescales are available in Table 9 of Appendix 1.

4.2 The CVA market

4.2.1 Good news

In 2018/19, the TAA successfully audited four offshore wind farms. The TAA is pleased to report that it did not identify any Category 1 non-compliances during these checks. In addition, 100% access was achieved.

The TAA can also confirm that all other Category 1 non-compliances reported during other CVA inspections have now been resolved.

⁸ major time drift

⁹ non-compliances relating to inaccurate Standing Data held by the Half Hourly Data Collector (HHDC)

¹⁰ current transformer (CT) ratio mismatches

¹¹ Reinforcing the Commissioning of Metering Equipment processes

4.2.2 Bad News

Of the 211 Circuits accessed, the TAA reported 113 non-compliances relating to missing, incomplete or incorrect Commissioning records. Of the 211 circuits inspected, 189 were inspected for onshore metering systems and 22 were inspected for offshore metering systems.

Of the 189 onshore circuits inspected we recorded 97 commissioning related non-compliances; this equates to 51% of all onshore circuits inspected.

Of the 22 offshore circuits inspected we recorded 16 commissioning related non-compliances; this equates to 73% of all offshore circuits inspected.

Of the 113 non-compliances, 80% were raised because Commissioning records were not provided. The remainder of these non-compliances related to Commissioning records being either incomplete or incorrect.

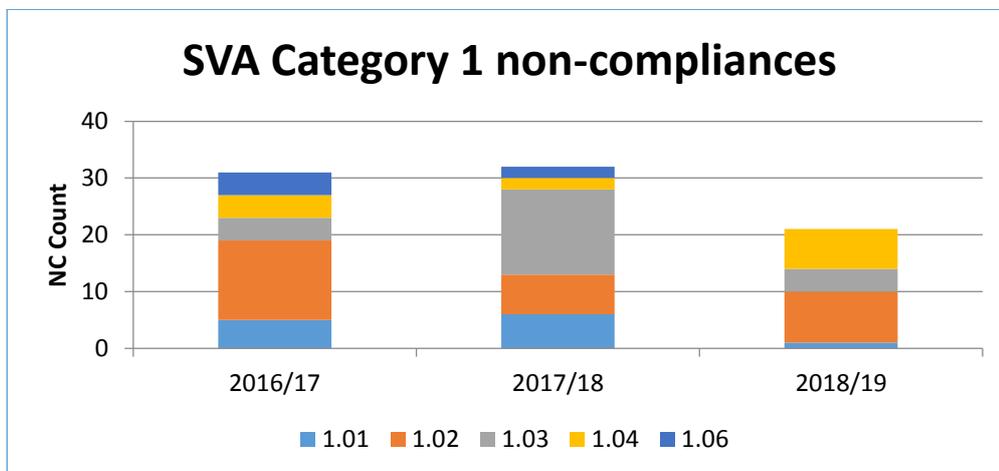
The high-level statistics above in the area of commissioning related non-compliance's (missing, incomplete or incorrect records) emphasises industry needs to undertake further work in this area. We will discuss with ELEXON our thoughts as the TAA as to how this situation can be significantly improved.

4.3 Category 1 Non-Compliances

4.3.1 The SVA Market

The TAA is pleased to report an improvement (reduction) in the number of Category 1's reported 2018/19. There is a reduction in Category 1.01 from 6 to 1, Category 1.03 from 15 to 4 and Category 1.06 there has been none reported this year, a reduction of 2 from 2017/18. However, a significant increase in Category 1.04¹² non-compliances was recorded, along with 9 Category 1.02; an increase of 2 from 2017/18. The TAA has also recorded an increase in Metering Equipment non-compliances.

Figure 2 – SVA Category 1 non-compliances identified in the previous three audit years



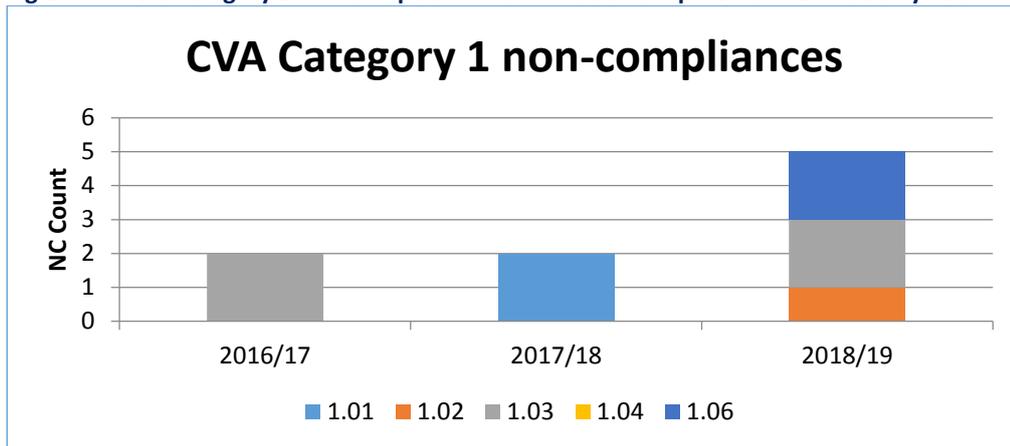
4.3.2 The CVA Market

There has been an increase in the number of Category 1 non-compliances in the CVA market in this audit period compared to 2017/18. This year we have recorded 5 Category 1 non-compliances which is an increase from 2 in 2017/18. This is a 150% increase on last year.

The TAA detected four Category 1 non-compliances attributed to one multi-circuit Inspection Visit with four circuits. A further non-compliance was reported against a targeted Inspection Visit.

¹² measurement transformer ratio physically incorrect

Figure 3 – CVA Category 1 non-compliances identified in the previous three audit years



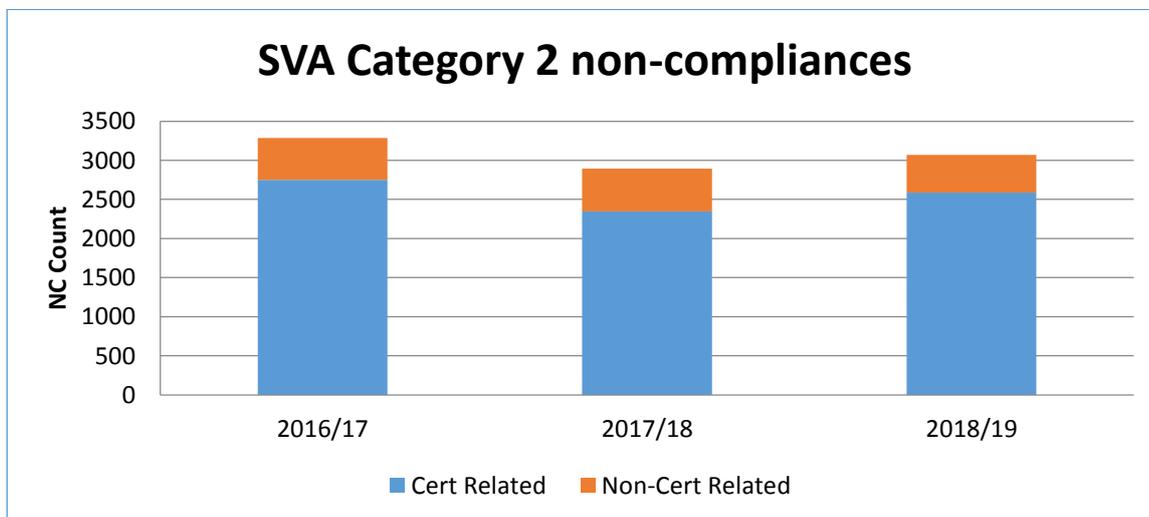
4.4 Category 2 Non-Compliances

4.4.1 The SVA Market

The TAA has noticed a general increase in Calibration Certificate related non-compliances across all sub categories of reporting. However, the TAA is pleased to see a reduction in non-certificate related non-compliances showing an improvement in back office documentation management.

Figure 4 below shows the number of Category 2 non-compliances identified over the past three audit years split by Calibration Certificate/Commissioning related and other non-compliances.

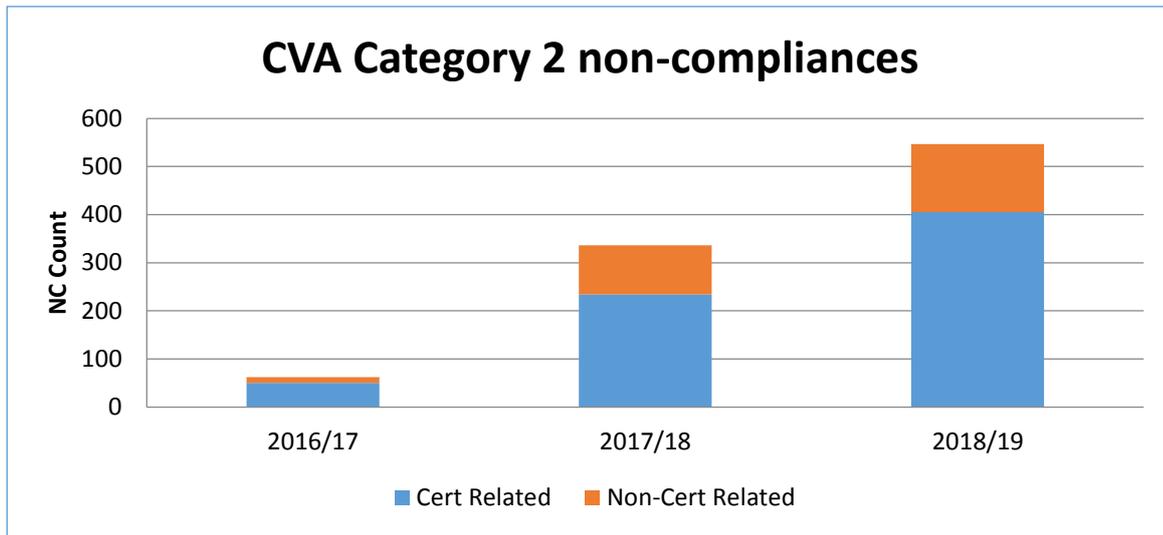
Figure 4 - SVA Category 2 non-compliances identified



4.4.2 The CVA Market

An initial review of the comparison between this year's reporting and that of 2017/18 indicates a continued upward trend, however once the increased number of Inspection Visits due to the introduction of multi-circuit Inspection Visits is factored in, actual non-compliance rates have fallen.

Figure 5 – CVA Category 2 non-compliances identified



4.5 Materiality

All Category 1's raised by the TAA during an Inspection Visit are investigated by Trading Disputes in further detail. Only when they have gathered all the relevant evidence can they calculate whether Settlements has been affected or not.

ELEXON identified the material impact on Settlement of the identified Category 1 non-compliances as:

CVA

£0 Materiality

There were five Category 1 non-compliances. Four had no impact on Settlement, and one is an on-going Trading Dispute of which the materiality has not yet been determined.

SVA

£245,142.24 Materiality

Two SVA Category 1 non-compliances had a material impact on Settlement.

Both were Category 1.04 non-compliances, raised because the measurement transformer ratios were different from those set up in the Meter.

5 Key Issues

The TAA would like to draw attention to the following key issues identified in 2018/19:

5.1 Measurement transformer ratio mismatches

5.1.1 The Issue

The TAA has seen an increase in Category 1.04¹³ non-compliances recorded in 2018/19. These non-compliances were linked to measurement transformer ratio mismatches between the ratio programmed into the Meter and the actual ratios of the CTs as witnessed by the auditor. Of all Category 1 non-compliances recorded, 33% were attributed to Category 1.04 failures.

The reporting figures for 2018/19 indicate an increase in Commissioning non-compliances in the SVA Market. This figure includes all Commissioning non-compliances for pre P283 at 60%, post P283 for Meter Operator Agent (MOA) at 7% and Licensed Distribution System Operator (LDSO) at 6%.

As per previous Annual Reports, the majority of Metering Systems where Category 1 non-compliances have been raised the TAA also recorded Commissioning related non-compliances.

5.1.2 Commissioning

The 2018/19 audit scope saw the introduction of a new audit process that enabled the TAA to allocate Commissioning related non-compliances to the most appropriate Party for rectification. This process included the introduction of Category 2 non-compliance types 2.15L and 2.15M. The non-compliances are allocated to the LDSO and the MOA respectively.

Table A – HHMS audited that were commissioned post P283 with associated commissioning non-compliances

Number of Completed Inspection Visits	2.15L	% of Inspections	2.15M	% of Inspections
157	76	48%	94	60.0%

Table B – HHMS audited that were commissioned pre P283 with associated Commissioning non-compliances

Number of Completed Inspection Visits	2.15	%age of Inspections
1,145	777	68%

5.1.3 Our recommendations

The TAA recommends that ELEXON continues to provide support via guidance and training to assist all parties in understanding the importance of Commissioning in accordance with Code of Practice (CoP) 4¹⁴.

5.2 Measurement transformer Calibration Certificates

5.2.1 The issue

In 2018/19, the TAA continues to report the lack of measurement transformer Calibration Certificates, Category 2.16 as a key issue.

¹³ Measurement Transformer Ratios Physically Incorrect

¹⁴ Code of Practice 4 'The Calibration, testing and commissioning Requirements of Metering Equipment for Settlement Purposes'

Each CoP requires Calibration Certificates be made available to the TAA for review at a TAA Inspection Visit. The number of non-compliances recorded would indicate that certificates are no longer readily available to present to the TAA auditor, possibly due to the age of many 100kW Metering System installations.

In 2018/19 the TAA has recorded 675 non-compliances which will be added to the escalating number of outstanding measurement transformer certificate non-compliances, which now runs into thousands.

ELEXON through the TAMEG workgroup are currently trying to develop a process to confirm Overall Accuracy in the absence of Calibration Certificates for CoP 3 & 5

5.2.2 Our recommendations

The TAA recommends a concerted effort by all industry participants to establish what is now deemed as satisfactory evidence in maintaining Metering System overall accuracy in order to reduce the number of new non-compliances being raised.

The TAA also recommends that the historic non-compliances are cleared in a way that is acceptable to ELEXON and the PAB. We will continue to work with ELEXON and TAMEG to progress this issue by identifying suitable and corrective action.

6 Audit Planning Performance

6.1 Planned Inspection Visits vs cancellations

In total, the TAA planned 1,648 SVA Inspection Visits during this 2018/19, of which 107 were cancelled at the request of Market Participants due to a range of issues. This equates to 6.5% of those Inspection Visits planned in the SVA market.

The cancellation rate for CVA Inspection Visits increased from 5% last year to 8% this year.¹⁵ This again is an unwanted upward trend that we will monitor early during the new audit year.

6.2 No Access performance

6.2.1 SVA

The No Access rate for SVA Inspection Visits has increased this year to 16% compared to the previous two audit years where No Access was approximately 10%.

- No Access this year was attributed to a mixture of customer availability, lost keys and empty buildings. As previously mentioned, a number of measures are actively being explored between the TAA and ELEXON with the aim of reversing this trend.
- The TAA believes such a high percentage adds unwelcome inefficiency, cost and recommends all parties take a more proactive approach to ensuring this trend is reversed during the next audit year.

A detailed breakdown of No Access by Supplier Company Group is available in table 2 of appendix 1. The TAA would welcome a discussion with Supplier parties in order to try and pinpoint areas of breakdown and improve the overall situation and outcome.

6.2.2 CVA

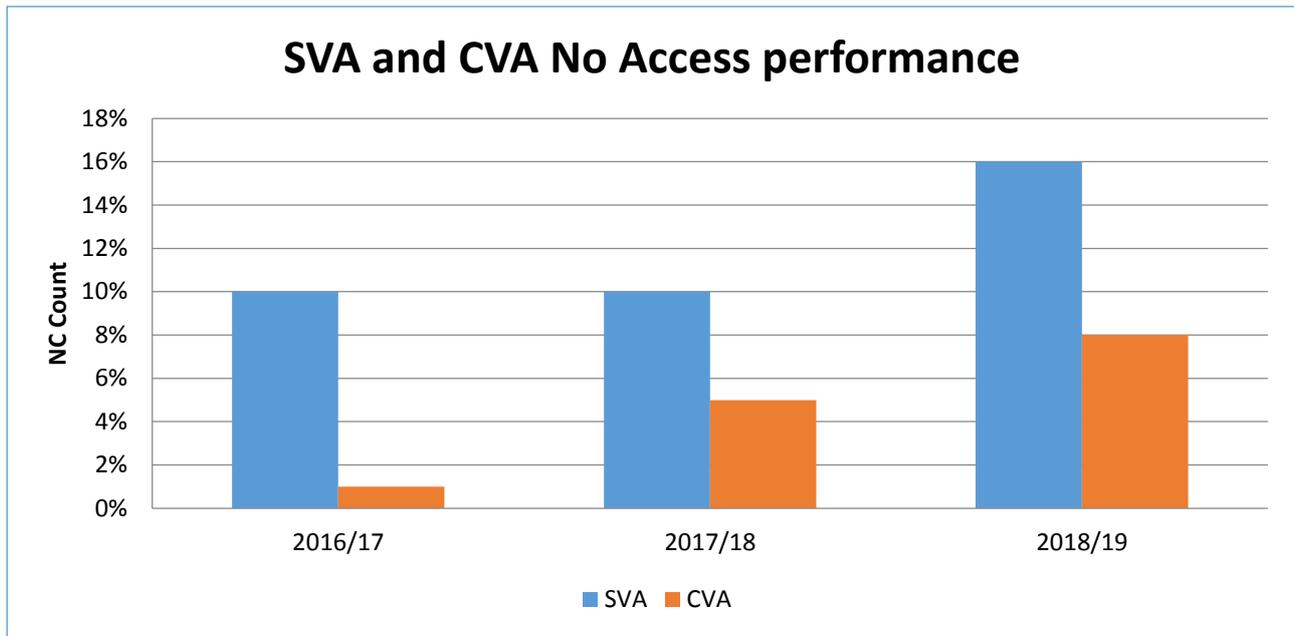
The TAA was unable to gain access to 8% of circuits.

6.2.3 No access performance comparison

The following graph shows a comparison of No Access performance of the last three audit years:

¹⁵ This increase can be accounted for by the Multi Circuit Inspections.

Figure 6 – No Access performance for previous three audit periods



6.2.4 Reasons for No Access:

6.2.4.1 SVA

Table C – The most common reasons for SVA No Access

Appointment Status	Count	% of No Access
No Access - Site visited customer unavailable to provide access	114	48.7%
No Access - Site visited customer unable to provide access	31	14.2%
No Access - Customer unable to find keys	27	11.9%

6.2.4.2 CVA

Table D – The most common reasons for CVA No Access

Appointment Status	Count	% of No Access
No Access - Other Reason (onsite)	10	55.6%
No Access - LSDO and/or SAP attendance required to access Metering Equipment.	6	33.3%
No Access - MOP Representative did not attend	2	11.1%

6.3 LSDO attendance at Inspection Visits

BSCP27 obligates the Registrant to ensure that the LSDO attends Inspection Visits for HV Metering Systems and Metering Systems where Metering Equipment includes LV remote CTs. Our high-level analysis continues to suggest that Registrants are not meeting this obligation in many cases.

A breakdown of performance for each Supplier Company Group is available in Table 3 of Appendix 1.

7 Appendix 1 – 2018/19 Audit Findings

7.1 Introduction

This appendix details the results of our TAA audit findings for the 2018/19 TAA audit year, which are referred to throughout this report.

7.1.1 Important notes and assumptions

Percentage totals identified in this document may not equal exactly 100% if summed, due to rounding. Some non-compliances are categorised as miscellaneous categories because the issues are too disparate to group and report on effectively.

7.2 SVA audits (Main/Re-inspection)

7.2.1 Appointment statistics summary

Table 1: Total number of SVA Inspection Visits planned and outcome by Inspection Visit type

SVA visits by type	Visits planned	Of those planned		Of those visited	
		Visits Cancelled	Visited	Access gained	No Access
Main Sample	1,644	107	1,537	1298	239
Re-inspection	4	0	4	4	0
Total	1,648	107	1,541	1,302	239
Percentages		6.5%	93.5%	84.5 %	15.5%

Table 2: No Access performance per Supplier Company Group

At Visit Supplier Company Group	Visits Planned	Accepted	No Access	%age No Access
SUPP	1		1	100.0%
SUPP	3	1	2	66.7%
SUPP	2	1	1	50.0%
SUPP	2	1	1	50.0%
SUPP	27	18	9	33.3%
SUPP	71	52	19	26.8%
SUPP	304	229	75	24.7%
SUPP	174	134	40	23.0%
SUPP	18	15	3	16.7%
SUPP	19	16	3	15.8%
SUPP	110	94	16	14.5%
SUPP	7	6	1	14.3%
SUPP	23	20	3	13.0%
SUPP	41	36	5	12.2%
SUPP	78	69	9	11.5%
SUPP	10	9	1	10.0%
SUPP	52	47	5	9.6%
SUPP	144	131	13	9.0%
SUPP	250	229	21	8.4%
SUPP	184	173	11	6.0%
SUPP	8	8	0	0.0%
SUPP	3	3	0	0.0%
SUPP	2	2	0	0.0%
SUPP	2	2	0	0.0%
SUPP	5	5	0	0.0%
SUPP	1	1	0	0.0%

Table 3: No access to CT/VT rating plates by Supplier Company Group

At Visit Supplier Company Group	Inspections Affected	Total Inspections	% of Inspections Affected
SUPP	1	0	100%
SUPP	1	0	100%
SUPP	1	0	100%
SUPP	1	0	100%
SUPP	2	0	100%
SUPP	1	0	100%
SUPP	1	0	100%
SUPP	3	5	60%
SUPP	1	2	50%
SUPP	5	10	50%
SUPP	34	78	44%
SUPP	5	15	33%
SUPP	85	304	28%
SUPP	5	18	28%
SUPP	14	52	27%
SUPP	7	26	27%
SUPP	5	19	26%
SUPP	7	27	26%
SUPP	6	24	25%
SUPP	17	71	24%
SUPP	31	144	22%
SUPP	37	174	21%
SUPP	38	184	20%
SUPP	46	250	18%
SUPP	19	110	17%
SUPP	1	7	14%
SUPP	1	8	13%

7.2.2 CDCC performance

Table 4: CDCC summary for those SVA Inspection Visits where access has been provided

Visit Type	Not Performed	Compliant	Non-compliant	Metering Systems accessed
Main Sample	7	1283	8	1298
Re-inspection	0	4	0	4
Total	7	1,287	8	1,302

7.2.3 SVA non-compliances identified during the 2018/19 audit year

Table 5: Number and % of SVA Inspection Visits where non-compliances are identified by Category

Visit Type	%	Number of Visits	No NCs	Has Cat1	Has Cat2	Has NC	Has Observations
Main Sample	80.0%	1051			✓		
Main Sample	16.0%	211	✓				
Main Sample	1.5%	19		✓	✓		
Main Sample	0.5%	7			✓	✓	
Main Sample	0.3%	4			✓	✓	
Main Sample	0.4%	5			✓		✓
Main Sample	0.07%	1		✓	✓	✓	
Main Sample	0.07%	1		✓	✓	✓	
Re-inspection	0.08%	4			✓		

Table 6: Summary SVA Main, Re-inspection Specific and Target Sample Category 1 non-compliances by Supplier and HHMOA

Supplier	HHMOA	1.01	1.02	1.03	1.04	1.06	Total
SUPP	HHMOA		1		1		2
SUPP	HHMOA		1				1
SUPP	HHMOA		1				1
SUPP	HHMOA		2				2
SUPP	HHMOA				1		1
SUPP	HHMOA			1			1
SUPP	HHMOA				1		1
SUPP	HHMOA		1				1
SUPP	HHMOA				1		1
SUPP	HHMOA				1		1
SUPP	HHMOA		1	1			2
SUPP	HHMOA			1			1
SUPP	HHMOA		1				1
SUPP	HHMOA	1			2		3
SUPP	HHMOA			1			1
Total		1	9	4	7	0	21

7.2.4 Potential Settlement impacting materiality calculations for Category 1 non-compliances identified.

Table 7 data is an indication of materiality impact that could result from those Category 1 non-compliances identified in the SVA market. Potential metered error volumes are calculated by ELEXON.

Table 7: SVA Inspection Visits where there has been a material error identified

Visit Reference	Potential metered Errors MWh	Non-compliance status
XXXX-XXXX	TBC	Rectified During Inspection Visit
XXXX-XXXX	0	Resolved
XXXX-XXXX	TBC	Non-Compliance Outstanding
XXXX-XXXX	0	Resolved
XXXX-XXXX	0	Resolved
XXXX-XXXX	£102,689.82	Resolved
XXXX-XXXX	0	Resolved
XXXX-XXXX	0	Rectified Pending Confirmation
XXXX-XXXX	0	Resolved
XXXX-XXXX	-£347,832.06	Resolved
XXXX-XXXX	0	Rectified During Inspection Visit
XXXX-XXXX	0	Rectified During Inspection Visit
XXXX-XXXX	TBC	Non-Compliance Outstanding
XXXX-XXXX	0	Resolved
XXXX-XXXX	0	Resolved
XXXX-XXXX	TBC	Non-Compliance Outstanding
XXXX-XXXX	TBC	Non-Compliance Outstanding
XXXX-XXXX	TBC	Rectified Pending Confirmation
XXXX-XXXX	0	Resolved
XXXX-XXXX	0	Resolved
XXXX-XXXX	TBC	Non-Compliance Outstanding
Total	-£245,142.24	

7.2.5 Rectification of Category 1 non-compliances

Table 8: SVA Main, Re-inspection, Specific and Target Sample Category 1 non-compliances average number of days to resolution

Notified Month	Number of NCs Identified	Average WD to resolve				
		1.01	1.02	1.03	1.04	1.06
Apr 2018	0	0	0	0	0	0
May 2018	3	0	1	101	0	0
Jun 2018	2	0	66	0	0	0
Jul 2018	1	0	0	0	64	0
Aug 2018	6	19	0	17	37	0
Sep 2018	3	0	33	27	0	0
Oct 2018	0	0	0	0	0	0
Nov 2018	2	0	0	0	0	0
Dec 2018	1	0	0	0	0	0
Jan 2019	3	0	31	0	0	0
Feb 2019	0	0	0	0	0	0
Mar 2019	0	0	0	0	0	0
Total identified	21	1	9	4	7	0
Unresolved	8	0	4	0	4	0
Resolved	13	1	5	4	3	0
Average days to resolve	30	19	26	36	34	0

7.2.6 Category 2 non-compliances

Table 9: Summary of SVA Category 2 (non-cert) non-compliances by Supplier

Supplier	2.01	2.02	2.03	2.08	2.09	2.10	2.11	2.13	2.14	Total
SUPP	10	4			2	5	10	56	5	92
SUPP	7	3	4			2	5	42	4	67
SUPP	5	3	1		1	2	2	31	10	55
SUPP	5	2	5			2	4	24	7	49
SUPP			1		1		4	30	5	41
SUPP	2	2	1		2		3	25	2	37
SUPP	3	1	2		1	3	1	13	1	25
SUPP	1		1		1	2		18	2	25
SUPP		1				2	4	13	1	21
SUPP			2		1	1	1	9	1	15
SUPP	1	1	1		1	4	2	3		13
SUPP			2		1			7	1	11
SUPP		1				1		7		9
SUPP						2		3	1	6
SUPP						1	1	1		3
SUPP	1						2			3
SUPP									2	2
SUPP								1	1	2
SUPP							1	1		2
SUPP									1	1
SUPP								1		1
SUPP										0
SUPP										0
Total	35	18	20	0	11	27	40	286	44	481

Table 10: Summary of SVA category 2 (non-cert) non-compliances by HHMOA

HHMOA	2.01	2.02	2.03	2.08	2.09	2.10	2.11	2.13	2.14	Total
HHMOA	11	8			1	9	11	68	18	126
HHMOA	1	3	9		3	1	7	94	4	122
HHMOA	1		2		1		4	55	3	66
HHMOA	6	3	3			1	4	21	3	41
HHMOA	1		2			9	6	5	7	30
HHMOA	1	1			1	1	2	21	1	28
HHMOA	4	1			3		3	5	4	20
HHMOA	3	1	3		2	3	1	4	1	18
HHMOA	2	1					1	11		15
HHMOA	1					3	1		2	7
HHMOA	4		1					1	1	7
HHMOA								1		1
Total	35	18	20		11	27	40	286	44	481

Table 11: Summary of SVA category 2 (cert related) non-compliances by Supplier

Supplier Company Group	2.06	2.15	2.15L	2.15M	2.16	2.17	Total
SUPP	102	150	12	12	132	72	480
SUPP	81	139	11	16	105	67	419
SUPP	65	95	10	13	77	59	319
SUPP	54	87	2	4	87	54	288
SUPP	43	70	8	10	50	31	212
SUPP	36	50	6	5	35	40	172
SUPP	34	40	4	5	50	20	153
SUPP	24	38	4	5	29	22	122
SUPP	21	18	6	10	26	5	86
SUPP	17	26	4	3	19	15	84
SUPP	11	11	3	4	13	10	52
SUPP	10	7	3	3	17	3	43
SUPP	9	11	1		9	6	36
SUPP	6	10	1	2	7	9	35
SUPP	5	5	1	1	8	5	25
SUPP	4	6			3	2	15
SUPP	3	3		1	4	3	14
SUPP	2	4				6	12
SUPP	3	3			2	3	11
SUPP	1	1				1	3
SUPP	2	1					3
SUPP		1			2		3
SUPP	1						1
SUPP		1					1
Total	534	777	76	94	675	433	2,589

Table 12: Summary of SVA category 2 (cert related) non-compliances by HHMOA

HHMOA	2.06	2.15	2.15L	2.15M	2.16	2.17	Total
HHMOA	100	146	11	14	112	101	484
HHMOA	71	145	9	11	108	44	388
HHMOA	81	77	32	36	87	62	375
HHMOA	84	98	11	12	118	32	355
HHMOA	44	89	4	4	66	47	254
HHMOA	49	67	3	5	64	47	235
HHMOA	41	68		2	57	24	192
HHMOA	42	40	2	5	38	26	153
HHMOA	13	21	1	2	20	16	73
HHMOA	3	11	3	3	4	21	45
HHMOA	6	13			1	11	31
HHMOA		2				2	4
Total	534	777	76	94	675	433	2,589

7.3 CVA Audits

7.3.1 Appointments planned and cancelled

Table 13: Total number of CVA Inspection Visits planned and outcome by Inspection Visit type

CVA Visits by Type	Visits Planned	Of those planned		Of those visited	
		Visits Cancelled	Visited	Access Gained	No Access
Main Sample	69	5	64	63	1
Targeted	4	0	4	4	0
Re-inspection	1	0	1	1	0
Total	74	5	69	68	1
Percentages		6.7%	93.3%	98.6%	1.4%

Table 14: Total number of individual CVA circuits planned and outcome by Inspection Visit type

CVA Circuits by Type	Circuits Planned	Of those planned		Of those visited	
		Cancelled	Visited	Access Gained	No Access
Main Sample	233	20	213	197	16
Targeted	14	0	14	12	2
Re-inspection	2	0	2	2	0
Total	249	20	229	211	18
Percentages		8%	92%	92%	8%

7.3.2 CDCC Performance

Table 15: CDCC summary for those CVA Inspection Visits where access has been provided

Visit Type	Compliant	Non-compliant	Check not performed	Metering Systems accessed
Main Sample	55	0	8	63
Targeted	4	0	0	4
Re-inspection	1	0	0	1
Total	60	0	8	68

Table 16: CDCC summary for those individual CVA circuits where access has been provided

Visit Type	Compliant	Non-compliant	Check not performed	Metering Systems accessed
Main Sample	166	2	29	197
Targeted	12	0	0	12
Re-inspection	2	0	0	2
Total	180	2	29	211

7.3.3 CVA non-compliances identified during 2018/19 audit year

Table 17: Number and % of CVA Inspection Visits where non-compliances were identified by category

Visit Type	%	Number of Visits	No NCs	Has Cat1	Has Cat2	Has NC	Has Observations
Main Sample	62%	130			✓		
Main Sample	20%	43					
Main Sample	8%	17					
Main Sample	4%	8			✓		
Main Sample	0.95%	2		✓	✓	✓	
Re-inspection	0.95%	2			✓		
Target	3%	7			✓		
Target	2%	4					
Target	0.5%	1		✓	✓		

Table 18: Summary of CVA Category 1 and 2 non-compliances identified during the 2018/19 audit year

Non-compliance identified	1.02	1.03	1.06	2.01	2.02	2.03	2.06	2.10	2.11	2.13	2.15	2.16	2.17	Total
Meter Error/failure	1		2											3
Commissioning incomplete, incorrect or not provided											113			113
Overall accuracy may not be being maintained							84							84
VT certificates not provided												84		84
Miscellaneous										76				76
CT certificates not provided												71		71
Alarms								10						10
Meter calibration certificate not provided													53	53
Valid Aggregation Rule not received/incorrect										6				6
Time drifts		2												2
Error in MTD's				1	14	33								48
Metering seals not intact									2					2
Total	1	2	2	1	14	33	84	10	2	82	113	155	53	552

7.3.4 Potential Settlement impacting non-compliance calculations

Table 19 data is an indication of materiality impact that could result from those Category 1 non-compliances identified in the CVA market. Error volumes are calculated by ELEXON.

Table 19: CVA Inspection Visits where there has been a material error identified

Visit Reference	Potential metered Errors MWh	Non-compliance status
XXXX-XXXX	None to Report	Resolved
XXXX-XXXX	None to Report	Resolved
XXXX-XXXX	None to Report	Resolved
XXXX-XXXX	None to Report	Resolved
XXXX-XXXX	TBC	Resolved
Total		

8 Appendix 2 – Category 1 and 2 non-compliance descriptions

1.01 Inaccuracy of Standing Data (Key MTD fields) held by Data Collector

- Outstation serial number
- Meter ID (serial number)
- Outstation number of channels
- Measurement Quantity ID
- Pulse multiplier
- Channel configuration
- Outstation multiplier/Outstation channel multiplier
- Complex Site Supplementary Information Form (SVA only)

1.02 Metering Equipment Incorrect or Unsatisfactory

- Metering Equipment not functioning correctly
- Metering Equipment not programmed correctly
- Overall accuracy of Metering System not maintained
- Summation CTs used
- Correct Energy Measurement Check (Primary/Secondary conductor prevailing load test) indicates an error in the Metered Volume
- Measurement Transformers not located at Defined Metering Point

1.03 Timing Error (Major)

- Outstation clock outside agreed tolerance

1.04 Measurement Transformer Ratios Physically Incorrect

- Measurement transformer ratios different from those set up in Meter (except for any difference being consistent with a measurement error compensation applied within the Metering Equipment)

1.05 Compensation Calculations Incorrect

- Meter compensation for Measurement Transformers Incorrectly applied or not applied
- Meter compensation for Power Transformers incorrectly applied or not applied

1.06 Miscellaneous

- Other non-compliance not covered elsewhere

2.01 Inaccuracy of Standing Data held by HHMOA

- Outstation serial number
- Meter ID (serial number)
- Outstation number of channels
- Measurement Quantity ID
- Meter Register Multiplier
- Pulse multiplier
- Channel configuration
- Outstation multiplier/Outstation channel multiplier
- Measurement Transformer Ratios
- Complex Site Supplementary Information Form (SVA only)

2.02 Inaccuracy of Standing Data (non-Key MTD fields) held by Data Collector

- Data Collector's Meter Technical Details do not match on site equipment due to recent Meter Exchange
- Other non-Key fields (e.g. Measurement Transformer Ratios, Meter Register Multiplier)

2.03 Non-provision of Standing Data

- Meter Technical Details not provided – HHMOA and Data Collector
- Complex Site Supplementary Information Form not provided (SVA only)

2.06 Metering Equipment Incorrect or Unsatisfactory

- Incorrect CoP applied
- Check Meter missing
- Main Meter missing, Check Meter present and accurate
- Voltage selection relay not installed/working when Summation CTs used
- Meter accuracy class incorrect
- CT accuracy class incorrect
- VT accuracy class incorrect
- Unapproved data format and protocol in use
- Possibility that overall accuracy of Metering System not maintained

2.07 Measurement Transformer and/or Meter Certificates¹⁶

- Certificates not provided
- Certificates do not match on-site equipment

2.08 Unsuitable Environment

- Environmental conditions likely to cause Metering Equipment failure

2.09 Inadequate Over-current Protection

- Insufficient discrimination between source and local fusing
- No local isolation
- Main and check Meters not separately fused
- Other Metering Equipment not separately fused
- Non-settlement Meters not separately fused

2.10 Separate Phase Failure Alarms not Installed or Inadequate/Failed – Local and Remote

- Alarm not fitted where required

¹⁶ Category 2.07 non-compliance was replaced by Category 2.16 and 2.17 in February 2009.

- Alarm not functioning

2.11 Inadequate Metering Equipment Integrity

- Settlement Metering Equipment not sealed
- Password functionality not included in Outstation

2.12 Metering Equipment Test Facilities

- Lack of adequate Metering Equipment test facilities

2.13 Miscellaneous

- Other non-compliance not covered elsewhere

2.14 Timing Error (Minor)

- Outstation clock outside agreed tolerance

2.15 Commissioning Records

- Commissioning records not provided
- Commissioning records incorrect
- Commissioning records incomplete
- Commissioning records not provided (LDSO)
- Commissioning records incorrect (LDSO)
- Commissioning records incomplete (LDSO)
- Commissioning records not provided (HHMOA)
- Commissioning records incorrect (HHMOA)
- Commissioning records incomplete (HHMOA)

2.16 Measurement Transformer Certificates not provided or incorrect

- Measurement Transformer Certificates not provided
- Measurement Transformer Certificates do not match site equipment

2.17 Meter Certificates not provided or incorrect

- Meter Certificates not provided
 - Meter Certificates do not match site equipment
-