

ELECTRICITY INDUSTRY PARTICIPATION CODE METERING EQUIPMENT PROVIDER AUDIT REPORT

For



COUNTIES POWER
COUNTIES POWER

Prepared by: Brett Piskulic – Veritek Limited

Date audit commenced: 8 December 2020

Date audit report completed: 1 March 2021

Audit report due date: 01-Mar-21

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EXECUTIVE SUMMARY

Counties Power Limited (Counties) is a Metering Equipment Provider (MEP) and was required to undergo an audit by 1 March 2020, in accordance with clause 16A.14.

Counties is recorded as the MEP for 44,679 ICPs on the Counties Power network at the time of the audit. Counties uses Intellihub as an agent for the collection and provision of AMI data for its AMI metering installations.

Counties has undertaken significant work in replacing meters with expired certification. This has seen the number of metering installations with expired certification decrease by 696 since the last audit. As recorded in **section 7.1** there are a high number of access issues making recertification of the remaining metering installations difficult.

Twelve non-compliances are recorded. The main issues are as follows:

- some inaccuracies and late updating of registry information,
- certification has not been cancelled for two metering installations where inspections were not completed within inspection window, two metering installations where low burden is present, and two category 1 metering installations where meters were bridged,
- expired metering installation certification, and
- meters not being interrogated within the maximum interrogation cycle.

The date of the next audit is determined by the Electricity Authority and is dependent on the level of compliance during this audit. The table below provides some guidance on this matter and indicates an audit frequency of three months. I have considered the Counties responses to the areas of non-compliance and recommend an audit frequency of 12 months as Counties has made good progress in reducing the number non-compliant metering installations.

AUDIT SUMMARY

NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
MEP responsibility for services access interface	2.1	10.9(2)	Services access interface not recorded in certification records for one metering installation.	Strong	Low	1	Identified
Provision of accurate information	2.5	11.2 and 10.6	Some information in the registry is incorrect.	Moderate	Low	2	Identified
Registry updates	3.2	2 of Schedule 11.4	31 registry updates later than 15 business days.	Strong	Low	1	Identified
Changes to Registry Records	4.10	3 of Schedule 11.4	Some records updated on the registry later than 10 business days.	Moderate	Low	2	Identified
Accurate and Complete Records	5.1	4(1)(a) and (b) of Schedule 10.6,	Some inaccurate certification records.	Moderate	Low	2	Identified

		and Table 1, Schedule 11.4					
Provision of Registry Information	6.2	7 (1), (2) and (3) of Schedule 11.4	Some registry records incomplete or incorrect.	Moderate	Low	2	Identified
Certification cancellation	6.4	20 of Schedule 10.7	Certification not cancelled on the registry for: - two metering installations where inspections were not completed within inspection window, - two metering installations where low burden is present, and - two category 1 metering installations where meters were bridged.	Moderate	Low	2	Identified
Certification and Maintenance	7.1	10.38 (a), clause 1 and clause 15 of Schedule 10.7	Certification expired for: - 641 previously interim certified category 1 ICPs, - 375 category 1 ICPs, and - 1 category 4 ICP. Certification cancelled for four metering installations.	Moderate	Medium	4	Identified
Interim certification	7.19	18 of Schedule 10.7	641 ICPs with expired interim certification.	Moderate	Medium	4	Identified
Cat 2 – 5 inspections	8.2	Clause 46(1) of Schedule 10.7	Inspections not conducted within the allowable window for two installations.	Moderate	Low	2	Identified
Electronic Interrogation of Metering Installations	10.5	8 of Schedule 10.6	91 installations not interrogated within the maximum interrogation cycle.	Moderate	Low	2	Investigating
Time Errors for Metering Installations	10.7	8(4) of Schedule 10.6	82 examples of clock errors outside the allowable thresholds in the 26 November 2020 report.	Strong	Low	1	Investigating

			Some time errors for category 2 meters not reported to reconciliation participants.				
Future Risk Rating						25	
Indicative Audit Frequency						3 months	

Future risk rating	1-2	3-6	7-9	10-19	20-24	25+
Indicative audit frequency	36 months	24 months	18 months	12 months	6 months	3 months

RECOMMENDATIONS

Subject	Section	Recommendation	Description
		Nil	

ISSUES

Subject	Section	Recommendation	Description
		Nil	

1. ADMINISTRATIVE

1.1. Exemptions from Obligations to Comply with Code (Section 11)

Code reference

Section 11 of Electricity Industry Act 2010.

Code related audit information

Section 11 of the Electricity Industry Act provides for the Electricity Authority to exempt any participant from compliance with all or any of the clauses.

Audit observation

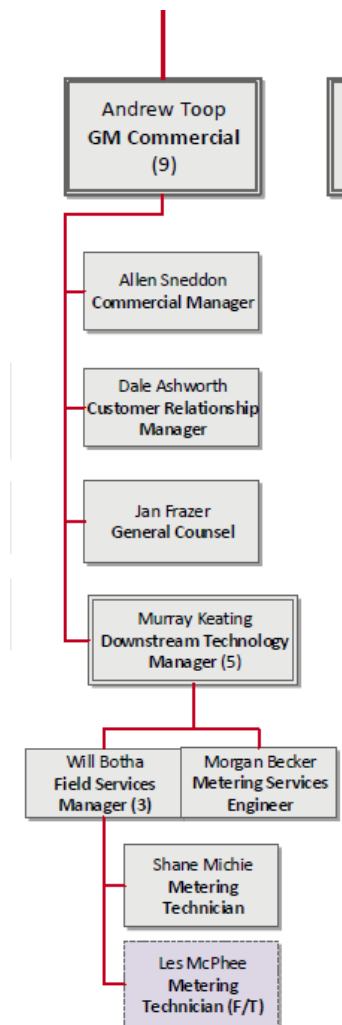
I checked the Electricity Authority website and I confirm there are no exemptions in place.

Audit commentary

I checked the Electricity Authority website and I confirm there are no exemptions in place.

1.2. Structure of Organisation

Counties MEP Structure:



1.3. Persons involved in this audit

Auditor: Brett Piskulic

Veritek Limited

Electricity Authority Approved Auditor

Counties personnel assisting in this audit were:

Name	Title
Murray Keating	Downstream Technology Manager
Willem Botha	MEP Field Services Manager

1.4. Use of Agents (Clause 10.3)

Code reference

Clause 10.3

Code related audit information

A participant who uses a contractor

- *remains responsible for the contractor's fulfilment of the participants Code obligations*
- *cannot assert that it is not responsible or liable for the obligation due to the action of a contractor,*
- *must ensure that the contractor has at least the specified level of skill, expertise, experience, or qualification that the participant would be required to have if it were performing the obligation itself.*

Audit observation

Counties engages with ATHs to conduct certification activities, but there are no contractors used to perform MEP responsibilities.

Audit commentary

Counties has responsibility for AMI data collection, which is conducted by Intellihub as an agent to Counties. The scope of this audit includes the Intellihub data collection operation.

1.5. Hardware and Software

Counties MEP provided the following details about its systems and backup arrangements.

Counties Power utilises Microsoft Business Central as the platform for housing metering asset data and all MEP transactional data exchanged with the Electricity Registry.

Business Central is an ERP application with Microsoft SQL Server as the back-end.

The primary SQL Server (SOMNUS) is a virtual server hosted on a Nutanix Virtual Environment.

The SOMNUS SQL Server is backed up incrementally as part of the Nutanix cloud backup using Rubrik VM Agent. This provides for rapid restore to multiple points in time in the event of a critical failure.

AMI data collection is conducted by Intellihub as an agent to Counties.

1.6. Breaches or Breach Allegations

Counties confirmed there have been no breach allegations during the audit period.

1.7. ICP Data

Metering Category	Number of ICPs
1	43,543
2	862
3	105
4	56
5	50
9	63

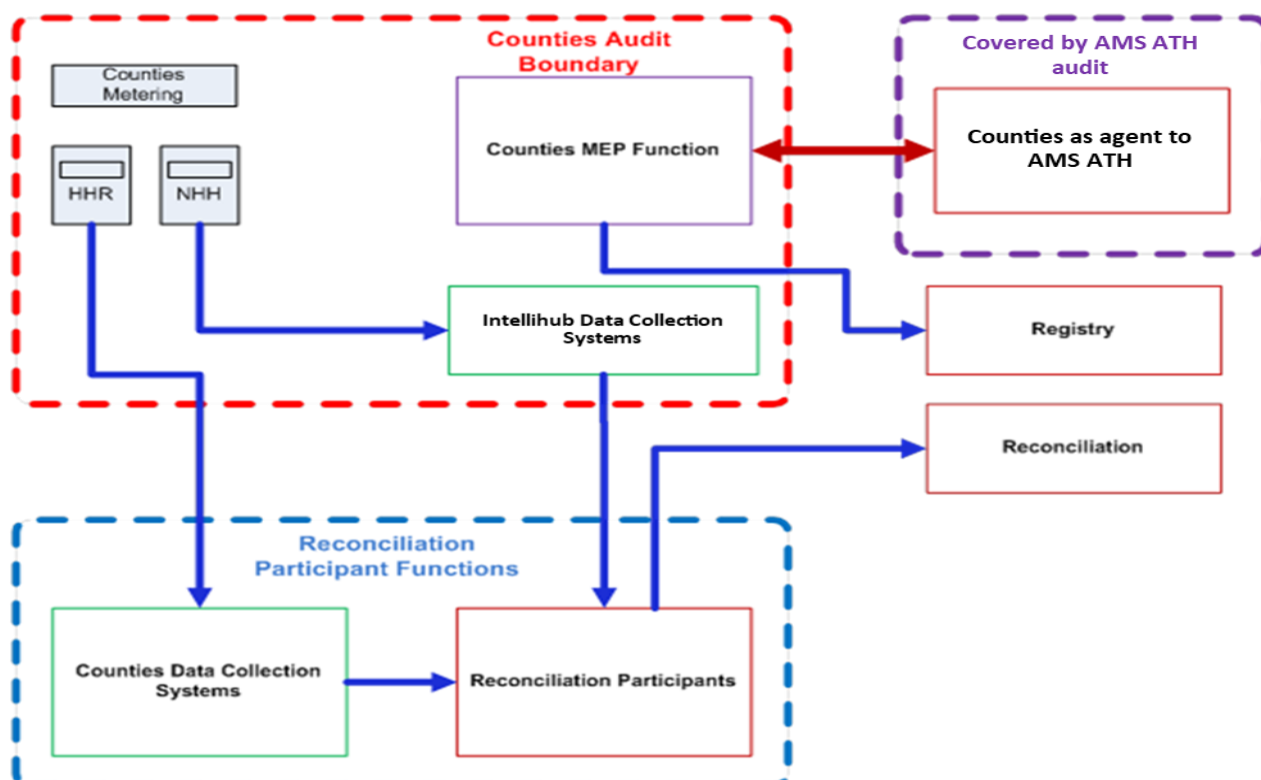
1.8. Authorisation Received

A letter of authorisation was not required or requested.

1.9. Scope of Audit

This audit was conducted in accordance with the Guideline for Metering Equipment Provider Audits V2.2, which was published by the Electricity Authority.

The boundaries of this audit are shown below for greater clarity.



1.10. Summary of previous audit

The previous audit was conducted in October 2019 by Ewa Glowacka of TEG Associates Limited. The table below shows that all of these issues still remain.

Table of Non-Compliance

Subject	Section	Clause	Non-compliance	Status
Participants to provide accurate information	2.5	11.2	Some information in the registry is incorrect.	Still existing
Changes to Registry Records	4.10	3 of schedule 11.4	Metering data for some installations was uploaded later than 10 BD.	Still existing
Provision of Registry Information	6.2	7(2)(3) of Schedule 11.4	Some registry records are incorrect.	Still existing
Certification and Maintenance	7.1	10.38 (a)	1,713 ICPs have non-certified metering installations.	Still existing for lesser number
Interim certification	7.19	18 of Schedule 10.7	1,109 ICPs metering installations have interim certification.	Still existing for lesser number
Electronic Interrogation of Metering Installations	10.5	8(2) of Schedule 10.6	Some metering installations not interrogated within maximum interrogation cycle (540).	Still existing
Time errors for metering installations	10.7	8(4) of Schedule 10.6	Around 50 meters are reported every two weeks as having clock error outside the allowable threshold.	Still existing

Table of Recommendations

Subject	Section	Clause	Recommendation for improvement	Status
Provision of registry information	6.2	Clause 4(1)(a) and (b) of Schedule 10.	Mismatch of type of category 2 metering installations between the registry and Certificates of Compliance issued by AccuCal.	Cleared

2. OPERATIONAL INFRASTRUCTURE

2.1. MEP responsibility for services access interface (Clause 10.9(2))

Code reference

Clause 10.9(2)

Code related audit information

The MEP is responsible for providing and maintaining the services access interface.

Audit observation

I checked certification records for 50 metering installations, covering all relevant ATHs.

Audit commentary

The Code places responsibility for maintaining the services access interface on the MEP and places responsibility for determining and recording it with ATHs. I checked 50 certification records and found the services access interface was recorded correctly by the ATHs for 49 of the certifications. There was one certification record where the services access interface had not been recorded by the AMS ATH.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.1 With: Clause 10.9(2) From: 19-Mar-20 To: 30-Sep-20	Services access interface not recorded in certification records for one metering installation. Potential impact: Low Actual impact: None Audit history: None Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	I have recorded the controls as strong as the services access interface is recorded correctly in most cases. There is no impact because the MEP normally determines the location of the services access interface; therefore, the audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
The service access interface is both in the back office and the meter display, depending on desire of the Trader utilizing the meter at any particular time. Recording this in general seems superfluous as not a registry field and we have never had any query from a Trader regarding it.		Date	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	

We will ensure it is properly recorded on the certification records however.	Date	
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2.2. Dispute Resolution (Clause 10.50(1) to (3))

Code reference

Clause 10.50(1) to (3)

Code related audit information

Participants must in good faith use its best endeavours to resolve any disputes related to Part 10 of the Code.

Disputes that are unable to be resolved may be referred to the Authority for determination.

Complaints that are not resolved by the parties or the Authority may be referred to the Rulings Panel by the Authority or participant.

Audit observation

I checked whether any disputes had been dealt with during the audit period.

Audit commentary

Counties has not been required to resolve any disputes in accordance with this clause.

Audit outcome

Compliant

2.3. MEP Identifier (Clause 7(1) of Schedule 10.6)

Code reference

Clause 7(1) of Schedule 10.6

Code related audit information

The MEP must ensure it has a unique participant identifier and must use this participant identifier (if required) to correctly identify its information.

Audit observation

I checked the registry data to ensure the correct MEP identifier was used.

Audit commentary

Counties uses the COUP identifier in all cases.

Audit outcome

Compliant

2.4. Communication Equipment Compatibility (Clause 40 Schedule 10.7)

Code reference

Clause 40 Schedule 10.7

Code related audit information

The MEP must ensure that the use of its communication equipment complies with the compatibility and connection requirements of any communication network operator the MEP has equipment connected to.

Audit observation

Relevant documentation was checked to ensure the compatibility of communication equipment.

Audit commentary

Counties ensures all communication equipment is appropriately certified with the relevant telecommunications standards. This is recorded in type test certificates and other approval documents. I checked a folder containing type test reports to confirm that Counties has ensured that all components have appropriate approvals.

Audit outcome

Compliant

2.5. Participants to Provide Accurate Information (Clause 11.2 and Clause 10.6)

Code reference

Clause 11.2 and Clause 10.6

Code related audit information

The MEP must take all practicable steps to ensure that information that the MEP is required to provide to any person under Parts 10 and 11 is complete and accurate, not misleading or deceptive and not likely to mislead or deceive.

If the MEP becomes aware that in providing information under Parts 10 and 11, the MEP has not complied with that obligation, the MEP must, as soon as practicable, provide such further information as is necessary to ensure that the MEP does comply.

Audit observation

The content of this audit report was reviewed to determine whether all practicable steps had been taken to provide accurate information.

Audit commentary

The content of this audit report indicates that Counties has taken all practicable steps to ensure that information is complete and accurate in most cases; however, in **sections 6.2** and **6.4** the report records that some information was not updated as soon as practicable. The main issue is that the registry is not always updated when certification is cancelled.

Audit outcome

Non-compliant

Non-compliance	Description
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<p>Audit Ref: 2.5</p> <p>With: Clause 11.2 and Clause 10.6</p> <p>From: 01-Nov-19</p> <p>To: 30-Nov-20</p>	<p>Some information in the registry is incorrect.</p> <p>Potential impact: Medium</p> <p>Actual impact: Low</p> <p>Audit history: Once</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>Controls are recorded as moderate because there is room to improve processes.</p> <p>The impact on other participants is minor; therefore, the audit risk rating is low.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
All systems are under ongoing improvement.		Date	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>Regards certification cancellation, we do endeavour generally to have recertification work complete prior to the requirement to cancel, however cancellation will be carried out as necessary.</p>		Date	

3. PROCESS FOR A CHANGE OF MEP

3.1. Payment of Costs to Losing MEP (Clause 10.22)

Code reference

Clause 10.22

Code related audit information

The MEP for a metering installation may change only if the responsible participant enters into an arrangement with another person to become the MEP for the metering installation, and if certain notification requirements are met (in relation to the registry and the reconciliation manager).

The gaining MEP must pay the losing MEP a proportion of the costs within 20 business days of assuming responsibility.

The costs are those directly and solely attributable to the certification and calibration tests of the metering installation or its components from the date of switch until the end of the current certification period.

Audit observation

I checked if Counties had sent or received any invoices.

Audit commentary

Counties has not sent or received any invoices in relation to this clause during the audit period.

Audit outcome

Compliant

3.2. Registry Notification of Metering Records (Clause 2 of Schedule 11.4)

Code reference

Clause 2 of Schedule 11.4

Code related audit information

The gaining MEP must advise the registry of the registry metering records for the metering installation within 15 days of becoming the MEP for the metering installation.

Audit observation

I checked the audit compliance report for the period 1 November 2019 to 30 November 2020 for all records where Counties became the MEP to evaluate the timeliness of updates.

Audit commentary

I examined the audit compliance report for 131 switches in relation to this clause and the findings are shown in the table below.

I checked the 31 late ICPs in detail, and I found that late nomination by the trader was the cause of the late update for seven ICPs. 20 of the late updates where due to replaced events where the original updates where on time. These updates relate to changes from NHH to HHR and updates of the maximum interrogation cycle. The remaining four were the result of a late update by Counties.

Audit	Total ICPs	Total within 15 days	Total over 15 days	% compliant
Jan 2021	131	100	31	76.34%

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.2 With: Clause 2 of Schedule 11.4 From: 01-Nov-19 To: 30-Nov-20	31 registry updates later than 15 business days. Potential impact: Medium Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are in place to ensure the timeliness of updates, but Counties is often prevented from updating the registry due to late nomination or late updates from traders. The impact on other participants is minor; therefore, the audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Counties Power has automated systems to carry out the function. Occasionally site visits are required to verify metering installation equipment - with inherent delays in obtaining site access from the customer.		Date	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
This is just an ongoing effort to process registry data and updates as soon as practically possible.		Date	

3.3. Provision of Metering Records to Gaining MEP (Clause 5 of Schedule 10.6)

Code reference

Clause 5 of Schedule 10.6

Code related audit information

During an MEP switch, a gaining MEP may request access to the losing MEP's metering records.

On receipt of a request from the gaining MEP, the losing MEP has 10 business days to provide the gaining MEP with the metering records or the facilities to enable the gaining MEP to access the metering records.

The losing MEP must ensure that the metering records are only received by the gaining MEP or its contractor, the security of the metering records is maintained, and only the specific metering records required for the purposes of the gaining MEP exercising its rights and performing its obligations are provided.

Audit observation

I checked with Counties to confirm whether there had been any requests from other MEPs.

Audit commentary

This has not occurred, and no examples are available to examine. Counties confirmed that information will be provided as necessary.

Audit outcome

Compliant

3.4. Termination of MEP Responsibility (Clause 10.23)

Code reference

Clause 10.23

Code related audit information

Even if the MEP ceases to be responsible for an installation, the MEP must either comply with its continuing obligations; or before its continuing obligations terminate, enter into an arrangement with a participant to assume those obligations.

The MEP is responsible if it:

- *is identified in the registry as the primary metering contact or*
- *is the participant who owns the meter for the POC or to the grid or*
- *has accepted responsibility under clause 1(1)(a)(ii) of schedule 11.4 or*
- *has contracted with a participant responsible for providing the metering installation.*

MEPs obligations come into effect on the date recorded in the registry as being the date on which the metering installation equipment is installed or, for an NSP the effective date set out in the NSP table on the Authority's website.

An MEP's obligations terminate only when;

- *the ICP changes under clause 10.22(1)(a),*
- *the NSP changes under clause 10.22(1)(b), in which case the MEPs obligations terminate from the date on which the gaining MEP assumes responsibility,*
- *the metering installation is no longer required for the purposes of Part 15, or*
- *the load associated with an ICP is converted to be used solely for unmetered load.*

Audit observation

I confirmed that Counties has ceased to be responsible for some metering installations by checking the event detail report.

Audit commentary

Counties has ceased to be responsible for some metering installations and they still continue with their responsibilities, mainly in relation to the storage or records, which are kept indefinitely. I checked the records for two ICPs which have been decommissioned and confirmed that the records are still available.

Audit outcome

Compliant

4. INSTALLATION AND MODIFICATION OF METERING INSTALLATIONS

4.1. Design Reports for Metering Installations (Clause 2 of Schedule 10.7)

Code reference

Clause 2 of Schedule 10.7

Code related audit information

The MEP must obtain a design report for each proposed new metering installation or a modification to an existing metering installation, before it installs the new metering installation or before the modification commences.

Clause 2(2) and (3)—The design report must be prepared by a person with the appropriate level of skills, expertise, experience and qualifications and must include a schematic drawing, details of the configuration scheme that programmable metering components are to include, confirmation that the configuration scheme has been approved by an approved test laboratory, maximum interrogation cycle, any compensation factor arrangements, method of certification required, and name and signature of the person who prepared the report and the date it was signed.

Clause 2(4)—The MEP must provide the design report to the certifying ATH before the ATH installs or modifies the metering installation (or a metering component in the metering installation).

Audit observation

I checked the design reports provided by Counties to relevant ATHs, and I checked that ATHs were correctly recording the design report in the certification records.

Audit commentary

The design reports include all relevant details required by the Code and ATHs had correctly recorded the design for all 50 metering installation records checked.

Audit outcome

Compliant

4.2. Contracting with ATH (Clause 9 of Schedule 10.6)

Code reference

Clause 9 of Schedule 10.6

Code related audit information

The MEP must, when contracting with an ATH in relation to the certification of a metering installation, ensure that the ATH has the appropriate scope of approval for the required certification activities.

Audit observation

I confirmed that Counties has used the Accucal, AMS and Wells ATHs.

Audit commentary

I have checked the Authority's website and confirm that the Accucal, AMS and Wells ATHs have current and appropriate scopes of approval.

Audit outcome

Compliant

4.3. Metering Installation Design & Accuracy (Clause 4(1) of Schedule 10.7)

Code reference

Clause 4(1) of Schedule 10.7

Code related audit information

The MEP must ensure:

- *that the sum of the measured error and uncertainty does not exceed the maximum permitted error set out in Table 1 of Schedule 10.1 for the category of the metering installation*
- *the design of the metering installation (including data storage device and interrogation system) will ensure the sum of the measured error and the smallest possible increment of the energy value of the raw meter data does not exceed the maximum permitted error set out in Table 1 of Schedule 10.1 for the category of installation,*
- *the metering installation complies with the design report and the requirements of Part 10.*

Audit observation

I checked the processes used by Counties to ensure compliance with the design and with the error thresholds stipulated in Table 1. I also checked the certification records for 50 metering installations.

Audit commentary

The Counties process requires the design report to be recorded on the metering installation certification report, all of the 50 reports I checked included a reference to the design report.

All fully calibrated certifications are conducted by the Accucal ATH. Comparative recertifications were conducted by the Accucal and Wells ATHs. I checked the certification records for 17 installations using these methods and can confirm that the measured error and uncertainty were appropriately recorded.

Audit outcome

Compliant

4.4. Subtractive Metering (Clause 4(2)(a) of Schedule 10.7)

Code reference

Clause 4(2)(a) of Schedule 10.7

Code related audit information

For metering installations for ICPs that are not also NSPs, the MEP must ensure that the metering installation does not use subtraction to determine submission information used for the purposes of Part 15.

Audit observation

I asked Counties to confirm whether subtraction was used for any metering installations where they were the MEP.

Audit commentary

Counties does not have any metering installations where subtractive metering is used.

Audit outcome

Compliant

4.5. HHR Metering (Clause 4(2)(b) of Schedule 10.7)

Code reference

Clause 4(2)(b) of Schedule 10.7

Code related audit information

For metering installations for ICPs that are not also NSPs, the MEP must ensure that all category 3 or higher metering installations must be half-hour metering installations.

Audit observation

I checked audit compliance report to confirm compliance with this requirement.

Audit commentary

The audit compliance report identified 13 metering installations at category 3 and above where the metering installation type was recorded as NHH. The certification records for these installations were checked and it was confirmed that the metering installations were HHR. I have recorded the incorrect registry information as non-compliance in **section 6.2**.

Audit outcome

Compliant

4.6. NSP Metering (Clause 4(3) of Schedule 10.7)

Code reference

Clause 4(3) of Schedule 10.7

Code related audit information

The MEP must ensure that the metering installation for each NSP that is not connected to the grid does not use subtraction to determine submission information used for the purposes of Part 15 and is a half-hour metering installation.

Audit observation

I checked if Counties is responsible for any NSP metering.

Audit commentary

Counties is the MEP for metering at MTG0111 and subtraction does not occur.

Audit outcome

Compliant

4.7. Responsibility for Metering Installations (Clause 10.26(10))

Code reference

Clause 10.26(10)

Code related audit information

The MEP must ensure that each point of connection to the grid for which there is a metering installation that it is responsible for has a half hour metering installation.

Audit observation

Counties is not responsible for any grid metering.

Audit commentary

Counties is not responsible for any grid metering.

Audit outcome

Compliant

4.8. Suitability of Metering Installations (Clause 4(4) of Schedule 10.7)

Code reference

Clause 4(4) of Schedule 10.7

Code related audit information

The MEP must, for each metering installation for which it is responsible, ensure that it is appropriate having regard to the physical and electrical characteristics of the POC.

Audit observation

I asked Counties to provide details of how they ensure the suitability of metering installations.

Audit commentary

The certification record contains a field in relation to this clause, and the technician is required to confirm that installations are compliant and safe.

Counties has issued a written instruction to installers regarding the suitability of enclosures and protection for metering installations. The physical and electrical requirements for metering installations are contained in the “Counties Power – Metering Requirements for Electrical Installations” which is published on the Counties Power website.

Audit outcome

Compliant

4.9. Installation & Modification of Metering Installations (Clauses 10.34(2), (2A) and (3))

Code reference

Clauses 10.34(2), (2A) and (3)

Code related audit information

If a metering installation is proposed to be installed or modified at a POC, other than a POC to the grid, the MEP must consult with and use its best endeavours, to agree with the distributor and the trader for that POC, before the design is finalised, on the metering installations:

- *required functionality,*
- *terms of use*
- *required interface format,*
- *integration of the ripple receiver and the meter*
- *functionality for controllable load.*

Each participant involved in the consultations must use its best endeavours to reach agreement and act reasonably and in good faith.

Audit observation

Counties is also the distributor in all cases where they are the MEP and therefore agreement is implicit in that relationship. Consultation with traders has occurred through the Use of System Agreement and the

Distribution Code. The Use of System Agreement refers to the fact that metering will comply with the Code and with the Distribution Code. The Distribution Code states that metering requirements are those contained in the “Counties Power – Metering Requirements for Electrical Installations”.

Audit commentary

Counties is also the distributor in all cases where they are the MEP and therefore agreement is implicit in that relationship. Consultation with traders has occurred through the Use of System Agreement and the Distribution Code. The Use of System Agreement refers to the fact that metering will comply with the Code and with the Distribution Code. The Distribution Code states that metering requirements are those contained in the “Counties Power – Metering Requirements for Electrical Installations”, this document is published on the Counties Power website.

Audit outcome

Compliant

4.10. Changes to Registry Records (Clause 3 of Schedule 11.4)

Code reference

Clause 3 of Schedule 11.4

Code related audit information

The MEP must advise the registry of the registry metering records or any change to the registry metering records for a metering installation for which it is responsible, no later than 10 business days following:

- a) the electrical connection of an ICP that is not also an NSP,*
- b) any subsequent change in any matter covered by the metering records.*

Audit observation

I checked the audit compliance report for the period 1 November 2019 to 30 November 2020 to evaluate the timeliness of registry updates.

Audit commentary

The table below shows that there were registry updates for 1,327 new connections completed of which 84 were late, and 93.67% of updates were compliant. I checked 40 records in detail, and I found that late updates were caused by late nomination for six of the 40. Nine of the late updates were due to replaced events where the original updates were on time. The remaining 25 were the result of late updates by Counties.

There were 2,206 registry updates completed after recertification of which 167 were late, and 92.43% of updates were compliant. I checked 50 records in detail, and I found that 32 of the late updates were due to replaced events where the original updates were on time. The remaining 18 were the result of late updates by Counties.

Event	Year	Total ICPs	ICPs Notified Within 10 Days	ICPs Notified Greater Than 10 Days	Percentage Compliant
New connection	Dec 2017	523	434	89	83%
	Jan 2019	578	516	62	89.3%
	Oct 2019	Not recorded	Not recorded	Not recorded	Not recorded
	Jan 2021	1,327	1,243	84	93.67%
Update	Dec 2017	2478	2019	459	82%
	Jan 2019	38,945	38,692	253	99.4%
	Oct 2019	31,125	30,871	254	99.2%
	Jan 2021	2,206	2,039	167	92.43%

As detailed in **section 6.4** there were three installations which had been recertified but the registry had not been updated. I have recorded non-compliance as the registry has not been updated with the new certification details within 10 business days. These are detailed in the table below.

ICP	Category	Registry certification date at 30 Nov 2020	New certification date
0099551166CNF76	3	31/03/2015	30/03/2016
1099576431CNE53	5	20/08/2018	21/11/2019
1099578322CNFFC	5	20/05/2019	21/10/2020

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.10 With: Clause 3 of Schedule 11.4 From: 01-Nov-19 To: 30-Nov-20	Some records updated on the registry later than 10 business days. Potential impact: Medium Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2

Audit risk rating	Rationale for audit risk rating		
Low	<p>I have recorded the controls as moderate in this area because there is room to improve and shorten the notification process for updates.</p> <p>The late updates for new connections occurred after the trader had populated their records, therefore the impact on participants, customers or settlement is minor, therefore the audit risk rating is low.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>The process mostly fails where Retailers issue new connections without corresponding MEP nominations, and data consequently cannot be uploaded. I believe the Retailers processes are non-compliant with the code, and have been for many years.</p> <p>An exception report on these jobs is regularly generated, but relies on continuous diligence of the customer service team to monitor and action, as advice from Retailers their side is completed is not always forthcoming.</p>		Date	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Reminder to data processing team regards monitoring the ICP MEP nomination pending reports.		Date	

4.11. Metering Infrastructure (Clause 10.39(1))

Code reference

Clause 10.39(1)

Code related audit information

The MEP must ensure that for each metering installation:

- *an appropriately designed metering infrastructure is in place,*
- *each metering component is compatible with, and will not interfere with any other component in the installation,*
- *collectively, all metering components integrate to provide a functioning system,*
- *each metering installation is correctly and accurately integrated within the associated metering infrastructure.*

Audit observation

Counties uses Intellihub as an agent for the collection of AMI data. The Intellihub data collection systems are considered “metering infrastructure”. Operation of the Intellihub systems were checked in **section 10** of this audit and confirm that the systems operate as intended.

Audit commentary

There were no obvious issues with the operation of the AMI systems. All components operate as intended in an integrated manner.

Audit outcome

Compliant

4.12. Decommissioning of an ICP (Clause 10.23A)

Code reference

Clause 10.23A

Code related audit information

If a metering installation at an ICP is to be decommissioned, but the ICP is not being decommissioned, the MEP that is responsible for decommissioning the metering installation must:

- *if the MEP is responsible for interrogating the metering installation, arrange for a final interrogation to take place before the metering installation is decommissioned, and provide the raw meter data from the interrogation to the responsible trader,*
- *if another participant is responsible for interrogating the metering installation, advise the other participant not less than 3 business days before the decommissioning of the time and date of the decommissioning, and that the participant must carry out a final interrogation.*

To avoid doubt, if a metering installation at an ICP is to be decommissioned because the ICP is being decommissioned:

- *the trader, not the MEP, is responsible for arranging a final interrogation of the metering installation, and*
- *the responsible trader must arrange for a final interrogation of the metering installation.*

Audit observation

I checked whether Counties was the MEP at any decommissioned metering installations and whether notification had been provided to relevant traders.

Audit commentary

There were no examples of decommissioned metering installations where the ICP was not decommissioned.

Audit outcome

Compliant

4.13. Measuring Transformer Burden and Compensation Requirements (Clause 31(4) and (5) of Schedule 10.7)

Code reference

Clause 31(4) and (5) of Schedule 10.7

Code related audit information

The MEP must, before approving the addition of, or change to, the burden or compensation factor of a measuring transformer in a metering installation, consult with the ATH who certified the metering installation.

If the MEP approves the addition of, or change to, the burden or compensation factor, it must ensure the metering installation is recertified by an ATH before the addition or change becomes effective.

Audit observation

I asked Counties whether they had approved any burden changes during the audit period.

Audit commentary

There have not been any examples of this occurring during the audit period.

Audit outcome

Compliant

4.14. Changes to Software ROM or Firmware (Clause 39(1) and 39(2) of Schedule 10.7)

Code reference

Clause 39(1) and 39(2) of Schedule 10.7

Code related audit information

The MEP must, if it proposes to change the software, ROM or firmware of a data storage device installed in a metering installation, ensure that, before the change is carried out, an approved test laboratory:

- *tests and confirms that the integrity of the measurement and logging of the data storage device would be unaffected,*
- *documents the methodology and conditions necessary to implement the change,*
- *advises the ATH that certified the metering installation of any change that might affect the accuracy of the data storage device.*

The MEP must, when implementing a change to the software, ROM or firmware of a data storage device installed in a metering installation:

- *carry out the change in accordance with the methodology and conditions identified by the approved test laboratory under clause 39(1)(b)*
- *keep a list of the data storage devices that were changed,*
- *update the metering records for each installation affected with the details of the change and the methodology used.*

Audit observation

I checked if there any examples of changes in accordance with these clauses.

Audit commentary

Counties has not conducted any updates during the audit period.

Audit outcome

Compliant

4.15. Temporary Electrical Connection (Clause 10.29A)

Code reference

Clause 10.29A

Code related audit information

An MEP must not request that a grid owner temporarily electrically connect a POC to the grid unless the MEP is authorised to do so by the grid owner responsible for that POC and the MEP has an arrangement with that grid owner to provide metering services.

Audit observation

Counties is not responsible for any grid metering.

Audit commentary

Counties is not responsible for any grid metering.

Audit outcome

Compliant

4.16. Temporary Electrical Connection (Clause 10.30A)

Code reference

Clause 10.30A

Code related audit information

An MEP must not request that a distributor temporarily electrically connect an NSP that is not a POC to the grid unless the MEP is authorised to do so by the reconciliation participant responsible for that NSP and the MEP has an arrangement with that reconciliation participant to provide metering services.

Audit observation

I checked if any NSPs where Counties is the MEP had been temporarily electrically connected during the audit period.

Audit commentary

There were no temporary electrical connections of NSPs where Counties is the MEP during the audit period.

Audit outcome

Compliant

4.17. Temporary Electrical Connection (Clause 10.31A)

Code reference

Clause 10.31A

Code related audit information

Only a distributor may, on its network, temporarily electrically connect an ICP that is not an NSP. A MEP may only request the temporary electrical connection of the ICP if it is for the purpose of certifying a metering installation, or for maintaining, repairing, testing, or commissioning a metering installation at the ICP.

Audit observation

I checked for examples where the metering installation certification date was prior to the initial electrical energisation date of the ICP to determine whether there were any examples of temporary electrical connection for the purpose of testing and certification.

Audit commentary

There were no temporary connections of ICPs where COUP is the MEP during the audit period.

Audit outcome

Compliant

5. METERING RECORDS

5.1. Accurate and Complete Records (Clause 4(1)(a) and (b) of Schedule 10.6, and Table 1, Schedule 11.4)

Code reference

Clause 4(1)(a) and (b) of Schedule 10.6, and Table 1, Schedule 11.4

Code related audit information

The MEP must, for each metering installation for which it is responsible, keep accurate and complete records of the attributes set out in Table 1 of Schedule 11.4. These include:

- a) the certification expiry date of each metering component in the metering installation,*
- b) all equipment used in relation to the metering installation, including serial numbers and details of the equipment's manufacturer,*
- c) the manufacturer's or (if different) most recent test certificate for each metering component in the metering installation,*
- d) the metering installation category and any metering installations certified at a lower category,*
- e) all certification reports and calibration reports showing dates tested, tests carried out, and test results for all metering components in the metering installation,*
- f) the contractor who installed each metering component in the metering installation,*
- g) the certification sticker, or equivalent details, for each metering component that is certified under Schedule 10.8 in the metering installation:*
- h) any variations or use of the 'alternate certification' process,*
- i) seal identification information,*
- j) any applicable compensation factors,*
- k) the owner of each metering component within the metering installation,*
- l) any applications installed within each metering component, and*
- m) the signed inspection report confirming that the metering installation complies with the requirements of Part 10.*

Audit observation

I checked certification records for 50 metering installations and I also checked four inspection records to evaluate compliance with this clause.

Audit commentary

Some issues were identified with the content of certification reports and registry records. They are listed in the table below.

Quantity Jan 2021	Issue
11	Incorrect installation certification expiry dates
8	CTs incorrectly recorded as certified by Wells ATH during comparative recertification.
20	HHR/NHH, Maximum interrogation cycle or services access interface not recorded

There were 11 category 2 installations certified for the Counties MEP with incorrect certification expiry dates. Counties had recorded in the registry that these installations had been previously certified by

another ATH. Wells certified these installations and applied new certification validity periods and expiry dates to the existing metering components and installations. Details of these installations are as follows:

ICP	Initial component installation and certification date	Wells certification date	Wells certification expiry date
1099570835CN695	18/12/2020	16/01/2020	16/01/2030
1099580328CN5F1	13/11/2020	20/11/2020	20/11/2030
1099570517CNE4D	24/02/2020	5/11/2020	5/11/2030
1099578066CNF50	10/02/2020	10/07/2020	10/07/2030
1099579106CN804	19/12/2019	24/03/2020	24/03/2030
1099579112CN3A3	18/12/2019	16/01/2020	16/01/2030
0005015320CNF7C	6/08/2020	10/09/2020	10/09/2030
0009262570CN04E	21/08/2020	18/09/2020	18/09/2030
1099579688CN1D7	22/07/2020	5/08/2020	5/08/2030
0002664022CNFA4	16/09/2020	24/09/2020	24/09/2030
0004486830CNCFD	22/06/2020	6/07/2020	6/07/2030

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 5.1 With: Clause 4(1) of Schedule 10.6 From: 01-Nov-19 To: 30-Nov-20	Some inaccurate certification records. Potential impact: Medium Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	Rationale for audit risk rating
Low	I have recorded the controls as moderate because there is room for improvement. There is a minor impact on other participants; therefore, the audit risk rating is low.

Actions taken to resolve the issue	Completion date	Remedial action status
The issue arises primarily on category 2 ICPs from the party livening the ICP and the independent Test House certifying the ICP being separate groups.	Date	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
The matter has been raised with the Test House to use the livening dates on certificates. Also unacceptable delays in Test House completing the work issued has also been raised with both of the ATH. Some better coordination to be implemented by Counties power also.	Date	

5.2. Inspection Reports (Clause 4(2) of Schedule 10.6)

Code reference

Clause 4(2) of Schedule 10.6

Code related audit information

The MEP must, within 10 business days of receiving a request from a participant for a signed inspection report prepared under clause 44 of Schedule 10.7, make a copy of the report available to the participant.

Audit observation

I asked Counties whether any requests had been made for copies of inspection reports.

Audit commentary

Counties has not been requested to supply any inspection reports.

Audit outcome

Compliant

5.3. Retention of Metering Records (Clause 4(3) of Schedule 10.6)

Code reference

Clause 4(3) of Schedule 10.6

Code related audit information

The MEP must keep metering installation records for 48 months after any metering component is removed, or any metering installation is decommissioned.

Audit observation

I checked a directory of metering records from 2017 to confirm compliance.

Audit commentary

A check of a directory of records from 2017 confirmed that Counties keeps records indefinitely.

Audit outcome

Compliant

5.4. Provision of Records to ATH (Clause 6 Schedule 10.6)

Code reference

Clause 6 Schedule 10.6

Code related audit information

If the MEP contracts with an ATH to recertify a metering installation and the ATH did not previously certify the metering installation, the MEP must provide the ATH with a copy of all relevant metering records not later than 10 business days after the contract comes into effect.

Audit observation

I checked the details of the information supplied to ATHs prior to recertification when the ATHs hadn't completed the original certification.

Audit commentary

There were examples where this has occurred when category 2 installations previously certified by AMS are recertified by Accucal or Wells. In these cases, the relevant records were supplied with the initial job request.

Audit outcome

Compliant

6. MAINTENANCE OF REGISTRY INFORMATION

6.1. MEP Response to Switch Notification (Clause 1(1) of Schedule 11.4)

Code reference

Clause 1(1) of Schedule 11.4

Code related audit information

Within 10 business days of being advised by the registry that it is the gaining MEP for the metering installation for the ICP, the MEP must enter into an arrangement with the trader and advise the registry it accepts responsibility for the ICP and of the proposed date on which it will assume responsibility.

Audit observation

I checked the Switch Breach History Detail Report (PR040) for the period 1 November 2019 to 30 November 2020 to confirm whether all responses were within 10 business days.

Audit commentary

All responses were within 10 business days.

Audit outcome

Compliant

6.2. Provision of Registry Information (Clause 7 (1), (2) and (3) of Schedule 11.4)

Code reference

Clause 7 (1), (2) and (3) of Schedule 11.4

Code related audit information

The MEP must provide the information indicated as being 'required' in Table 1 of clause 7 of Schedule 11.4 to the registry, in the prescribed form for each metering installation for which the MEP is responsible.

From 1 April 2015, a MEP is required to ensure that all the registry metering records of its category 1 metering installations are complete, accurate, not misleading or deceptive, and not likely to mislead or deceive.

The information the MEP provides to the registry must derive from the metering equipment provider's records or the metering records contained within the current trader's system.

Audit observation

I checked the list file for 100% of records to identify discrepancies.

Audit commentary

Analysis of the list file and an event detail report for all Counties ICPs found the following issues:

Quantity of ICPs Jan 2021	Quantity of ICPs Oct 2019	Quantity of ICPs Jan 2019	Quantity of ICPs Dec 2017	Quantity of ICPs Jan 2017	Quantity of ICPs 2016	Issue	Resolved?
4	0	0	0	1	1	Blank records on the registry. Meters removed but trader and distributor have not updated the status to decommissioned.	No
10	162	-	-	-	-	Active with no metering. Caused by automatic acceptance of incorrect MN by Trader.	No
0	0	0	0	0	0	Fully certified installations since 29/08/13 with a multiplier of 3.	n/a
3	0	0	0	6	6	Incorrect metering category.	No
3	6	1	1	6	154	Incorrect certification or expiry dates.	No
0	0	0	0	1	1	CTs on Category 1 installation	n/a
0	0	0	0	2	13	Category 2 or above without CTs.	n/a
4	-	7	-	-	-	Incorrect ATH recorded.	No
2	0	-	-	-	-	HHR profile and submission type and meter or installation type is not HHR. Trader error.	No
13	3	-	-	-	-	Metering installation type incorrectly recorded as NHH for Cat 3+ HHR installations	No
8	14	-	-	-	-	CN only. Supplies to pumps with control only, ok.	Ok
1,048	1,670	-	-	-	-	No control device recorded. Older installations where ripple relays were not included in certification information.	In-progress, 70 had been

							recertified at the time of site audit
84	101	-	-	-	-	Night without day. All have SWDPK, WWDPK, WDOP, N register contents.	Ok
26	6	-	-	-	-	UN only with a control device	In-progress

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.2 With: Clause 7 (1), (2) and (3) of Schedule 11.4 From: 01-Nov-19 To: 30-Nov-20	Some registry records incomplete or incorrect. Potential impact: Medium Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	I have recorded the controls as moderate in this area because there are still a small number of areas where improvement can be made. Very few of the discrepancies have an impact on participants, customers or settlement. The audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
The practice of auto acceptance of MEP nomination where ICPs are off network to be changed.		Date	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Continued vigilance with data issues. Some new logic applied around key data entry fields will address a number of such issues.		Date	

6.3. Correction of Errors in Registry (Clause 6 of Schedule 11.4)

Code reference

Clause 6 of Schedule 11.4

Code related audit information

By 0900 hours on the 13th business day of each reconciliation period, the MEP must obtain from the registry:

- *a list of ICPs for the metering installations the MEP is responsible for*
- *the registry metering records for each ICP on that list.*

No later than five business days following collection of data from the registry, the MEP must compare the information obtained from the registry with the MEP's own records.

Within five business days of becoming aware of any discrepancy between the MEP's records and the information obtained from the registry, the MEP must correct the records that are in error and advise the registry of any necessary changes to the registry metering records.

Audit observation

I conducted a walkthrough of the validation processes to confirm compliance.

Audit commentary

Counties has in place a MEP Registry Reconciliation process. This is an automated process which runs daily within Navision. An EDA file is downloaded from the registry and a comparison is done with the Navision master data. A report is provided detailing any differences found. I confirmed that the process is being run daily by checking the contents of a network folder which contained the daily reports. The reports are reviewed at least weekly and any issues are addressed when found. I did not find any examples of updates which were not completed within five business days.

Audit outcome

Compliant

6.4. Cancellation of Certification (Clause 20 of Schedule 10.7)

Code reference

Clause 20 of Schedule 10.7

Code related audit information

The certification of a metering installation is automatically cancelled on the date on which one of the following events takes place:

- a) *the metering installation is modified otherwise than under sub clause 19(3) or 19(6)*
- b) *the metering installation is classed as outside the applicable accuracy tolerances set out in Table 1 of Schedule 10.1, defective or not fit for purpose under this Part or any audit,*
- c) *an ATH advises the metering equipment provider responsible for the metering installation of a reference standard or working standard used to certify the metering installation not being compliant with this Part at the time it was used to certify the metering installation, or the failure of a group of meters in the statistical sampling recertification process for the metering installation, or the failure of a certification test for the metering installation,*
- d) *the manufacturer of a metering component in the metering installation determines that the metering component does not comply with the standards to which the metering component was tested,*
- e) *an inspection of the metering installation, that is required under this Part, is not carried out in accordance with the relevant clauses of this Part,*
- f) *if the metering installation has been determined to be a lower category under clause 6 and the maximum current conveyed through the metering installation at any time exceeds the current rating of its metering installation category as set out in Table 1 of Schedule 10.1,*

- g) the metering installation is certified under clause 14 and sufficient load is available for full certification testing and has not been retested under clause 14(4),
- h) a control device in the metering installation certification is, and remains for a period of at least 10 business days, bridged out under clause 35(1),
- i) the metering equipment provider responsible for the metering installation is advised by an ATH under clause 48(6)(b) that a seal has been removed or broken and the accuracy and continued integrity of the metering installation has been affected.

A metering equipment provider must, within 10 business days of becoming aware that one of the events above has occurred in relation to a metering installation for which it is responsible, update the metering installation's certification expiry date in the registry.

Audit observation

I checked for examples of all of the points listed above, and checked whether certification had been cancelled, and whether the registry had been updated within 10 business days.

Audit commentary

Inspection

I identified nine installations which were due for inspection based on the certification details recorded in the registry. I checked the inspection reports for four completed inspections and confirmed they had been completed within the required timeframes. There were three installations which had been recertified prior to the inspection window but the registry had not been updated with the new certification details. These are detailed in the table below and are recorded as non-compliance in **section 4.10**.

ICP	Category	Registry certification date at 30 Nov 2020	New certification date
0099551166CNF76	3	31/03/2015	30/03/2016
1099576431CNE53	5	20/08/2018	21/11/2019
1099578322CNFFC	5	20/05/2019	21/10/2020

There were two installations due for inspection and inspections were not completed and certification was not cancelled at the time of the audit, these are detailed in the table below.

ICP	Category	Registry certification date at 30 Nov 2020	Earliest inspection date	Latest inspection date	Comment
0005001332CNB35	3	7/05/2015	7/02/2020	7/08/2020	Job issued to recertify
1099573090CN128	3	13/02/2015	13/11/2019	13/05/2020	Recertified on 13/01/2021

Low Burden

The second issue relates to low burden on CT metered installations. The Authority provided a memo on 04/04/16 clarifying that:

The Electricity Industry Participation Code 2010 (Code) requires an ATH to ensure that an approved calibration laboratory or a class A ATH has confirmed that all measuring transformers comply with the standards in Table 5 of Schedule 10.1 (clause 3(b) of Schedule 10.8). If the errors are within the limits set by the standards, the transformer has passed the test and may be certified as accurate within that range of burden (clause 3 of Schedule 10.8 and Table 5 of Schedule 10.1).

If a measuring transformer is installed in a metering installation with the burden lower than the lowest test point used in the measuring transformer's calibration, then burdening resistors must be used to ensure that the measuring transformer operates within its calibration range.¹

The memo also states:

If an ATH certifies a metering installation with under-burdened measuring transformers, and it has not complied with clause 31(7) of Schedule 10.7 of the Code, then:

1. The ATH will breach clause 31(7) of Schedule 10.7 and also clause 43 of Schedule 10.7 by failing to grant certification in accordance with Part 10
2. The metering installation may be classed outside the applicable accuracy tolerances specified in Table 1 of Schedule 10.1, or not be fit for purpose, and if so, the metering installation certification is cancelled (clause 20(1)(b) of Schedule 10.7)
3. In certifying the metering installation, the ATH may breach clause 21 of Schedule 10.7 by certifying a metering installation that exceeds that maximum permitted error set out in Table 1 of Schedule 10.1.

Analysis of the certification records for 32 Category 2 and above metering installations found that two had been certified using the comparative recertification method with burden lower than the lowest test point, without a Class A ATH confirming that the measuring transformers will not be adversely affected. Therefore, in accordance with the Authority's memo, these metering installations are not considered "fit for purpose". This means certification is cancelled. Burden had been added in both cases, but it was insufficient as detailed in the table below,

ICP	ATH	CT make/ model	Ratio	Rated burden	Lowest in-service burden	Comment
0099553558CN454	Wells	TWS EW100	400/5	5VA	1.07VA	Burden resistors added but in-service burden still less than 25% of the stated rated burden of 5VA.
0069016303CN40E	Wells	Atco 2.5B	300/5	10VA	1.46VA	Burden resistors added but in-service burden still less than 25% of the stated rated burden of 10VA.

Bridged meters in Category 1 metering installations

I checked a report identifying three cases where meters had been bridged during the audit period. In one of these cases the metering installation was recertified after two business days when the meter was replaced, and the bridge was removed therefore cancelling the previous certification. In the other two cases the ATH returned to the site within one business day and unbridged the meters but did not recertify the metering installations. I have recorded non-compliance as the metering installation certification was not cancelled. Details of these cases are shown in the table below.

ICP	Bridge date	Certification date
0099557022CN01D	3/10/2020	13/01/2015
1099571442CN3AE	1/08/2020	22/09/2017

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 6.4</p> <p>With: Clause 20 of Schedule 10.7</p> <p>From: 01-Nov-19</p> <p>To: 30-Nov-20</p>	<p>Certification not cancelled on the registry for:</p> <ul style="list-style-type: none"> - two metering installations where inspections were not completed within inspection window, - two metering installations where low burden is present, and - two category 1 metering installations where meters were bridged. <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: Once</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>The installations with low burden are all recording within the allowable 2.5% therefore the impact on settlement is minor. The responsibility for Counties is to cancel certification on the registry once they know certification is cancelled and the impact of not doing this is minor, therefore the audit risk rating is low.</p> <p>I have recorded the controls as moderate as there is room for improvement.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
Certifications cancelled or updated as appropriate.		Date	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Closer adherence to existing internal processes will mean such certifications will not required cancellation.		Date	

6.5. Registry Metering Records (Clause 11.8A)

Code reference

Clause 11.8A

Code related audit information

The MEP must provide the registry with the required metering information for each metering installation the MEP is responsible for and update the registry metering records in accordance with Schedule 11.4.

Audit observation

This clause refers to schedule 11.4 which is discussed in **section 6.2**, apart from the requirement to provide information in the “prescribed form”. I checked for examples of Counties not using the prescribed form.

Audit commentary

This clause refers to schedule 11.4 which is discussed in **section 6.2**, apart from the requirement to provide information in the “prescribed form”. I checked for examples of Counties not using the prescribed form and did not find any exceptions.

Audit outcome

Compliant

7. CERTIFICATION OF METERING INSTALLATIONS

7.1. Certification and Maintenance (Clause 10.38 (a), clause 1 and clause 15 of Schedule 10.7)

Code reference

Clause 10.38 (a), clause 1 and clause 15 of Schedule 10.7

Code related audit information

The MEP must obtain and maintain certification for all installations and metering components for which it is responsible. The MEP must ensure it:

- *performs regular maintenance, battery replacement, repair/replacement of components of the metering installations,*
- *updates the metering records at the time of the maintenance,*
- *has a recertification programme that will ensure that all installations are recertified prior to expiry.*

Audit observation

I conducted the following checks to identify metering installations with expired, cancelled or late certification:

- the audit compliance report was checked to identify ICPs with expired certification,
- the new connections process was checked by using the event detail report, PR255 and the list file to identify ICPs where the certification was not conducted within five business days of electrical connection, and
- I checked ICPs where certification was cancelled to ensure the registry was updated accordingly.

Audit commentary

The registry shows one category 4 ICP with expired full certification. The table below shows the details of this ICP and the reason for the expired certification date.

ICP	Cat	Cert date	Expiry date	Comments
0005004160CNE9F	4	19/10/2020	19/10/2020	Certification was cancelled when a fault was found in the metering VT, details recorded in section 9 .

Analysis of the registry information from 30/11/2021 identified 415 Category 1 metering installations with expired full certification and 723 interim certified installations with expired interim certification.

At the time of the audit Counties provided an updated list which showed that 122 of the expired category 1 installations had been recertified since the 30/11/2021. 82 of which were previously interim certified and 40 which were previously fully certified.

Counties provided a breakdown of reasons for the inability to complete certification for both groups of ICPs. The tables below show the results.

Fully certified

Reason	Quantity
Board substandard	34
Customer missed appointment	6
Customer not provided access to metering installation	153
locate ICP	22

No power to the installation	11
Room on switchboard	13
Substandard Wiring	25
Unable to arrange appointment	109
Vacant at the time - to be reissued	2

Interim Certified

Reason	Quantity
Board substandard	20
Customer missed appointment	6
Customer not provided access to metering installation	273
Import/Export	1
locate ICP	24
Meters done but need to update Reg.	1
No power to the installation	17
Reissued	1
Room on switchboard	15
Substandard Wiring	182
Unable to arrange appointment	98
Vacant	2
Vacant at the time - to be reissued	1

As recorded in **section 6.4** there are 4 metering installations where certification is automatically cancelled but the registry has not been updated with the new expiry date.

Audit outcome

Non-compliant

Non-compliance	Description
<p>Audit Ref: 7.1</p> <p>With: Clause 10.38 (a), clause 1 and clause 15 of Schedule 10.7</p> <p>From: 01-Nov-19</p> <p>To: 04-Feb-21</p>	<p>Certification expired for:</p> <ul style="list-style-type: none"> - 641 previously interim certified category 1 ICPs, - 375 category 1 ICPs, and - 1 category 4 ICP. <p>Certification cancelled for four metering installations.</p> <p>Potential impact: High</p> <p>Actual impact: Medium</p> <p>Audit history: Multiple times</p> <p>Controls: Moderate</p> <p>Breach risk rating: 4</p>

Audit risk rating	Rationale for audit risk rating		
Medium	<p>I have recorded the controls as moderate in this area because certification has been expired for a number of years for some ICPs and because some of the expired installations were fully certified at one point.</p> <p>The impact on settlement is recorded as moderate because of the increased likelihood of failure or inaccuracy for metering installations with expired certification, therefore the audit risk rating is medium.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
Noted – the existing program of work is continuing to find resolutions to the long standing ICPs with documented technical, safety, or customer opposition type matters.		Date	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>Progress in this area has been reasonably good considering customers have understandably been reluctant to allow our technicians access into their homes in the middle of the pandemic over the past year.</p> <p>However ongoing continuous improvement in compliance numbers is still clearly demonstrable on a weekly basis, and will remain a key priority over the next 12 months.</p>		Date	

7.2. Certification Tests (Clause 10.38(b) and clause 9 of Schedule 10.6)

Code reference

Clause 10.38(b) and clause 9 of Schedule 10.6

Code related audit information

For each metering component and metering installation an MEP is responsible for, the MEP must ensure that:

- *an ATH performs the appropriate certification and recertification tests, and*
- *the ATH has the appropriate scope of approval to certify and recertify the metering installation.*

Audit observation

I checked the certification records for 50 metering installations to confirm compliance. ATHs have shown that their processes include all tests, and reports confirm tests are completed.

Audit commentary

Certification activities have been conducted by Counties using the Accucal, AMS and Wells ATHs. The most recent audit reports for all ATHs confirm the appropriate testing is conducted. The 50 certification records all included confirmation that the required tests had been completed.

Audit outcome

Compliant

7.3. Active and Reactive Capability (Clause 10.37(1) and 10.37(2)(a))

Code reference

Clause 10.37(1) and 10.37(2)(a)

Code related audit information

For any category 2 or higher half-hour metering installation that is certified after 29 August 2013, the MEP must ensure that the installation has active and reactive measuring and recording capability.

Consumption only installations that is a category 3 metering installation or above must measure and separately record:

- a) import active energy,*
- b) import reactive energy,*
- c) export reactive energy.*

Consumption only installations that are a category 2 metering installation must measure and separately record import active energy.

All other installations must measure and separately record:

- a) import active energy,*
- b) export active energy,*
- c) import reactive energy,*
- d) export reactive energy.*

All grid connected POCs with metering installations which are certified after 29 August 2013 should measure and separately record:

- a) import active energy,*
- b) export active energy,*
- c) import reactive energy,*
- d) export reactive energy.*

Audit observation

All relevant metering is compliant with this clause.

Audit commentary

Counties has metering installations at and above Category 2 and they record energy in accordance with this clause.

Audit outcome

Compliant

7.4. Local Service Metering (Clause 10.37(2)(b))

Code reference

Clause 10.37(2)(b)

Code related audit information

The accuracy of each local service metering installation in grid substations must be within the tolerances set out in Table 1 of Schedule 10.1.

Audit observation

This clause relates to Transpower as an MEP.

Audit commentary

This clause relates to Transpower as an MEP.

Audit outcome

Not applicable

7.5. Measuring Transformer Burden (Clause 30(1) and 31(2) of Schedule 10.7)

Code reference

Clause 30(1) and 31(2) of Schedule 10.7

Code related audit information

The MEP must not permit a measuring transformer to be connected to equipment used for a purpose other than metering, unless it is not practical for the equipment to have a separate measuring transformer.

The MEP must ensure that a change to, or addition of, a measuring transformer burden or a compensation factor related to a measuring transformer is carried out only by:

- a) the ATH who most recently certified the metering installation,*
- b) for a POC to the grid, by a suitably qualified person approved by both the MEP and the ATH who most recently certified the metering installation.*

Audit observation

I asked Counties if there were any examples of burden changes or the addition of non-metering equipment being connected to metering CTs.

Audit commentary

There are no examples of burden changes having occurred or the addition of non-metering equipment being connected to metering CTs.

Audit outcome

Compliant

7.6. Certification as a Lower Category (Clauses 6(1)(b) and (d), and 6(2)(b) of Schedule 10.7)

Code reference

Clauses 6(1)(b) and (d), and 6(2)(b) of Schedule 10.7

Code related audit information

A category 2 or higher metering installation may be certified by an ATH at a lower category than would be indicated solely on the primary rating of the current if the MEP, based on historical metering data, reasonably believes that:

- the maximum current will at all times during the intended certification period be lower than the current setting of the protection device for the category for which the metering installation is certified, or is required to be certified by the Code; or*
- the metering installation will use less than 0.5 GWh in any 12-month period.*

If a metering installation is categorised under clause 6(1)(b), the ATH may, if it considers appropriate, and, at the MEP's request, determine the metering installation's category according to the metering installation's expected maximum current.

If a meter is certified in this manner:

- *the MEP must, each month, obtain a report from the participant interrogating the metering installation, which details the maximum current from raw meter data from the metering installation by either calculation from the kVA by trading period, if available, or from a maximum current indicator if fitted in the metering installation conveyed through the point of connection for the prior month; and*
- *if the MEP does not receive a report, or the report demonstrates that the maximum current conveyed through the POC was higher than permitted for the metering installation category it is certified for, then the certification for the metering installation is automatically cancelled.*

Audit observation

I checked the audit compliance report for examples where the CT ratio was above the metering category threshold to confirm that protection was appropriate or that monitoring was in place.

Audit commentary

There are 12 metering installations where the CT ratio is above the metering category threshold. The certification records for all 12 confirm that the ATH has recorded that a protection device has been installed which limits the maximum current of the installation to be within the certified category in each case. This meets the requirements of Clause 6(1)(a) of Schedule 10.7. Since the last audit no new installations were certified at a lower category.

Audit outcome

Compliant

7.7. Insufficient Load for Certification Tests (Clauses 14(3) and (4) of Schedule 10.7)

Code reference

Clauses 14(3) and (4) of Schedule 10.7

Code related audit information

If there is insufficient electricity conveyed through a POC to allow the ATH to complete a prevailing load test for a metering installation that is being certified as a half hour meter and the ATH certifies the metering installation the MEP must:

- *obtain and monitor raw meter data from the metering installation at least once each calendar month to determine if load during the month is sufficient for a prevailing load test to be completed:*
- *if there is sufficient load, arrange for an ATH to complete the tests (within 20 business days).*

Audit observation

I checked if there were any examples of Insufficient load certifications and if monitoring was conducted as required.

Audit commentary

There was one example of insufficient load certification, ICP 1099580173CN92A, which was certified with insufficient load on 14 October 2020, monitoring has not yet identified sufficient load. I checked and confirmed that monitoring has been conducted by Counties each month for this ICP.

Audit outcome

Compliant

7.8. Insufficient Load for Certification – Cancellation of Certification (Clause 14(6) of Schedule 10.7)

Code reference

Clause 14(6) of Schedule 10.7

Code related audit information

If the tests conducted under clause 14(4) of Schedule 10.7 demonstrate that the metering installation is not within the relevant maximum permitted error:

- *the metering installation certification is automatically revoked:*
- *the certifying ATH must advise the MEP of the cancellation within 1 business day:*
- *the MEP must follow the procedure for handling faulty metering installations (clause 10.43 - 10.48).*

Audit observation

There is one example of insufficient load certification as detailed in **section 7.7**.

Audit commentary

I checked and confirmed that monitoring has been conducted by Counties each month for this ICP and sufficient load is not yet available.

Audit outcome

Compliant

7.9. Alternative Certification Requirements (Clauses 32(2), (3) and (4) of Schedule 10.7)

Code reference

Clauses 32(2), (3) and (4) of Schedule 10.7

Code related audit information

If an ATH cannot comply with the requirements to certify a metering installation due to measuring transformer access issues, and therefore certifies the metering installation in accordance with clause 32(1) of Schedule 10.7, the MEP must:

- *advise the market administrator, by no later than 10 business days after the date of certification of the metering installation, of the details in clause 32(2)(a) of Schedule 10.7,*
- *respond, within five business days, to any requests from the market administrator for additional information,*
- *ensure that all of the details are recorded in the metering installation certification report, and*
- *take all steps to ensure that the metering installation is certified before the certification expiry date.*

If the market administrator determines the ATH could have obtained access the metering installation is deemed to be defective and the MEP must follow the process of handling faults metering installations in clauses 10.43 to 10.48.

Audit observation

I checked the registry records to confirm whether alternative certification had been applied.

Audit commentary

Alternative certification has not been applied to any metering installations.

Audit outcome

Compliant

7.10. Timekeeping Requirements (Clause 23 of Schedule 10.7)

Code reference

Clause 23 of Schedule 10.7

Code related audit information

If a time keeping device that is not remotely monitored and corrected controls the switching of a meter register in a metering installation, the MEP must ensure that the time keeping device:

- a) has a time keeping error of not greater than an average of two seconds per day over a period of 12 months,*
- b) is monitored and corrected at least once every 12 months.*

Audit observation

I asked Counties whether there were any metering installations with time switches.

Audit commentary

Counties confirmed there are no installations with time switches.

Audit outcome

Compliant

7.11. Control Device Bridged Out (Clause 35 of Schedule 10.7)

Code reference

Clause 35 of Schedule 10.7

Code related audit information

The participant must, within 10 business days of bridging out a control device or becoming aware of a control device being bridged out, notify the following parties:

- *the relevant reconciliation participant*
- *the relevant metering equipment provider.*

If the control device is used for reconciliation, the metering installation is considered defective in accordance with 10.43.

Audit observation

I checked the process for the management of bridged control devices, and I checked whether any notifications were required to other parties.

Audit commentary

Counties has a process for the management of bridged control devices. There were seven examples identified where control devices were bridged during the audit period. The ATH returned within five business day to un-bridge the relays. In five of the seven examples the metering installation was recertified.

Audit outcome

Compliant

7.12. Control Device Reliability Requirements (Clause 34(5) of Schedule 10.7)

Code reference

Clause 34(5) of Schedule 10.7

Code related audit information

If the MEP is advised by an ATH that the likelihood of a control device not receiving signals would affect the accuracy or completeness of the information for the purposes of Part 15, the MEP must, within three business days inform the following parties of the ATH's determination (including all relevant details):

- a) the reconciliation participant for the POC for the metering installation*
- b) the control signal provider.*

Audit observation

I checked the steps Counties had taken to identify regions with signal propagation issues.

Audit commentary

Counties has not received notification from ATHs in accordance with this clause. Counties is the distributor and MEP in their region, and they confirm there are no signal propagation issues on their network.

Audit outcome

Compliant

7.13. Statistical Sampling (Clauses 16(1) and (5) of Schedule 10.7)

Code reference

Clauses 16(1) and (5) of Schedule 10.7

Code related audit information

The MEP may arrange for an ATH to recertify a group of category 1 metering installations for which the MEP is responsible using a statistical sampling process.

The MEP must update the registry in accordance with Part 11 on the advice of an ATH as to whether the group meets the recertification requirements.

Audit observation

I checked whether statistical sampling had occurred during the audit period.

Audit commentary

Counties has not conducted any statistical sampling during the audit period.

Audit outcome

Compliant

7.14. Compensation Factors (Clause 24(3) of Schedule 10.7)

Code reference

Clause 24(3) of Schedule 10.7

Code related audit information

If a compensation factor must be applied to a metering installation that is an NSP, the MEP must advise the reconciliation participant responsible for the metering installation of the compensation factor within 10 days of certification of the installation.

In all other cases the MEP must advise the registry of the compensation factor.

Audit observation

I checked the records for 32 Category 2 and above metering installations to confirm that compensation factors were correctly recorded on the registry.

Audit commentary

Compensation factors have been updated accurately on the registry. Checking the records for 32 ICPs confirmed this.

Audit outcome

Compliant

7.15. Metering Installations Incorporating a Meter (Clause 26(1) of Schedule 10.7)

Code reference

Clause 26(1) of Schedule 10.7

Code related audit information

The MEP must ensure that each meter in a metering installation it is responsible for is certified.

Audit observation

I checked the certification records for 50 metering installations to confirm compliance.

Audit commentary

Meters were certified for all 50 installations. For new smart meters the meters have been certified by the supplier, re-installed meters are certified by the class A ATH which performs the calibration.

Audit outcome

Compliant

7.16. Metering Installations Incorporating a Measuring Transformer (Clause 28(1) of Schedule 10.7)

Code reference

Clause 28(1) of Schedule 10.7

Code related audit information

The MEP must ensure that each measuring transformer in a metering installation it is responsible for is certified.

Audit observation

I checked the certification records for 19 category 2 and above metering installations certified using the fully calibrated and selected component methods to confirm compliance.

Audit commentary

Measuring transformers were certified for the 19 metering installations. New CTs are supplied pre-certified by TWS. Existing VT's and CTs are calibrated and re-certified by Accucal in higher category installations.

I have recorded non-compliance in **section 5.1** for current transformers being certified by the Wells ATH when using the comparative recertification method.

Audit outcome

Compliant

7.17. Metering Installations Incorporating a Data Storage Device (Clause 36(1) of Schedule 10.7)

Code reference

Clause 36(1) of Schedule 10.7

Code related audit information

The MEP must ensure that each data storage device in a metering installation it is responsible for is certified.

Audit observation

I checked the certification records for 50 metering installations to confirm compliance.

Audit commentary

The 50 certification records that I checked confirmed that the data storage devices are being correctly certified. The data storage devices are incorporated in the meters and the meters are being certified correctly as part of the meter certification in all cases.

Audit outcome

Compliant

7.18. Notification of ATH Approval (Clause 7 (3) Schedule 10.3)

Code reference

Clause 7 (3) Schedule 10.3

Code related audit information

If the MEP is notified by the Authority that an ATH's approval has expired, been cancelled or been revised, the MEP must treat all metering installations certified by the ATH during the period where the ATH was not approved to perform the activities as being defective and follow the procedures set out in 10.43 to 10.48.

Audit observation

I checked the ATH register to confirm compliance.

Audit commentary

The Accucal, AMS and Wells ATHs have appropriate approval.

Audit outcome

Compliant

7.19. Interim Certification (Clause 18 of Schedule 10.7)

Code reference

Clause 18 of Schedule 10.7

Code related audit information

The MEP must ensure that each interim certified metering installation on 28 August 2013 is certified by no later than 1 April 2015.

Audit observation

I checked the audit compliance report to identify any ICPs with interim certification recorded.

Audit commentary

There are 641 previously interim certified installations with expired certification.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 7.19 With: Clause 18 of Schedule 10.7 From: 01-Apr-15 To: 04-Feb-21	641 ICPs with expired interim certification. Potential impact: High Actual impact: Medium Audit history: Multiple times Controls: Moderate Breach risk rating: 4		
Audit risk rating	Rationale for audit risk rating		
Medium	I have recorded the controls as moderate in this area because certification has been expired for a number of years for these ICPs. The impact on settlement is recorded as moderate because of the increased likelihood of failure or inaccuracy for metering installations with expired certification, therefore the audit risk rating is medium.		
Actions taken to resolve the issue		Completion date	Remedial action status
This is purely a repeat of earlier findings above – nothing further to add.		Date	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Interim certification is no longer a separate issue to certification general – this section should be dispensed with.		Date	

8. INSPECTION OF METERING INSTALLATIONS

8.1. Category 1 Inspections (Clause 45 of Schedule 10.7)

Code reference

Clause 45 of Schedule 10.7

Code related audit information

The MEP must ensure that category 1 metering installations (other than interim certified metering installations):

- *have been inspected by an ATH within 120 months from the date of the metering installation's most recent certification or*
- *for each 12-month period, commencing 1 January and ending 31 December, a sample of the category 1 metering installations selected under clause 45(2) of Schedule 10.7 has been inspected by an ATH.*

Before a sample inspection process can be carried out, the MEP must submit a documented process for selecting the sample to the Electricity Authority, at least two months prior to first date on which the inspections are to be carried out, for approval (and promptly provide any other information the Authority may request).

The MEP must not inspect a sample unless the Authority has approved the documented process.

The MEP must, for each inspection conducted under clause 45(1)(b), keep records detailing:

- *any defects identified that have affected the accuracy or integrity of the raw meter data recorded by the metering installation,*
- *any discrepancies identified under clause 44(5)(b)*
- *relevant characteristics, sufficient to enable reporting of correlations or relationships between inaccuracy and characteristics,*
- *the procedure used, and the lists generated, to select the sample under clause 45(2).*

The MEP must, if it believes a metering installation that has been inspected is or could be inaccurate, defective or not fit for purpose:

- *comply with clause 10.43,*
- *arrange for an ATH to recertify the metering installation if the metering is found to be inaccurate under Table 1 of Schedule 10.1, or defective or not fit for purpose.*

The MEP must by 1 April in each year, provide the Authority with a report that states whether the MEP has, for the previous 1 January to 31 December period, arranged for an ATH to inspect each category 1 metering installation for which it is responsible under clause 45(1)(a) or 45(1)(b).

This report must include the matters specified in clauses 45(8)(a) and (b).

If the MEP is advised by the Authority that the tests do not meet the requirements under clause 45(9) of Schedule 10.7, the MEP must select the additional sample under that clause, carry out the required inspections, and report to the Authority, within 40 business days of being advised by the Authority.

Audit observation

I checked to determine whether Counties was required to conduct any inspections during the audit period.

Audit commentary

Counties has conducted sample inspections for Category 1 metering installations. The process was approved by the Authority and all inspections were completed within the required timeframe. Reporting

has been prepared and supplied to the Authority. Out of the 51 ICPs inspected the following issues were found:

Count of ICPs	Description of Non-compliance:
9	Seal or seals broken

In all of these cases the meters were replaced at the time of inspection and all components were resealed as part of the recertification process.

Audit outcome

Compliant

8.2. Category 2 to 5 Inspections (Clause 46(1) of Schedule 10.7)

Code reference

Clause 46(1) of Schedule 10.7

Code related audit information

The MEP must ensure that each category 2 or higher metering installation is inspected by an ATH at least once within the applicable period. The applicable period begins from the date of the metering installation's most recent certification and extends to:

- 120 months for Category 2
- 60 months for Category 3
- 30 months for Category 4
- 18 months for Category 5.

Audit observation

I checked the registry information to confirm which ICPs were due for inspection. There were nine category 2+ installations due for inspection.

Audit commentary

I identified nine installations which were due for inspection based on the certification details recorded in the registry. I checked the inspection reports for four completed inspections and confirmed they had been completed within the required timeframes. There were three installations which had been recertified prior to the inspection window but the registry had not been updated with the new certification details. These are detailed in the table below and are recorded as non-compliance in **section 4.10**.

ICP	Category	Registry certification date at 30 Nov 2020	New certification date
0099551166CNF76	3	31/03/2015	30/03/2016
1099576431CNE53	5	20/08/2018	21/11/2019
1099578322CNFFC	5	20/05/2019	21/10/2020

There were two installations due for inspection and inspections were not completed and certification was not cancelled at the time of the audit, these are detailed in the table below.

ICP	Category	Registry certification date at 30 Nov 2020	Earliest inspection date	Latest inspection date	Comment
0005001332CNB35	3	7/05/2015	7/02/2020	7/08/2020	Job issued to recertify
1099573090CN128	3	13/02/2015	13/11/2019	13/05/2020	Recertified on 13/01/2021

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 8.2 With: Clause 46(1) of Schedule 10.7 From: 13-May-20 To: 04-Feb-21	Inspections not conducted within the allowable window for two installations. Potential impact: Medium Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are recorded as moderate because they mitigate risk most of the time but there is room for improvement. The impact on settlement and participants could be minor; therefore, the audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Already raised in the certification cancellation section, only two occurrences		Date	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
We will continue to fight for limited Test House Resources to complete all scheduled programs of work. (A situation made worse due to widespread disruption both in supply chain materials and also time lost to Covid lockdowns).		Date	

8.3. Inspection Reports (Clause 44(5) of Schedule 10.7)

Code reference

Clause 44(5) of Schedule 10.7

Code related audit information

The MEP must, within 20 business days of receiving an inspection report from an ATH:

- *undertake a comparison of the information received with its own records,*
- *investigate and correct any discrepancies, and*
- *update the metering records in the registry.*

Audit observation

I checked the process and results from inspection regimes to ensure any incorrect records were updated.

Audit commentary

The Counties inspection process includes a comparison with registry records, discrepancies are corrected within the required timeframe.

Audit outcome

Compliant

8.4. Broken or removed seals (Clause 48(4) and (5) of Schedule 10.7)

Code reference

Clause 48(4) and (5) of Schedule 10.7

Code related audit information

If the MEP is advised of a broken or removed seal it must use reasonable endeavours to determine

- a) who removed or broke the seal,*
- b) the reason for the removal or breakage*

and arrange for an ATH to carry out an inspection of the removal or breakage and determine any work required to remedy the removal or breakage.

The MEP must make the above arrangements within

- a) three business days, if the metering installation is category 3 or higher,*
- b) 10 business days if the metering installation is category 2,*
- c) 20 business days if the metering installation is category 1.*

Audit observation

I checked if there were any examples of notification of missing seals.

Audit commentary

During the Category 1 inspections nine examples of broken seals were identified. In all of these cases the meters were replaced at the time of inspection and all components were resealed as part of the recertification process.

Counties has a documented process in place for the management of seals and any subsequent investigation and reporting.

Audit outcome

Compliant

9. PROCESS FOR HANDLING FAULTY METERING INSTALLATIONS

9.1. Investigation of Faulty Metering Installations (Clause 10.43(4) and (5))

Code reference

Clause 10.43(4) and (5)

Code related audit information

If the MEP is advised or becomes aware that a metering installation may be inaccurate, defective, or not fit for purpose, it must investigate and report on the situation to all affected participants as soon as reasonably practicable after becoming aware of the information, but no later than:

- a) 20 business days for Category 1,*
- b) 10 business days for Category 2 and*
- c) 5 business days for Category 3 or higher.*

Audit observation

I asked Counties to provide examples where they had become aware of a faulty metering installation.

Audit commentary

Counties has a documented process in place for the management of faulty metering installations and any subsequent investigation and reporting.

Counties provided an example of a category 4 metering installation, ICP 0005004160CNE9F, which was found to have a faulty voltage transformer by the ATH who went to site to recalibrate the voltage and current transformers and recertify the metering installation. The ATH advised Counties while on site and provided a statement of situation two days later. The trader was notified by Counties one day after the fault was found and the statement of situation was provided to the trader and the Authority on the day it was received by Counties.

Audit outcome

Compliant

9.2. Testing of Faulty Metering Installations (Clause 10.44)

Code reference

Clause 10.44

Code related audit information

If a report prepared under clause 10.43(4)(c) demonstrates that a metering installation is inaccurate, defective, or not fit for purpose, the MEP must arrange for an ATH to test the metering installation and provide a 'statement of situation'.

If the MEP is advised by a participant under clause 10.44(2)(a) that the participant disagrees with the report that demonstrates that the metering installation is accurate, not defective and fit for purpose, the MEP must arrange for an ATH to:

- a) test the metering installation,*
- b) provide the MEP with a statement of situation within five business days of:*
- c) becoming aware that the metering installation may be inaccurate, defective or not fit for purpose; or*
- d) reaching an agreement with the participant.*

The MEP is responsible for ensuring the ATH carries out testing as soon as practicable and provides a statement of situation.

Audit observation

I checked for examples where Counties had become aware of faulty metering installations which required testing.

Audit commentary

In the category 4 case provided in **section 9.1** Counties was notified of the faulty installation by the ATH. Testing was carried out by the ATH while on-site and a statement of situation was provided.

Audit outcome

Compliant

9.3. Statement of Situation (Clause10.46(2))

Code reference

Clause10.46(2)

Code related audit information

Within three business days of receiving the statement from the ATH, the MEP must provide copies of the statement to:

- *the relevant affected participants*
- *the market administrator (for all category 3 and above metering installations and any category 1 and category 2 metering installations) on request.*

Audit observation

I asked Counties to provide examples where they had been provided with a statement of situation.

Audit commentary

Counties provided an example of a category 4 metering installation, ICP 0005004160CNE9F, which was found to have a faulty voltage transformer by the ATH who went to site to recalibrate the voltage and current transformers and recertify the metering installation. The ATH advised Counties while on site and provided a statement of situation two days later. The trader was notified by Counties one day after the fault was found and the statement of situation was provided to the trader and the Authority on the day it was received by Counties.

Audit outcome

Compliant

10. ACCESS TO AND PROVISION OF RAW METER DATA AND METERING INSTALLATIONS

10.1. Access to Raw Meter Data (Clause 1 of Schedule 10.6)

Code reference

Clause 1 of Schedule 10.6

Code related audit information

The MEP must give authorised parties access to raw meter data within 10 business days of receiving the authorised party making a request.

The MEP must only give access to raw meter data to a trader or person, if that trader or person has entered into a contract to collect, obtain, and use the raw meter data with the end customer.

The MEP must provide the following when giving a party access to information:

- a) the raw meter data; or*
- b) the means (codes, keys etc.) to enable the party to access the raw meter data.*

The MEP must, when providing raw meter data or access to an authorised person use appropriate procedures to ensure that:

- the raw meter data is received only by that authorised person or a contractor to the person,*
- the security of the raw meter data and the metering installation is maintained,*
- access to the raw meter data is limited to only the specific raw meter data under clause 1(7)(c) of Schedule 10.6.*

Audit observation

I checked whether any parties had requested access to raw meter data.

Audit commentary

No requests have been received, but Counties advised access could be granted in accordance with this clause if necessary.

Audit outcome

Compliant

10.2. Restrictions on Use of Raw Meter Data (Clause 2 of Schedule 10.6)

Code reference

Clause 2 of Schedule 10.6

Code related audit information

The MEP must not give an authorised person access to raw meter data if to do so would breach clause 2(1) of Schedule 10.6.

Audit observation

I checked whether any parties had requested access to raw meter data.

Audit commentary

No requests have been received, but Counties advised access could be granted in accordance with this clause if necessary.

Audit outcome

Compliant

10.3. Access to Metering Installations (Clause 3(1), (3) and (4) of Schedule 10.6)

Code reference

Clause 3(1), (3) and (4) of Schedule 10.6

Code related audit information

The MEP must within 10 business days of receiving a request from one of the following parties, arrange physical access to each component in a metering installation:

- *a relevant reconciliation participant with whom it has an arrangement (other than a trader)*
- *the Authority*
- *an ATH*
- *an auditor*
- *a gaining MEP.*

This access must include all necessary means to enable the party to access the metering components.

When providing access, the MEP must ensure that the security of the metering installation is maintained and physical access is limited to only the access required for the purposes of the Code, regulations in connection with the party's administration, audit and testing functions.

Audit observation

I checked whether any parties had requested access to metering installations.

Audit commentary

No requests have been received, but Counties advised access could be granted in accordance with this clause if necessary.

Audit outcome

Compliant

10.4. Urgent Access to Metering Installations (Clause 3(5) of Schedule 10.6)

Code reference

Clause 3(5) of Schedule 10.6

Code related audit information

If the party requires urgent physical access to a metering installation, the MEP must use its best endeavours to arrange physical access.

Audit observation

I checked whether any parties had requested access to metering installations.

Audit commentary

No requests have been received, but Counties advised access could be granted in accordance with this clause if necessary.

Audit outcome

Compliant

10.5. Electronic Interrogation of Metering Installations (Clause 8 of Schedule 10.6)

Code reference

Clause 8 of Schedule 10.6

Code related audit information

When raw meter data can only be obtained from an MEP's back office, the MEP must

- *ensure that the interrogation cycle does not exceed the maximum interrogation cycle shown in the registry,*
- *interrogate the metering installation at least once within each maximum interrogation cycle.*

When raw meter data can only be obtained from an MEP's back office, the MEP must ensure that the internal clock is accurate, to within ± 5 seconds of:

- *New Zealand standard time; or*
- *New Zealand daylight time.*

When raw meter data can only be obtained from an MEP's back office, the MEP must record in the interrogation and processing system logs, the time, the date, and the extent of any change in the internal clock setting in the metering installation.

When raw meter data can only be obtained from an MEP's back office, the MEP must ensure that a data storage device in a metering installation does not exceed the maximum time error set out in Table 1 of clause 8(5) of Schedule 10.6.

The MEP must compare the time on the internal clock of the data storage device with the time on the interrogation and processing system clock, calculate and correct (if required by this provision) any time error, and advise the affected reconciliation participant.

When raw meter data can only be obtained from an MEP's back office, the MEP must, when interrogating a metering installation, download the event log, check the event log for evidence of malfunctioning or tampering, and if this is detected, carry out the appropriate requirements of Part 10.

The MEP must ensure that all raw meter data that can only be obtained from the MEPs back office, that is downloaded as part of an interrogation, and that is used for submitting information for the purpose of Part 15 is archived:

- *for no less than 48 months after the interrogation date*
- *in a form that cannot be modified without creating an audit trail*
- *in a form that is secure and prevents access by any unauthorised person*
in a form that is accessible to authorised personnel.

Audit observation

Counties uses Intellihub as an agent for data collection. Counties provided details of the processes used by Intellihub and performance related information in the form of reports provided to Counties by Intellihub.

Interrogation cycle

I checked reporting of meters not read during the maximum interrogation cycle.

Clock synchronisation

Clock synchronisation is discussed in **section 10.7**.

Event logs

Event logs are discussed in **section 10.8**.

Security of raw meter data

I checked the security and storage of data during the Metrix audit by looking at examples of data more than 48 months old and by checking security protocols.

Audit commentary

Interrogation cycle

Counties receives a weekly no read report from Intellihub to determine the status to which the AMI Non Comm flag should set and updates the registry in bulk, this is a manually operated process. There are also some individual ICP updates done manually on an individual basis. Counties advise Intellihub of the changes at the same time as the Registry update by automatic delivery of a file. On receipt of the file Intellihub manually process the ICP flag status to determine if data is to be delivered to retailers or not, by setting a corresponding configuration within the MDM. As this is a manual process any delays in file processing, or files potentially missed can lead to a mismatch between the registry flag status and the Intellihub MDM. This can lead to cases of ICPs where Counties has updated a flag status back to indicate the communications is active, but Intellihub isn't delivering the data to retailers.

I checked the most recent reporting from Intellihub which identified 91 meters which had not been interrogated within their maximum interrogation cycle and the registry AMI Comm field was recorded as "Y".

Clock synchronisation

Clock synchronisation is discussed in **section 10.7**.

Event logs

Event logs are discussed in **section 10.8**.

Security of raw meter data

With regard to the security of raw meter data, I checked some data from 2014 to confirm it was available. All users have login and password to access working data and only certain IT experts can access raw data. There are no business processes that allow data to be edited. Event data is archived along with consumption data.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 10.5 With: Clause 8 of Schedule 10.6 From: 01-Nov-19 To: 30-Nov-20	91 installations not interrogated within the maximum interrogation cycle. Potential impact: High Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2

Audit risk rating	Rationale for audit risk rating		
Low	<p>I have recorded the controls as moderate because reporting is in place but there is room for improvement to ensure all AMI installations are successfully interrogated.</p> <p>The impact on settlement is recorded as minor because of the low number involved; therefore, the audit risk rating for most retailers is low. For AMI only retailers, the impact would be major and the audit risk rating high.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>Counties power is reliant on a 3rd parties systems operating properly here, and we continue to push them to correct static data when required to get meter data flowing.</p> <p>The non-com flag management process was thought to have been sorted, but for something initially seemingly straightforward management of the flag has proven to be an ongoing problem between COUP and IHUB systems.</p>		Date	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>Improvement to the process of AMI non-com flag status management between COUP and IHUB has been identified as a key requirement here, to be escalated.</p>		Date	

10.6. Security of Metering Data (Clause 10.15(2))

Code reference

Clause 10.15(2)

Code related audit information

The MEP must take reasonable security measures to prevent loss or unauthorised access, use, modification or disclosure of the metering data.

Audit observation

Counties uses Intellihub as an agent for data collection. Counties provided details of the processes used by Intellihub and performance related information in the form of reports provided to Counties by Intellihub.

I checked the security and storage of data by looking at examples of data more than 48 months old.

Audit commentary

With regard to the security of raw meter data, I checked some data from 2014 to confirm it was available. All users have login and password to access working data and only certain IT experts can access raw data. There are no business processes that allow data to be edited. Event data is archived along with consumption data.

Audit outcome

Compliant

10.7. Time Errors for Metering Installations (Clause 8(4) of Schedule 10.6)

Code reference

Clause 8(4) of Schedule 10.6

Code related audit information

When raw meter data can only be obtained from the MEPs back office, the MEP must ensure that the data storage device it interrogates does not exceed the maximum time error set out in Table 1 of clause 8(5) of Schedule 10.6.

Audit observation

Counties uses Intellihub as an agent for data collection. Counties provided details of the processes used by Intellihub and performance related information in the form of reports provided to Counties by Intellihub. I checked the time synchronisation report from 26th November 2020 to check compliance.

Audit commentary

Time synchronisation occurs as follows: The clock setting is 10 seconds to 20 minutes. For errors over 20 minutes a user must manually set the time. This list is run weekly and sent to Silverspring for them to adjust the clock.

Intellihub advises affected reconciliation participants of time error adjustments or any potential effect on raw meter data. Intellihub monitors devices with multiple clock errors to ensure the meters are replaced.

This clause is slightly different to the clause in Part 15 for reconciliation participants. This clause requires MEPs to ensure the time is not outside the allowable thresholds, therefore non-compliance exists for those examples where time has drifted outside the allowable threshold. The November 26th report contained 110 records from the previous week where clock errors were greater than 30 seconds (they were all HHR). Further analysis found that 28 of these records were time corrections of meters which occurred on the same day as the meter was first installed. It is normal for a meter to require a time correction when it first communicates. I have recorded non-compliance for the remaining 82 meters that required corrections greater than 30 seconds.

Analysis of the time syncing report provided by Intellihub to Counties and reconciliation participants identified that category 2 meters with time errors between 10 and 30 seconds were not included in the reporting. Intellihub confirmed that all meters are corrected when errors exceed 10 seconds but only errors greater than 30 seconds were included in the reporting. Intellihub advised that the reporting would be corrected to include all category 2 meters with errors greater than 10 seconds. I have recorded non-compliance for the non-reporting of category 2 meter time errors between 10 and 30 seconds.

Audit outcome

Non-compliant

Non-compliance	Description
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Audit Ref: 10.7 With: Clause 8(4) of Schedule 10.6 From: 01-Nov-19 To: 30-Nov-20	82 examples of clock errors outside the allowable thresholds in the 26 November 2020 report. Some time errors for category 2 meters not reported to reconciliation participants. Potential impact: Medium Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	I have recorded the controls as strong because clocks are synchronised during every successful interrogation. The impact is considered minor because most clock errors are small and are corrected within one half hour. The audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Noted, to a large extent time sync is out of direct control of COUP who have no direct access to control of the systems in question.		Date	Investigating
Preventative actions taken to ensure no further issues will occur		Completion date	
Has been, and will be raised once again with IHub.		Date	

10.8. Event Logs (Clause 8(7) of Schedule 10.6)

Code reference

Clause 8(7) of Schedule 10.6

Code related audit information

When raw meter data can only be obtained from the MEP's back office, the MEP must, when interrogating a metering installation:

- a) *ensure an interrogation log is generated,*
- b) *review the event log and:*
 - i. *take appropriate action,*
 - ii. *pass the relevant entries to the reconciliation participant.*
- c) *ensure the log forms part of an audit trail which includes:*
 - i. *the date and*
 - ii. *time of the interrogation*
 - iii. *operator (where available)*
 - iv. *unique ID of the data storage device*
 - v. *any clock errors outside specified limits*
 - vi. *method of interrogation*

vii. *identifier of the reading device used (if applicable).*

Audit observation

Counties uses Intellihub as an agent for data collection. Counties provided details of the processes used by Intellihub and performance related information in the form of event reports provided to Counties by Intellihub.

Audit commentary

Intellihub provides a weekly report to Counties of all critical meter events. Counties reviews the reports and advises the reconciliation participants and appropriate action is taken including site visits as required. I reviewed the report from 5th December 2020, it included tamper, temperature and reverse energy events. I examined the process for filtering and managing events and I confirm that this is complete and robust.

Audit outcome

Compliant

10.9. Comparison of HHR Data with Register Data (Clause 8(9) of Schedule 10.6)

Code reference

Clause 8(9) of Schedule 10.6

Code related audit information

When raw meter data can only be obtained from the MEP's back office, the MEP must ensure that each electronic interrogation that retrieves half-hour metering information compares the information against the increment of the metering installations accumulating meter registers.

Audit observation

Counties uses Intellihub as an agent for data collection. Counties provided details of the processes used by Intellihub and performance related information in the form of sum-check reports provided to Counties by Intellihub.

Audit commentary

Sum-check occurs when each meter is interrogated. The sum of the intervals is compared to the register read (scalar read) for the same period. Sum-check exceptions are reported on and are categorised as follows:

1. No interval data provided by the meter. If there is a scalar read but no interval data, then the sum-check cannot be performed. In these cases, no read processes commence to resolve the issue. When interval data is received the sum-check occurs automatically.
2. Interval data is present, but no scalar reading is collected. MDM will attempt to estimate the scalar reading from interval data or historic scalar readings. If a scalar reading cannot be generated due to insufficient data, then an exception is generated.
3. Scalar reading period is less than a configured percentage of the interval data period. If the scalar register reading period is less than 97% (this is configurable) of the interval data time period, an exception is generated. MDM then performs intervalisation to derive the scalar reading for the same time period as the interval data. A sum-check is performed comparing the scalar reading to the interval data. Reporting is in place for repeat offenders so these can be dealt with.
4. Interval data and scalar consumption do not match. If the interval data and scalar consumption for the same time period do not match (threshold is 1 kWh), an exception is generated. Any of these exceptions are investigated.

Recent reporting was provided, which confirmed there are no exceptions resulting from genuine failures of devices, systems or processes. There were eight failures reported which when investigated were found to be related to outages.

Audit outcome

Compliant

10.10. Correction of Raw Meter Data (Clause 10.48(2),(3))

Code reference

Clause 10.48(2),(3)

Code related audit information

If the MEP is notified of a question or request for clarification in accordance with clause 10.48(1), the MEP must, within 10 business days:

- *respond in detail to the questions or requests for clarification,*
- *advise the reconciliation participant responsible for providing submission information for the POC of the correction factors to apply and period the factors should apply to.*

Audit observation

I checked whether correction of raw meter data occurs.

Audit commentary

Data correction of raw meter data does not occur, but Intellihub has an estimation capability which can provide information to reconciliation participants as requested. There were no specific examples to examine.

Audit outcome

Compliant

CONCLUSION

Counties has undertaken significant work in replacing meters with expired certification. This has seen the number of metering installations with expired certification decrease by 696 since the last audit. As recorded in **section 7.1** there are a high number of access issues making recertification of the remaining metering installations difficult.

Twelve non-compliances are recorded. The main issues are as follows:

- some inaccuracies and late updating of registry information,
- certification has not been cancelled for two metering installations where inspections were not completed within inspection window, two metering installations where low burden is present, and two category 1 metering installations where meters were bridged,
- expired metering installation certification, and
- meters not being interrogated within the maximum interrogation cycle.

The date of the next audit is determined by the Electricity Authority and is dependent on the level of compliance during this audit. The Future Risk Rating provides some guidance on this matter and indicates an audit frequency of three months. I have considered the Counties responses to the areas of non-compliance and recommend an audit frequency of 12 months as Counties has made good progress in reducing the number non-compliant metering installations.

PARTICIPANT RESPONSE

Counties Power accepts the findings of the audit.

We note the nature of the MEP audit and the scoring system applied with only focus on areas on non-compliance really does have a tendency to generate a negative perspective of the level of MEP compliance with the code.

When properly balanced against volumes of activity completed, the numbers of full compliance, also with understanding of the complexity and number of interactions between multiple parties - a different perspective should be apparent.