Technical Assurance Agent

Technical Assurance of Metering Systems
TAA Annual Report
BSC Year 2010/11

Non Confidential

Document Control

Distribution List:	ELEXON Steve Kinder Lisa Young Stuart Jackson
Reviewers:	Stuart Jackson, Lisa Young, Paul Gregory – C&C Group ELEXON

Owner / Issuing Authority	Approved by	Date
C&C Group	Stuart Jackson	19/05/2010

Change history

Version	Date	Author	Reason for new version	Sections Affected
0.1	20 Apr 2011	P A Gregory	Initial Draft for Review	All
0.2	26 April 2011	P A Gregory	Updates following internal review	All
1.0	03 May 2011	P A Gregory	Client Review	All
1.1	16 May 2011	P A Gregory	Update following client review	All
2.0	18 May 2011	P A Gregory	Final	All

Document Name(s)

No.	Ref.	Filename / Location
<D1>	<TAA_S01>	Annual Statistics Report Commentary Non Confidential (2010-2011) V2_0.docx

References

No.	Ref.	Title
1	<REF1>	TAA Annual Statistics Report for 2010/20112010 V 2_0.doc

Status (Select one)

Draft	
For internal review	
For client review	
Final	X

INDEMNITY

C&C Group do not accept any responsibility for any consequences as a result of any errors or omissions in this document, and confirm that nothing in the document constitutes a contractual or commercial statement unless this document is specifically referred to in a contract.

SECURITY AND CONFIDENTIALITY

This document remains the property of C&C Group at all times, and must not be circulated to third parties without the express permission of C&C Group.

1 INTRODUCTION 5
1.1 Scope of the TAA Audit 5
1.2 Important notes regarding this report 6
2 SUMMARY OF FINDINGS 7
2.1 Overview of Performance 7
3 TARGETED CVA AUDITS 14
4 SIGNIFICANT ISSUES 16
4.1 Commissioning Certificates 16
4.2 Measurement Transformer Certificates and Overall Accuracy 17
4.3 Update on Previously Reported Issues 20
5 PERFORMANCE STATISTICS 24
5.1 Non-compliances identified 24
5.2 Potential Settlement Impacting Non-compliances 27
5.3 Rectifying Non-compliances 28
5.4 Queries and Appeals 30
5.5 Cancelled appointments 30
5.6 No Access 31
5.7 Data Provision 33
6 COMMENTS FROM THE SERVICE DELIVERY MANAGER 36
6.1 Visit planning 36
6.2 Data provision 36
6.3 Provision of rectification plans 36
7 GLOSSARY OF TERMS 37

1 Introduction

The Technical Assurance Agent (TAA) Annual Report 2010/2011 summarises the findings of inspection visits performed by the TAA during the BSC Year 1 April 2010 to 31 March 2011.

It provides feedback on the health of the Half Hourly Metering System (HHMS) population and highlights key issues, particularly those with a high potential materiality or which might pose a larger risk to the quality of data used in Settlement.

The report has been compiled by C&C Group in its role as the Technical Assurance Agent (TAA) on behalf of ELEXON.

Not all the non-compliances that are found by the TAA audits are reported in this document, mainly because they are of lower material value and not sufficiently significant[1].

1.1 *Scope of the TAA Audit*

The purpose of the TAA is to provide assurance that HHMS installed for settlement purposes comply with the relevant metering Code of Practice (CoP) specifications and operate in accordance with the associated Balancing and Settlement Code Procedures (BSCP). The technique is detailed in the following documents:

- Section L7 of the Balancing and Settlement Code (BSC)
- BSCP27 – 'Technical Assurance of Half Hourly Metering Systems for Settlement Purposes.'

The checks performed by the TAA are prescribed within the BSCP and associated Code Subsidiary Documents (CSD).

The findings in this document present the results from the TAA inspection visits for HHMS as detailed in the Statistical Report for the audit period 1st April 2010 to 31st March 2011.

In 2010/2011 the TAA visited a total of 1218 SVA (main sample, no specific sample allocation as deemed by PAB) and CVA HHMS[2]. Of these inspections:

- 77 were randomly selected to provide a representative sample of CVA HHMS;

[1] A breakdown of non-compliances for Supplier Volume Allocation (SVA) and Central Volume Allocation (CVA) is contained in the document, "TAA Annual Statistics Report for 2010/2011".

[2] These include both visits where access was attained as well as where no access was provided.

- There were 6 targeted CVA inspections where a non-compliance was suspected;
- 1135 SVA HHMS were visited, of which;
  - 1133 were from the Main Sample;
  - 2 were re-visits to ensure previous category 1 non-compliances had been rectified.

Whilst the BSC makes provision for all HHMS to be audited, only those HHMS where the Measurement Class recorded in Supplier Meter Registration Service (SMRS) is Measurement Class 'C'[3] were selected in accordance with BSCP27 Section 1.1.

The selection was further limited to sites with Meters fitted and which were energised.

1.2 *Important notes regarding this report*

All percentage totals for a particular table recorded in this document may not equal exactly 100% if summed, due to rounding.

It should be noted that some non-compliances are noted miscellaneous categories due to the fact that the issues are too disparate to report on effectively.

[3] Measurement Class C is Half Hourly Metered > 100kw

2 Summary of Findings

2.1 *Overview of Performance*

The 2010/2011 TAA audit activities suggest that the health of the HHMS has worsened in comparison to the last audit period (2009/2010) with the percentage of inspections with non-compliances identified increasing from last year to this year by 12%. It should be noted that the increases are in relation to Category 2 non-compliances.

2.1.1 Compliant Metering Systems

Of the inspections conducted in the audit period 2010/2011, 77.26% of Metering Systems were found to be non-compliant with the BSC (an increase from 65.7% last year). However, despite being a high percentage only a small proportion of the total issues found in 2010/2011 would directly affect settlement.

SVA Category 1 Non-compliances

There were 37 Category 1 non-compliances identified in 2010/2011 audit period which is significantly lower than last year's total of 143. On first reflection the figures indicate that industry performance has improved, however, reporting changes introduced by ELEXON in 2010 account for the majority of the difference in numbers[4].

There remain 7 outstanding Category 1 non-compliances from 2010/2011, and 15 from 2009/2010, making 22 outstanding in total.

The TAA has continued to assist ELEXON over the year, to prompt suppliers to resolve outstanding Category 1 non-compliances. The effect of this work appears to have been successful.

The number of days non-compliances remain outstanding varies significantly. This is dependent on whether or not there are physical equipment changes or documentation (i.e. D0268) amendments required to rectify the issues identified during the audit.

The time to rectify Category 1 non-compliances that require physical work to be carried out on site, such as a Measurement Transformer exchange, can take some considerable time accounting for a planned outage etc. In this case, the registrant is required to provide a rectification plan with key mile stones of planned activity within 10 working days of receipt and acceptance of the non-compliance.

[4] HHDC D0268 incorrect Meter Register Multiplier classification was amended from Category 1.01 (Key Field) to Category 2.02 (Non Key Field) in July 2010

Working Days to resolve	Count of non-compliances
During the audit	5
1-10	8
11-20	8
21-50	6
51-100	1
101-150	0
151-200	2
Total	**30**

Table 1 Average number of Working Days taken to resolve SVA Category 1 non-compliances regardless of sub category[5]

SVA Category 2 non-compliances

The TAA can report an improvement in the number of Category 2 non-compliances identified against the previous year, but it should be noted that the number of inspections with non-compliances identified has increased. There was 1654 Category 2 non-compliances identified, which equates to an average of 1.66 per inspection in 2010/2011. This compares to 1.67 in 2009/2010 audit period. At first glance the numbers appear encouraging however; the statistics don't reveal that more site installations were determined to be non-compliant.

The cumulative total of outstanding category 2 non-compliances now stands at 9010. This is a net increase of 1404 of previously published figures. Valid rectification plans received resolved 250 of the 1654 non-compliances raised over the operational year 2010/2011.

Consistent with last year, the vast majority of outstanding non compliances relate to certificates and overall accuracy issues.

Audit Year End	Cumulative Outstanding
2007	4141
2008	5144
2009	6518
2010	7922
2011	9010

Table 2 Outstanding SVA Cat 2 non-compliances as at the year end

CVA Non-compliances

This year, of the 83 CVA inspections conducted, 185 Category 2 non-compliances were detected. The good news is that no Category 1 non-compliances were identified for the 2010/2011 audit year. There are no outstanding Category 1 non-compliances from other audit periods. Based upon the sample set inspected by the TAA, the CVA HHMS population appears to be in good health, but it is worth noting that there is a correlation with the SVA market in terms of high volumes of certificate related Category 2

[5] Excludes the 7 category 1 non-compliances that remain outstanding.

non-compliances, suggesting continued issues with the commissioning process.

The cumulative total of Category 2 non-compliances not resolved has risen from 262 in April 2010 to 431 in April 2011. Of the 185 Category 2 non-compliances identified during the 2010/2011 operating year, only 15 have been satisfactorily addressed by participants. It is worth noting that of the 15 non-compliances rectified, 13 were rectified whilst the TAA was onsite. A third of those non-compliances rectified related to meter equipment sealing problems.

Audit Year End	Outstanding
2007	41
2008	31
2009	58
2010	122
2011	170

Table 3 Outstanding CVA Cat 2 non-compliances as at the year end

2.1.2 Queries

A query is the method by which a Registrant and / or a Supplier Agent may challenge an identified non-compliance raised by the TAA.

This year there were 35 Queries raised. 13 of these were found to be invalid, and therefore the non-compliance remains.

- 22 Queries were upheld and the non-compliance removed:

Short Category	Total
Documentation attached to the wrong inspection	1
Cleared on clarification between TAA and Customer	17
Updated File not used due to timing issues of delivery of data prior to inspection	1
ELEXON instruction	3[6]
Total	**22**

Table 4 Headline reasons for queries being upheld following TAA review

80% of Queries were raised by the MOA and the remaining 20% were raised by the DC.[7]

[6] The 3 queries raised by the TAA following instruction via ELEXON to resolve non-compliances raised in response to CoP non-compliant MID approved meters, it is understood a CP is to be raised to amend CoP.

[7] The TAA routinely performs QA checking of inspections to ensure consistency of findings. Any erroneous non-compliance identified will be removed via the Query process to ensure all necessary automated email communications are issued by TAAMT to participants. These QA Queries are included within the figures.

2.1.3 Appeals

The appeal process gives Suppliers an opportunity to challenge the TAA where a query is found to be invalid.

There were no appeals raised during the year; this is consistent with the previous year.

2.1.4 Consumption Data Comparison (CDC) Check

The CDC check is a comparison of the metered volume gathered at site to that recorded in Settlements during the time of the TAA audit.

100% of the completed SVA audits had a CDC check performed.

16 out of 999 CDC checks performed detected non-compliance (1.6%). In July 2010, ELEXON established via a Change Proposal to BSCP27, that all CDCC failures should be rectifiable as per any other identified non-compliance. At the time of writing the TAA confirms that to date no reported CDCC non-compliances have been resolved following the implementation of the Change Proposal.

The TAA suggests that if this figure of 1.6% was representative of the entire SVA HHMS population based upon extrapolation of the sample audit set, then in excess of 17,000 HHMS could be recording inaccurate HH data. This is a concerning statistic and something that ELEXON may wish to explore in more detail.

2.1.5 Inspection Arrangements

SVA Cancelled Inspections

There were 1197 Main Sample SVA inspections planned, of which 62 (5%) were cancelled prior to the TAA visiting the site.

Most inspection visits are cancelled by Suppliers within a few days of notice being issued by the TAA. This generally enables the TAA to schedule a replacement inspection. Around a third of all visits were cancelled at short notice (less than 10 working days) for varying reasons including Supplier unable to secure access, no MOA appointment in place (e.g. ECOES has Supplier believing MOA to be appointed to site but MOA does not have a contract to manage the said site), adverse weather conditions and unprecedented Icelandic ash cloud leading to flight cancellations, preventing TAA auditor being able to travel to site.

CVA Cancelled Inspections

Of the 107 CVA planned audits a total of 31 were cancelled (29%).

The large volume of cancelled CVA planned inspections can be attributed to a combination of factors in association with accessing Grid supply points by the TAA and the Meter Operator.

Problems with the TAA's National Grid Authorisations led to a number of CVA site visits being pushed back towards the end of the year. The majority of the planned CVA portfolio required inspections at National Grid sites. The National Grid authorisation required three separate training courses which had to be completed in sequence. The TAA took the opportunity to seek authorisation for the majority of its audit team.

The implications of the delays became an issue for one CVA MOA, were approximately 53 site visits were scheduled for March 2011. The MOA were able to accommodate 30 visits in March 2011 and requested that the TAA and ELEXON review these circumstances. ELEXON investigated the issue and concluded that a burden of 53 site visits in approx 3 weeks was not achievable. Measures have been put in place by C&C Group by way of a lessons learnt exercise to ensure a there no repeat of this issue in future audit years. The current National Grid authorisations are now valid for three years. We have also shared with the CVA meter operators, the number of intended CVA inspections to be undertaken in the 2011/2012 audit year, requesting that they provide us with times during the year which are not suitable to schedule inspections. The CVA MOA have been positive about this change to CVA scheduling.

SVA No Access Inspections

A summary of the SVA No Access inspections can be found in the following table and commentary on the reasons below:

Sample (HHMS)	Total Visits Accessed	No Access Visits	Percentage
SVA Main	997	136	12%
SVA Re-Inspection	2	0	0%

Table 5a Summary of SVA No-Access visits

a) Premises being closed or unoccupied and no persons being available to provide access: last year around 30% of cancelled inspections were for this reason. The suggestion made by the TAA for the industry to consider reviewing metered consumption for selected sites as an early indicator that a site premises could be unoccupied appears not received favourable support as statistically the numbers have remained similar.

b) Site visited customer unable to provide access: 39 inspections were cancelled for this reason. Nearly a quarter were attributed to Settlement metering being housed in LDSO substations. The customer had not provided or requested that their own appointed authorised person be in attendance to gain access to the metering systems (appointed key holder).

c) Safety grounds: 8 SVA inspections were aborted for reasons such as unsafe access and/or egress to the Metering Systems, a CT chamber safety issue with a cabinet manufacturer (BSC instruction), poor/no lighting and one identified asbestos panel.

CVA No Access Inspections

Sample (HHMS)	Total Visits Accessed	No Access Visits	Percentage
CVA Main	77	2	2%
CVA Targeted	6	0	0%

Table 5b Summary of No-Access visits

No Access – Customer Notification

The TAA undertook a high level survey of site access notification during quarter 4 of the 2010/11 audit period, with the aim of reporting back to ELEXON the percentages of customers that were aware of a TAA inspection prior to the event. The findings are purely anecdotal as there are a number of factors that impact on the conclusion such as: had the supplier letter gone to a head office and not been sent on to specific site, site security may not have been informed by the business, unmanned reception etc. The TAA findings are as follows:

	Dec	Jan	Feb	Mar
• Customer unaware	21%	40%	30%	82%
• Customer unable to confirm receipt of notification	11%	16%	32%	0%

Ignoring the March figures, it can be concluded that generally there is a reasonable proportion of customers aware of pending TAA inspections.

3 Targeted CVA Audits

Overview

For the year 2010-2011, the TAA was requested by the Performance Assurance Board (PAB) to investigate 6 sites. One inspection was for data retrieval issues and 5 where ELEXON noted concerns for Metering Equipment commissioning records at GSPs.

In order to complete this task, the TAA compiled a file of information for each site comprising:

- Meter Technical Details;
- Single Line Diagrams; and
- Commissioning Records

Of the six sites selected for inspection, access to all but one was gained with the assistance of the Registrants and other parties involved, which the TAA gratefully acknowledges. For the site where access was not achieved, the attending MOA attempted to do everything feasibly possible to gain access however, having established the existence of a substation access alarm fault; the decision was jointly made by the TAA and MOA to abort the inspection.

Inspection Findings

NC Category 2 (Summary)	Number of NCs	%
Certificate related	5	31%
Commissioning records not provided or incomplete	5	31%
Meter seals not intact	4	25%
DC MTDs problems	1	6%
Other	1	6%
Total	**16**	

Table 8 Counts of Category 2 non-compliances for the target sample.

There were no Category 1 non-compliances identified for the inspections undertaken.

The TAA found that in most cases, the non-compliances related to poor maintenance of records e.g.

- Missing meter calibration records
- Incomplete or no provision commissioning documentation.
- Settlement meter sealing (BSCP06)

The lack of commissioning records should be of concern as the integrity of Settlements cannot be confirmed without them.

Many parties who cannot provide certification cite business, historical and operational reasons for lack of records which the TAA acknowledges however, the inspection results are of significant concern to ELEXON.

A CDC check was performed on at least one register of each Outstation at each site, to ensure that Meter readings are arriving at the CDCA correctly. All of the checks performed were found to be satisfactory.

The non-compliance identified as “other” in Table 8, comments on a risk to Settlement as a result of shared communication; should the single remote communications line be lost, data retrieval would not be possible. The non-compliance has not been addressed at the time of preparing this report.

Conclusion

The targeted inspection findings follow a similar trend to those identified in the SVA market with regards to issues with commissioning and appropriate record keeping.

4 Significant Issues

The following section draws on the reported findings detected during the audit year that either have an escalating non-compliance count or the TAA considers significant

4.1 *Commissioning Certificates*

To ensure that any newly established metering equipment reflects accurately the energy flowing across the DMP in accordance with CoP4 a number of tests and checks must be performed. Failure to comply with requirements of CoP4 to commission the associated Metering System can potentially and dramatically impact upon Settlement.

For the previous two annual reports, the TAA has indicated that 1 in 4 inspections conducted resulted in a non-compliance associated with commissioning records. For 2010/2011, there is no marked improvement with the number of failures for commissioning records being reported with 448 non-compliances being identified. This equates to 27% of all Category 2 SVA non-compliances. The percentage of commissioning non-compliances has remained more or less unchanged since April 2007, suggesting little or no improvement in industry performance in relation to commissioning.

The sub-categories for commissioning comprise:

- No commissioning record provided
- Commissioning record not relevant to the Metering System
- Commissioning records incomplete

The TAA recorded that most commissioning records determined as incomplete failed to establish Measurement Transformer Ratio and orientation in accordance with CoP4. In many instances the MOA submission did not offer any additional evidence to explain why the HHMS could not be verified and / or that records have not been obtained from the LDSO as part of the commissioning procedure.

Problems surrounding failures in Meter System commissioning are well known to ELEXON who are to present a report to PAB following recent completed TAPAP audits. The expert group TAMEG is in a process of reviewing and discussing the requirements of the BSC and CoP4 with the aim to table potential industry improvements surrounding commissioning and other related issues.

Recommendation

The TAA stands by its recommendation of 2009/2010, that the industry consider developing a harmonised national commissioning procedure between the LDSO and MOA.

The TAA also recommended last year and does so again this year that the industry consider developing a centralised repository of commissioning certificates to ensure quality and completeness of the records for all newly installed Metering Systems. This would also be beneficial to the TAA audit

process as the most up to date records would be available to the TAA auditor to download from the central repository in preparation for planned inspections.

Further consideration should be given to the development of a harmonised commissioning procedure supported via CoP4 to address historical commissioning by transposing details from old records, where the evidence doesn't exist then the industry would have the responsibility to address. Potentially, this would provide a cost to industry parties but it offers the opportunity to start and improve record keeping and providing the assurance that the BSC seeks.

The TAA has reported that it has seen little improvement in commissioning of metering systems; however the TAA findings are high level and rather general. Reported results do not identify if newly installed metering systems or if recent meter exchanges are being maintained differently. The TAA wishes to table the idea for PAB consideration of conducting a Specific Sample for 2011-2012 on all sites newly registered or having undergone a service upgrade including meter exchange performed. Selection would have to be performed to capture a representative sample across the Meter Operator business. The results would provide an indication going forward that the situation is improving and the problems experienced are historical.

4.2 *Measurement Transformer Certificates and Overall Accuracy*

Measurement Transformer Certificates (CT and VT) are essential in the determination of the Overall Accuracy of a HHMS which use CTs and/or VTs. The results for the year 2010/2011 are consistent at 17%with the previous year's reports, confirming no improvement in the number of HHMS where the Overall Accuracy may not be maintained.

These figures alone do not necessarily demonstrate that a problem exists but it does indicate that no assurance can be gained.

Once again, the TAA report shows that there is no significant improvement in the Category 2 non-compliances related to CT and VT certificates. Failure to provide the certificates means that the TAA cannot confirm the Metering System is operating within the limits required by the BSC.

- In 2009/2010 - 13% of all non-compliances were due to no CT certificate and 8% were due to no VT certificates.
- In 2010/2011 – 13% of all non-compliances were due to no CT certificate and 7% were due to no VT certificates.

Low percentages for missing VT certificates reflect the number of VT operated Metering Systems.

The TAA continues to implement the ELEXON instruction as to how to audit Low Voltage CT-operated HHMS rated as Class 0.5 or better i.e.

"In the absence of a certificate the TAA will employ the extremes in both directions of the accuracy class in its assessment of Overall Accuracy"

The TAA still believes that this instruction, which is widely known to all Meter Operator Agents, is a disincentive to obtain and retain certificates for new installations.

The implementation of the National Measurement Transformer Error Statement (NMTES) has had some further impact in reducing the number of non-compliances that would have been raised since ELEXON's revised instruction. Anecdotal evidence continues to suggest that MOAs do not have visibility of Measurement Transformer Certificates during day-to-day operations, but appear to rely on alternative instructions or advice issued by the related LDSO.

The availability of Measurement Transformer certificates remains an ongoing issue. Dialogue at industry meetings appears to support the view that the MOA still has difficulties in obtaining Measurement Transformer certificates.

The TAA has reported via the Technical Assurance of Metering Expert Group (TAMEG) forum that its delegates are under the impression that the NMTES is primarily utilised by the TAA audit team.

Recommendations

The electricity market has changed significantly in recent years and this has most likely led to Measurement Transformer certificates being lost or not retained. The BSC requirement is that the Overall Accuracy of a HHMS should be maintained and these administrative issues should not detract from that. The TAA has three specific recommendations in this area:

- The TAA recommended in the 2009/2010 annual report that the Industry may wish to consider a centralised repository ensuring that access to the certificates is readily available. The TAA understands that initial investigations suggest this may not be feasible.

- Through committees such as TAMEG and COG, the TAA believes some progress has been made between the MOA and LDSO to understand their own and each others' responsibilities in relation to this area of the electricity market however, both parties should be further encouraged to continue closer working relationships and developing a coordinated exchange of calibration certificates.

- The TAA has supported ELEXON in an exercise to identify those outstanding non-compliances associated with measurement transformer certificates following the recent expansion of the NMTES. Initial indications show that with recent developments of NMTES it may be possible to resolve around 10% of the non-compliances raised since April 2007. With further expansion of the NMTES in mind, only time will tell whether the escalating number of reported non-compliances is addressed. As seen and reported by the TAA following the implementation of the LV CT instruction detailed above; there is potential for the NMTES to act as a disincentive to the industry, as to the importance of calibration certificates and the onus placed on responsible parties to ensure compliance with the relevant CoP.

As previously reported, the TAA registers its concern that the implementation of the LV CT instruction is masking the problem of certificate retention for new installations. The TAA would recommend that a cut off date be applicable to the instruction to ensure that actual certificates for new sites are provided as required.

4.3 *Update on Previously Reported Issues*

The following issues have previously been reported in TAA Annual Reports. This section provides updates.

4.3.1 Pre Audit Visits and Meter Exchanges

The TAA has previously reported that it has carried out an exercise to identify the number of pre audit visits being conducted by MOAs. It is understood that some MOAs are attending sites which have been selected for a TAA inspection in order to evaluate compliance, and so avoid a non compliance, and in some cases exchange Meters (reference section 2.1.5).

The TAA took the opportunity whilst on site to expand this exercise to attempt to put some measured figures against the practice of pre-audit. Evidence continues to indicate that some Meter Operator Agents visit sites in advance of the TAA's audit and perform non-emergency work, changing meters and fixing errors. The information obtained by the TAA suggests that dependent upon MOA and geographic location, the rate of pre-audit visits ranged between 6% and 20% of sites sampled for audit by the TAA. Though the findings are anecdotal, the practice is distorting the TAA's findings and adversely impacting PAB's view of the state of Half Hourly Metering Systems.

We are unsure of the level of fixing of non-compliances may be taking place as part of a pre-audit visit, but there is a distinct possibility that MOAs may be identifying and correcting non-compliances that were adversely affecting settlement, which have been doing so for a significant length of time prior to rectification.

The TAA, for the year 2010/2011, identified 5 instances where it was suspected that the HHDC D0268 content was incorrect due to recent a meter exchange. Of these instances, only 1 Meter Operator Agent had declared in the TAA Management Tool, a planned meter exchange in advance of the TAA inspection taking place. This suggests that work was conducted on other metering systems in prevention of attracting a non-compliance against the MOA for lack of either a meter calibration certificate of valid CoP4 calibration.

Recommendation

ELEXON has continued to make industry aware that this practice is not consistent with the objectives of the assurance technique. The TAA has provided evidence to ELEXON and TAMEG confirming the practice of pre-audits is still exercised by some parties. Not only does the TAAs' anecdotal evidence confirm per-audit practice but consideration should also be given to the robustness of the audit procedure. MOAs should not be permitted to get their house in order prior to an audit. Furthermore the practice reflects unfairly on the remaining industry agents. It is appreciated there will always be a responsibility on the MOA to maintain a metering system after a site visit has been scheduled but such works can be notified to the TAA via the Management Tool. The TAA seeks the opinion of PAB as it would appear that communications to industry parties have gone unheeded. The TAA has repeatedly reported the practice of pre-audit and strongly recommends that

formal instructions relating to the protocols for pre-audit inspections are developed and documented in the relevant BSC documents.

4.3.2 Outstation Clock Errors

Outstation clock errors are monitored via Settlement Risk SR0120 which has a net risk significance of 9. Results for the 2010/2011 audit period, report an improvement in the number of SVA category 1 non-compliances recorded for outstation clock errors; 5 as opposed to 10 last year. In direct contrast the number of category 2 non-compliances relating to the clock in the Meter and/ or the outstation not being in time with co-ordinated Universal Time (UTC) increased from 54 to 62.

Analysing the results suggests a bias towards one Supplier and HHDC combination accounting for 80% of the category 1 clock timing non-compliances captured during this audit period.

It continues to be difficult to quantify the impact on Settlement. If the electricity price is particularly volatile between half hour periods or the level of consumption at the Meter fluctuates considerably around the Settlement period boundary there is some potential for the Registrant to be financially impacted by the imbalance price. This price may not be representative of the HH period in which the energy was consumed or generated. In these circumstances it is especially important that the energy is allocated to the correct Settlement period.

If the consumption / generation and price remain stable across the relevant Settlement periods, the effect of this error may be negligible.

Recommendation

Given the frequency of HHDC communications with meters it is almost impossible to determine if the increases in minor clock drift (Category 2 non-compliances) is representative of the UK as a whole. The TAA suggests a change to the rectification of timing failures in order that a better understanding of why the timing error had occurred. Current practice only requires responsible participants to identify corrective action to resolve the non-compliance without providing evidence of why. the TAA believes that a greater understanding of the failure would help identify any trends i.e. meter failures, communication errors poor procedures, protocol checks etc.

4.3.3 Measurement Transformer Test Certificates (CT and VT)

In 2008/2009 there were 479 non-compliances recorded for missing Current Transformer/Voltage Transformer (CT and VT) certificates. In 2009/2010 this decreased to 386. For the 2010/2011 audit year, the number of non-compliances attributed to Measurement Transformer certificates has fallen again to 334.

In 2008/2009 and 2009/2010, 25% and 21% respectively of all Category 2 non-compliances were identified as a result of the non provision of measurement transformer test certificates. The TAA are unable to confirm an exact reason for the further decrease to 20% as there is no evidence of an actual improvement in the maintenance and provision of Meter certificates. There is a possibility that the TAA's use of NMTES may account for some improvement however, this cannot be confirmed. Alternatively, this decrease

may be partly down to a flux in the trend. The trend for the 2011/2012 audit period should be monitored to confirm if a further fall is recorded.

Recommendation

As stated in section 4.2 of this document, the TAA uses CT and VT certificates to calculate the overall accuracy of a HHMS. This information should be readily available via the MOA in compliance with BSC Section L 7 and the definitive CoP. The absence of valid traceable certificates results in the TAA engaging other, less accurate means to undertake the calculation. Across the SVA and CVA audited population, for approximately 25% of sites inspected, the Overall Accuracy was determined as potentially not being maintained. Reviewing the statistics tables a large proportion can be seen to be attributed to a lack of Measurement Transformer Certificates.

A TAAMT update in the reporting of Measurement Transformer Certificates should be considered to monitor if site specific, similar age make model or generic certificates are being issued; and the application of NMTES. This will detail a percentage split of records and the reliance placed upon NMTES. Furthermore, a new question could be added to the audit process requesting what activity the MOA performed to assure overall accuracy was maintained in accordance with the CoP.

5 Performance Statistics

5.1 *Non-compliances identified*

5.1.1 SVA

Category 1

Out of the 999 SVA inspections where access was gained for the 2010/2011 audit year, 3.7% were identified as recording a Category 1 non-compliance. This equates to 37 individual metering systems that were identified as being non-compliant.

This compares to 11% of inspections where access was gained, where Category 1 non-compliances were identified for the 2009/2010 audit period. This equated to 121 individual metering systems identified with Category 1 non-compliances.

Comparison of Category 1 non-compliances with previous year's show a dramatic improvement, however the following factors should be noted:

1. The change in HHDC Meter Register Multiplier and Measurement Transformer ratio non-compliance category migrated from category 1 status to a category 2; and
2. A significant number of Category 1 non-compliances were identified for the 2009/2010 specific sample, in relation to the recording of complex metering systems incorrectly. There was no such specific sample for the 2010/2011 audit period.

These issues account for 90 of last year's reported Category 1 non-compliances.

Based upon the above samples, the TAA would suggest that an average of 4.5% of the current SVA HHMS population is likely to be non-compliant with Category 1 non-compliances, which could have a potential impact upon settlement.

NC Reference	Category 1 Non Compliances	Count	%
1.01	The Data Collector D0268 meter register details data does not match that identified by TAA Agent on site.	21	55%
1.02	The calculated results and the recorded meter results are not within an acceptable tolerance.	10	27%
1.03	The Metering System clock is not within the allowable tolerance as detailed in section 4.2 of BSCP27.	5	14%
1.01	The Data Collector D0268 outstation data does not match that identified by TAA Agent on site.	1	3%
	Totals	37	

Table 9 Category 1 non-compliances identified during the year

Category 2

Of the 999 SVA inspections where access was granted, the TAA identified 1654 Category 2 non-compliances affecting 741 individual metering systems. 1269 (78%) of all Category 2 non-compliances identified during the year were 'certificate' related.

If this number was extrapolated for the whole SVA market, it suggests that 74% of the SVA HHMS population will be affected by Category 2 non-compliances of which 55% of the population will be affected by certificate and meter commissioning related issues.

Category 2 Non Compliances	Count	%
No commissioning record	448	27%
Overall accuracy not maintained	272	17%
No valid CT certificates or Generic Statement	224	14%
Invalid Meter Test certificate	193	12%
Invalid VT Test certificate	110	7%
No valid CoP4 test certificate	22	1%
Total	**1269**	**78%**

Table 10 Category 2 non-compliances identified during the year

5.1.2 CVA

The TAA is pleased to report that no Category 1 non-compliances were identified for 2010/2011.

The numbers of category 2 non-compliances has increased compared with last year to 185. It is important to note however that this is partially attributed to the fact that the quantity of CVA inspections for 2010/2011 increased in replacement for there being no SVA Specific Sample. Comparison of the average number of category 2 non-compliances per site remains consistent over the last two reporting periods at around 2 non-compliances recorded per inspection. The highest population of 2010/2011 non-compliances comprise:

- 119 - (64%) were 'certificate' related.
  - 50 (27%) commissioning records not provided or incomplete
  - 44 (24%) non provision of Measurement Transformer Certificates
  - 25 (13%) meter calibration certificates
- 17 - Overall Accuracy (direct correlation to certificate related non compliances)
- 4 - Phase failure protection
- 9 – Metering Equipment sealing issues

The reporting of any category 2 non-compliance is an indication of a potential to impact Settlement though deemed not to be currently doing so. To this end there is no materiality as designated by BSCP27; however, the TAA when undertaking CVA inspections in accordance with ELEXON sampling guidelines does not review all of the Metering System, the logging of commissioning not provided or incomplete could be disguising a potential category 1.02 non-compliance.

5.2 *Potential Settlement Impacting Non-compliances*

There were five Metering Systems visited where potential Settlement impacting non-compliances were found due to Metering Equipment timing errors.

The total estimated potential impact is 1106.51 MWh.

There were six Metering Systems visited where potential Settlement impacting non-compliances were found where only a percentage of the energy was being recorded.

The total estimated potential impact is 1688.34 MWh.

Visit Reference	Clock Timing Errors MWh	Timing Error Seconds
2010-0400	213.33	3840
2010-0772	58.40	240
2010-1098	170.33	280
2010-1100	37.45	171
2011-0004	627.00	600
Totals	**1106.51**	**5131**

Table 11 Audits where there has been a potential for a material error identified as a result of clock timing issues

Visit Reference	Errors MWh
2010-0631	330.25
2010-0805	170.15
2010-0914	57.24
2010-1173	122.27
2010-1283	901.93
2011-0072	106.50
Totals	**1688.34**

Table 12 Audits were there has been a potential for a material error identified

The materiality calculations used to assess the above details for the effect on Settlement is described in BSCP27 section 4.1.8. ELEXON undertakes additional activities for such non-compliances to identify if there is an actual impact on Settlement, and if so what that is. This is not reported within this document.

For those inspections where a material error was recorded that was not as a result of timing errors, the key reasons for the failure were:

Visit Reference	Issue	Impact on Settlement
2010-0631	Meter fault	Meter under recording metered volume
2010-0805	CT reversed	Potential for meter to under record meter volume by around two thirds
2010-0914	Open circuit CT	Meter under recording metered volume. Major hazard (high voltage and fire risk)
2010-1173	CT secondary wiring crimping issue	Meter under recording metered volume.
2010-1283	Meter programmed with incorrect CT ratio	Meter over recording metered volume.
2011-0072	Meter fault	Meter under recording metered volume.

Table 13 Visits where potential Settlement impacting non-compliances were found

Reviewing the non-timing reported non-compliances, the TAA would suggest that around two thirds of the issues should have been identified during Meter System commissioning (evidence which was not available for TAA review).

5.3 *Rectifying Non-compliances*

5.3.1 SVA Category 1 non-compliances

The average number of days to resolve the Category 1 non-compliances is shown below.

Category	Total identified	Unresolved	Resolved	Closed (Query upheld)	Average WD taken to resolve
1.01	22	1	20	1	39
1.02	10	5	5	0	14
1.03	5	0	5	0	35

Table 14 Average number of days to resolve the Category 1 non-compliance

The TAA has undertaken several exercises over the course of the year to prompt Registrants to resolve category 1 non-compliances. This has triggered the relevant party to take action.

One Category 1 non-compliance was closed as a result of a query being upheld.

At the end of the audit year there were a total of 7 outstanding Category 1 non-compliances requiring rectification for the 2010/2011 audit year.

Month notified	Remaining outstanding
April 2010	1
Aug 2010	1
Oct 2010	2
Jan 2011	1
Feb 2011	1
Mar 2011	1

Table 15 Month and count of Category 1 non-compliances that remain unresolved at the year end

For those Category 1 non-compliances remaining unresolved, for the 2010/2011 audit year, none currently have rectification plans in progress.

5.3.2 SVA Category 2 Non-compliances

There were 1654 Category 2 non-compliances identified in the 2010/2011 audit period. Approximately 70% of all outstanding Category 2 non-compliances relate to certificate related issues.

Audit Year End	Outstanding	% increase from previous year
2007	4141	-
2008	5144	24%
2009	6518	27%
2010	7953	22%
2011	9010	19%

Table 16 Count of Category 2 non-compliances that remain unresolved at the year end

5.3.3 CVA Category 2 Non-compliances

There were 83 CVA HHMS inspected during the audit year. Of these:

- 60 inspections, including targeted were found to have Category 2 non-compliances;
- Of the 185 Category 2 non-compliances identified, 170 remain un-rectified, and 431 remain un-rectified in total from all audit years.

Of those Category 2 non-compliances that remain outstanding, approximately 65% are certificate related issues. The TAA is aware of the current issues in relation to rectifying certificate related issues in both the SVA and CVA markets, but this still leaves 35% of outstanding non compliances that should

in theory be straightforward to rectify in most cases. The TAA can confirm that of the 170 outstanding non-compliances for 2010/2011 audit period, only one has an active rectification plan in play, which is very disappointing.

TAA Comment

Considering the energy volumes transferred at the DMP for CVA registered Metering Systems and the large number of outstanding non-compliances associated with commissioning, The TAA recommends that ELEXON should consider the implementation of a review of MOA assessment of associated Metering Systems.

5.4 *Queries and Appeals*

Of the individual non-compliances associated with audits undertaken during 2010/2011:

- 13 (37%) queries have been investigated and found to be invalid, and therefore the non-compliance remains and requires rectification.
- 22 (63%) queries[8] have been investigated and found to be valid, thereby removing the associated non-compliance. Of these22, 17 (48%) were raised by the MOA.

No Appeals have been raised for the 2010/2011 audit period.

5.5 *Cancelled appointments*

Planned visits to 62 SVA HHMS and 31 CVA HHMS were cancelled in advance.

The principle reasons for cancellation of the SVA inspections were:

- 30 (48%) were cancelled because the supplier advised that it was unable to secure access;
- 8 (13%) were due to a pending change of supplier, Meter Operator or Data Collector;
- 1 (2%) were due to the supplier changing the Measurement Class from C to E;
- 4 (6%) were due to the HHMS either being de-energised and/or without a meter;
- 3 (5%) auditor unable to attend due to adverse weather conditions; and

[8] In the event that the TAA identifies an erroneous non-compliance during QA checking of a visit some have been removed by way of raising a Query in order to ensure that all necessary automated email communications are issued by TAAMT. These are included within these figures.

- 2 (3%) MOA does not have a contract with the Registrant for the relevant MPANs identified for inspection.

Investigations by the TAA suggest that cancelled appointments relating to change of measurement class and de-energised sites are avoidable if market participants were to update their registrations within the Supplier Meter Registration Service (SMRS) within agreed BSCP timescales.

Number of Working Days notice prior to the visit date	2008/ 2009	2009/ 2010	2010/ 2011
1	7	7	14
2 to 5	8	12	4
6 to 10	3	7	5

Table 17 Numbers of late cancellations over the past 3 years

5.6 *No Access*

There were 136 SVA audits where the TAA could not gain access to the HHMS when on site, despite any prior actions that the Supplier may have taken in advance. This equates to 12% of HHMS that were attended by the audit team.

This is an increase of 5% from the previous year. This rise in the No Access rate is that of the level reported in 2008/2009 and re-affirms the TAA belief that figures were somewhat skewed by the Specific Sample conducted in 2009/2010.

	Audit Year					
	2005/ 2006	2006/ 2007	2007/ 2008	2008/ 2009	2009/ 2010	2010/ 2011
SVA	12.1%	11.0%	8.9%	11.4%	7%	12%
CVA	7.5%	4.0%	0.0%	0.0%	2%	2%

Table 18 No access rate over the past 6 years

No Access Appointment Status	SVA	CVA	Total	%
Premises closed/unoccupied and nobody available to provide access.	39	0	39	28%
Site visited customer unable to provide access	39	0	39	28%
Site visited customer unavailable to provide access	15	0	15	11%
MOA Representative did not attend	13	0	13	9%
MOA unable to secure access	9	0	9	7%
Customer unable to find keys	8	0	8	6%
Unsafe access.	8	0	8	6%
Other Reason (onsite)	1	1	2	2%
Site visited customer unwilling to provide access	2	0	2	2%
Supply Disconnected	2	0	2	2%
Severe Weather Conditions		1	1	1%
Totals	**136**	**2**	**138**	

Table 19 No access rate by reason and sample set

5.7 *Data Provision*

5.7.1 TAA Inspection Documentation

Prior to any TAA inspection taking place the Supplier, MOA and HHDC must provide certain data in preparation for the inspection. The key data and documents required are as follows:

- HH Meter Technical Details (MOA)
- HH Meter Technical Details (DC)
- HH Meter Technical Details (Registrant but not mandatory)
- Meter Calibration Certificates
- CT/VT Certificates (Where relevant)
- Commissioning Records

In theory and in line with the relevant codes of practise, all of the above should be readily available to the relevant TAA parties and should be provided to the TAA in a timely manner in preparation for the planned inspections. It is also acceptable for the MOA to present the relevant certificates and commissioning records on site, at the time of the audit. The TAA is aware and has made comment on the lack of certificates/commissioning records for an inspection, hence triggering non-compliances to be raised against the relevant TAA party.

Over the course of the past three years[9] there has been a steady improvement with respect to the timeliness of data being provided by all prior to the visit date.

The TAA is still often required to put much effort into obtaining both data and access to sites, much more than the remit of the role. This section describes those efforts and associated processes.

There were 999 SVA Metering Systems where the TAA achieved access, which equates to 88% of all inspections.

However, there are still approximately 7% of instances where data is provided late in the process, with less than 5 days before the audit date. Automated reminders are issued for incomplete datasets on an individual inspection basis to prompt the late providers. The TAA has daily processes in place to look for data that has been delivered and is required for imminent audits and proactively chases where data is missing.

Inevitably, due to the volume of data that is provided for all inspections planned, if a document is provided late (less than 5 working days before the visit date) in the audit process there is the potential for it not to be processed in time for the audit. It should be noted that many of these cases are where a party has not attached the relevant data or documents to the inspection in TAA but has sent them to the TAA via post or via email and not directly referencing the inspection reference number. This takes time for the TAA to identify the relevant inspection and upload the data/documents.

[9] C&C Group has acted as the TAA since April 2007.

The TAA still recommends that one solution would be for TAA parties to be able to load D0268 data flows directly into the TAA management tool in an industry standard format. This would ensure that the relevant parties need only send the latest D0268 in the DTC format once to the TAA and there being no need to manually type the data into the TAA management tool or send data via email, fax or post. The TAA is aware that although this solution is by far the most effective, there would be a significant change to industry processes and procedures to enable such a change. This change would require industry consultation and approval but in the long term would bring benefit to both the industry and the TAA process.

5.7.2 Access Issues Encountered on Site by Auditors

On a number of occasions, again this audit year, access was only gained due to the tenacity of both the auditor and the onsite MOA representative. This is consistent with the previous audit year. This involved:

- Repeated visits to the site;
- Multiple telephone calls; and/or
- Discussing the reason for the visit with the customer.

Without this proactive approach to the audit the volume of no access visits would have been greater.

As already reported, the No Access rate has increased to 12% in this audit year. The general spread of No Access is quite varied however, as already reported 30% of inspections reported as not accessed were identified as premises closed. This is an area that the TAA believes improvement can be made with Supplier and HHDC endeavour. Inspection results also identify poor access figures for one Supplier, where nearly 50% of all scheduled inspections against a small selection were returned as No Access.

Suppliers are aware of the need to ensure that they do all that they reasonably can to assist the TAA. The effort made by all responsible parties is acknowledged by the TAA and is greatly appreciated. The TAA still has a concern that Suppliers and MOA records appear to be out of date in terms of site condition and access. As stated previously, 30% of sites where access was not achieved was because premises were closed or demolished. It suggested that if a site is closed or demolished, energy consumption would be lower than previous values when the site was in full operation and this information would be available to the Supplier? Would this not trigger the Supplier to suspect that a premise was closed or mothballed and therefore likely to affect access for TAA inspections. There is still a belief by the TAA that in many cases Suppliers still do not provide suitable follow-up to fully confirm that an inspection is viable at all sites.

Further improvements to the TAA management tool have been suggested to ELEXON as part of ongoing service reviews, which could aid Suppliers with more effectively confirming access for inspections.

5.7.3 CDC Check

There have been occasions where the HH reading provided by the HHDC did not match that recorded by the TAA auditor when on site.

Rather than mark the check as non-compliant immediately, the TAA Administrator contacts the HHDC and makes it aware of the data anomaly and asks that it provides additional data and perform further analysis.

After investigation it often transpires that the data submitted by the HHDC relates to the wrong HH period or there has been a data entry error, and as such is satisfied that the CDC check is compliant.

5.7.3.1 SVA

Of the HHMS where access was gained all had a CDC check performed.

Of those sampled, 983 (98.4%) were found to be compliant.

5.7.3.2 CVA

The TAA can report that all CVA audits underwent a CDC check and none were found to be non-compliant. This is consistent with last year's results.

6 Comments from the Service Delivery Manager

6.1 *Visit planning*

As with previous audit years, when planning ahead for the forthcoming months the TAA contacts those MOAs that will receive the greater number of inspections due to their market share to enquire if they have any specific pinch points for scheduling purposes.

Where possible the TAA does all it can to keep a relatively evenly loaded monthly schedule for MOAs, taking into account such factors as market share & holiday seasons.

The TAA acknowledges that a high number of visits were scheduled towards the end of the year which was due to the TAA's National Grid authorisations expiring.

The TAA operates an 'Open Door' policy not only for visit planning but for all aspects of the service which has been very well received by both ELEXON and the TAA Customer base. We endeavour to provide help and support to all TAA parties whether it be with ad-hoc onsite training or assistance with entering data into the TAA management tool or issues with non-compliances. We endeavour to provide a service to both ELEXON and the TAA parties which make the process as painless as possible thus making the TAA experience a more positive one.

6.2 *Data provision*

Late delivery of data continues to cause non-compliances that would otherwise not be necessary. The reminder function to prompt for this information continues to work well. There remains occasions when the TAA needs to chase for information, sometimes with only a day or two before the visit.

6.3 *Provision of rectification plans*

During 2010/2011 there were a total of 494 non-compliances (of which 250 are from 2010/2011 audit year) were closed with a completed rectification plan. At this stage there are 213 plans that have been reviewed during the 2010/2011 audit year where the TAA has requested further information from the relevant TAA party to clear the non-compliance. These primarily relate to certificate related non-compliances.

C&C Group continue to work with key TAA stakeholders in an attempt to increase the submission and closure of rectification plans. It should be noted that there are currently in excess of 400 rectification plans that have been reviewed and considered not detailed enough or not suitable to close out relevant non-compliances. All of these are monitored by the TAA and many are certificate related non-compliances. The TAA would expect all non-compliances raised to be addressed in a timely manner but in many cases, especially with certificate related non-compliances, TAA parties struggle to find the relevant evidence to raise a plan in the first instance.

7 Glossary of terms

Acronym	Definition
BMU	Balancing Mechanism Unit
BSC	Balancing and Settlement Code
BSCP	Balancing and Settlement Code of Practice
Category 1 non-compliance	A non-compliance that is deemed to be currently be 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
CDCC	Consumption Data Comparison Check
CoP	Code of Practice
CVA	Central Volume Allocation
COG	Commercial Operations Group
DC	Data Collector
ecoes	Electricity Central Online Enquiry Service
HHMS	Half Hourly Metering System
HV	High Voltage
LV	Low Voltage
MAR	Meter Advance Reconciliation
MC	Measurement Class
MC 'A'	Measurement Class A – Non Half Hourly Metered
MC 'C'	Measurement Class C –Half Hourly Metered > 100kw
MC 'E'	Measurement Class E – Half Hourly Metered < 100kw
MOA	Meter Operator Agent
MTD	Meter Technical Details
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
PAB	Performance Assurance Board
SAP	Senior Authorised Person
SVA	Supplier Volume Allocation
TAA	Technical Assurance Agent
TAAMT	TAA Management Tool
TAMEG	Technical Assurance of Metering Expert Group
UTC	Co-ordinated Universal Time

-end-