

**ELECTRICITY INDUSTRY PARTICIPATION CODE
METERING EQUIPMENT PROVIDER AUDIT REPORT**

For

**COUNTIES ENERGY LIMITED
NZBN:9429038874208**

Prepared by: Brett Piskulic – Veritek Limited

Date audit commenced: 23 November 2021

Date audit report completed: 15 February 2022

Audit report due date: 01-Mar-22

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EXECUTIVE SUMMARY

Counties Energy Limited (Counties) is a Metering Equipment Provider (MEP) and was required to undergo an audit by 1 March 2022, in accordance with clause 16A.14.

Counties is recorded as the MEP for 45,415 ICPs on the Counties Energy 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 recertification activities have been impacted by both access issues and delays in availability of meter stock due to the Covid 19 pandemic. Though the number of metering installations with expired certification has decreased by 253 since the last audit.

The audit records fourteen non-compliances and makes two recommendations, the main issues are as follows:

- some inaccuracies and late updating of registry information,
- certification has not been cancelled for six metering installations where inspections were not completed, three metering installations where low burden is present, and 86 ICPs with failed sum-checks, and
- expired metering installation certification.

Non-compliance has been recorded in sections 2.1 and 5.1 due to ATHs not implementing all changes required to meet new requirements introduced on 1st February 2021 in the areas of certification of measuring transformers and recording of each available services access interface. I have recommended that Counties work with its contracted ATH to improve the content recorded in Category 1 metering installation certification reports.

Counties agent Intellihub has implemented new processes and reporting to meet the new requirements as they relate to data collection, particularly the maximum interrogation cycle and sum-check requirements, but these changes were not able to be implemented by 1st February 2021.

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 to reflect the number of non-compliances that had been resolved at the time the audit was finalised.

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)	Each services access interface not identified for 67 metering installations.	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	3 registry updates later than 15 business days.	Strong	Low	1	Cleared
Design Reports for Metering Installations	4.1	2 of Schedule 10.7	Maximum interrogation cycle for each services access interface not recorded in design reports.	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	Cleared
Accurate and Complete Records	5.1	4(1)(a) and (b) of Schedule 10.6, and Table 1, Schedule 11.4	Some inaccurate certification records.	Moderate	Low	2	Identified
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 within 10 business days on the registry for: <ul style="list-style-type: none"> - six metering installations where inspections were not completed, - three metering installations where low burden is present, and - 86 ICPs with failed sum-checks. 	Moderate	Low	2	Identified
Certification and Maintenance	7.1	10.38 (a), clause 1 and clause 15 of Schedule 10.7	Certification expired for: <ul style="list-style-type: none"> - 519 previously interim certified category 1 ICPs, - 299 category 1 ICPs, and - certification cancelled for 45 metering installations. 	Moderate	Medium	4	Identified
Certification Tests	7.2	10.38(b)	Prevailing load test not conducted for one category 1 metering installation.	Strong	Low	1	Cleared

Interim certification	7.19	18 of Schedule 10.7	519 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 for six installations.	Moderate	Low	2	Cleared
Time Errors for Metering Installations	10.7	8(4) of Schedule 10.6	34 examples of clock errors outside the allowable thresholds in the 2 December 2021 report.	Strong	Low	1	Identified
Investigation of AMI interrogation failures	10.12	8(11), 8(12) and 8(13) of Schedule 10.6	Reporting and processes not in place to resolve interrogation issues or change the AMI flag to “N” at 25% of the MIC or 30 days between 1 February and 20 May 2021. No action taken to change the AMI flag to “N” or cancel the certification for five meters which had not been successfully interrogated within 30 days or 25% of the maximum interrogation cycle.	Strong	Low	1	Cleared
Future Risk Rating						26	
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	Description	
Certification Tests	7.2	Work with the AMS ATH to ensure the details and results of all testing completed are recorded in the metering installation certification reports provided.	Identified
Meter certification	7.15	Work with the AMS ATH to ensure the details of meter calibration and certification are recorded in the metering installation certification reports provided.	Identified

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

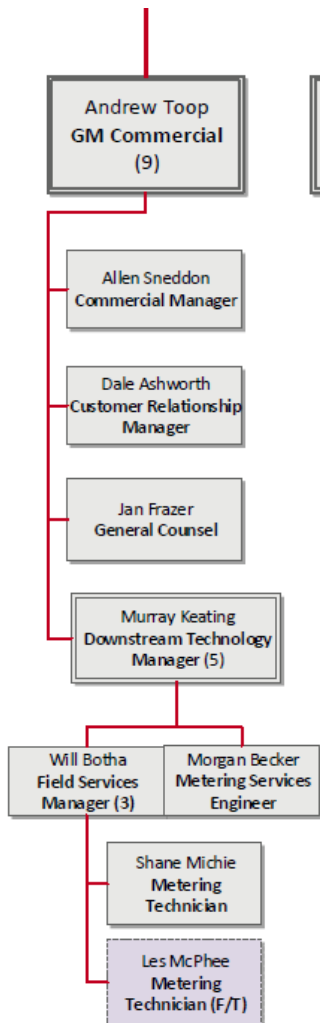
I checked the Electricity Authority website and I confirm there are no exemptions in place.

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
Dale Oliver	Systems Analyst

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 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	44911
2	436
3	40
4	14
5	11
9	3

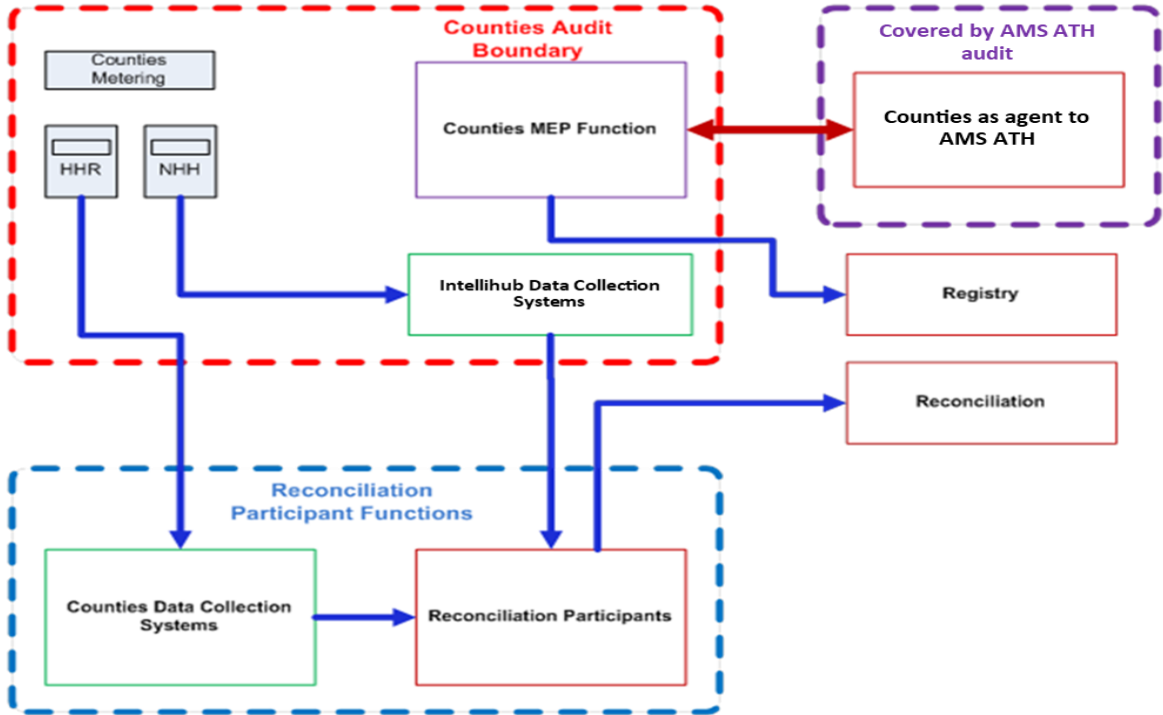
1.8. Authorisation Received

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 January 2021 by Brett Piskulic of Veritek Limited. The table below shows the status of the 12 areas of non-compliance identified.

Table of Non-Compliance

Subject	Section	Clause	Non-compliance	Status
MEP responsibility for services access interface	2.1	10.9(2)	Services access interface not recorded in certification records for one metering installation.	Still existing
Provision of accurate information	2.5	11.2 and 10.6	Some information in the registry is incorrect.	Still existing
Registry updates	3.2	2 of Schedule 11.4	31 registry updates later than 15 business days.	Still existing
Changes to Registry Records	4.10	3 of Schedule 11.4	Some records updated on the registry later than 10 business days.	Still existing
Accurate and Complete Records	5.1	4(1)(a) and (b) of Schedule 10.6, and Table 1, Schedule 11.4	Some inaccurate certification records.	Still existing
Provision of Registry Information	6.2	7 (1), (2) and (3) of Schedule 11.4	Some registry records incomplete or incorrect.	Still existing
Certification cancellation	6.4	20 of Schedule 10.7	Certification not cancelled on the registry for: <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. 	Still existing

Subject	Section	Clause	Non-compliance	Status
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.	Still existing
Interim certification	7.19	18 of Schedule 10.7	641 ICPs with expired interim certification.	Still existing
Cat 2 – 5 inspections	8.2	Clause 46(1) of Schedule 10.7	Inspections not conducted within the allowable window for two installations.	Still existing
Electronic Interrogation of Metering Installations	10.5	8 of Schedule 10.6	91 installations not interrogated within the maximum interrogation cycle.	Cleared
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. Some time errors for category 2 meters not reported to reconciliation participants.	Still existing

Table of Recommendations

Subject	Section	Clause	Recommendation for improvement	Status
			Nil	

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 49 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. The code was changed from 1st February 2021 to require the ATH to record each services access interface and the conditions under which each services access interface may be used. The code change was announced on 15th December 2020. Prior to this change the ATH was required to determine and record a single services access interface.

I checked the certification records for 49 metering installations and found that each services access interface was not recorded for 31 of the 49 records. The 31 certification records identified the services access interface as remote only for AMI metering installations. It is also possible that the services access interface may be changed to local for these metering installations if there are problems communicating with the meters. The 31 records included three Category 2 metering installations certified by the Accucal ATH and 28 Category 1 metering installations certified by the AMS ATH.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 2.1 With: Clause 10.9(2) From: 01-Feb-21 To: 06-Dec-21	Each services access interface not identified for 67 metering installations. Potential impact: Low Actual impact: None Audit history: Once Controls: Strong Breach risk rating: 1
Audit risk rating	Rationale for audit risk rating
Low	I have recorded the controls as strong because the services access interface is still maintained in a compliant manner despite the incorrect recording in certification reports. 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
All customers of the smart meter service have been advised by way of formal contractual arrangement that they may obtain the energy data either by accepting a file into their systems delivered by Intellihub, or else they can read the meters display in traditional fashion as they see fit. In each case the demarcation of responsibility with respect to data integrity is well understood by all participants.	TBA	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
A dedicated field will be added to the field work management tool at next release to record both the service access interfaces.	TBA	

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		
Audit Ref: 2.5 With: Clause 11.2 and Clause 10.6 From: 01-Nov-20 To: 22-Nov-21	Some information in the registry is incorrect. Potential impact: Medium Actual impact: Low Audit history: Once Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are recorded as moderate because there is room to improve processes. 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
Miscellaneous corrections and updates in progress.		TBA	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Additional administrative resource has recently been hired to allow deeper scrutiny of records received and uploaded.		TBA	

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 requirements are met in relation to updating the registry and advising the reconciliation manager.

The losing MEP must notify the gaining MEP of the proportion of the costs within 40 business days of the gaining MEP assuming responsibility. The gaining MEP must pay the losing MEP within 20 business days of receiving notification from the losing MEP.

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.

The gaining MEP is not required to pay costs if the losing MEP has agreed in writing that the gaining MEP is not required to pay costs, or the losing MEP has failed to provide notice within 40 business days.

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 2020 to 22 November 2021 for all records where Counties became the MEP to evaluate the timeliness of updates.

Audit commentary

I examined the audit compliance report for 13 switches in relation to this clause and the findings are shown in the table below.

I checked the three late ICPs in detail, and I found that late nomination by the trader was the cause of the late update for two ICPs. The third the late update was due to a replaced event where the original update was on time. This update related to a change from NHH to HHR and updating of the maximum interrogation cycle.

Audit	Total ICPs	Total within 15 days	Total over 15 days	% compliant
Jan 2021	131	100	31	76.34%
Jan 2022	13	10	3	76.92%

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 3.2 With: Clause 2 of Schedule 11.4 From: 01-Nov-20 To: 22-Nov-21	3 registry updates later than 15 business days. Potential impact: Medium Actual impact: Low Audit history: Once 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
90% of this issue is Retailer's operations and systems that do not operate in direct accordance with the code and continue cause registry data upload issues for us as MEP, as we cannot automatically load Registry until the MEP nomination is made. This is still the case with major Retailers who continue to be allowed to operate outside the code requirements in this respect.		14/02/2022	Cleared
Preventative actions taken to ensure no further issues will occur		Completion date	
The data administration team has been reminded of the requirement. They have implemented a work around system via automated email list requesting MEP nomination from Retailers to harass them to undertake their nominations.		14/02/2022	

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.

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 for each services access interface, 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 with the exception of the requirement to record the maximum interrogation cycle for each services access interface. This requirement was introduced with the Code changes effective 1st February 2021. Counties is in the process of updating its design reports to include this information. A check of a draft version of one updated design report confirmed that the required details had been added.

My checks of 49 metering installation records confirmed that the ATHs had correctly recorded the design report reference in all cases.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.1 With: 2 of Schedule 10.7 From: 01-Feb-21 To: 27-Jan-22	Maximum interrogation cycle for each services access interface not recorded in design reports. Potential impact: Medium Actual impact: Low Audit history: Once Controls: Strong Breach risk rating: 1

Audit risk rating	Rationale for audit risk rating		
Low	<p>Strong controls are in place because Counties is preparing a new standard design report which includes all required information.</p> <p>There is little impact because the installations are compliant despite the incorrect design reports.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>The standard smart meter interrogation cycle is understood and automatically applied via the data processing and AMI flag automation implemented our Agent Intellihub. Due to the standardisation, there is not need to refer to specific design reports for the system to correctly operate to deliver the requirements defined in the code.</p>		TBA	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>Regardless the design reports are already under review, and this is a simple update to include. Exact timing of the release of the modified design report documentation is not finalised.</p>		TBA	

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 49 metering installations.

Audit commentary

The Counties process requires the design report to be recorded on the metering installation certification report, all of the 49 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 11 installations using these methods and can confirm that the measured error and uncertainty were appropriately recorded.

Audit outcome

Compliant

4.4. Net Metering and Subtractive metering (Clause 10.13A and 4(2)(a) of Schedule 10.7)

Code reference

Clause 10.13A and Clause 4(2)(a) of Schedule 10.7

Code related audit information

MEPs must ensure that the metering installation records imported electricity separately from exported electricity. For category 1 and 2 installations the MEP must ensure the metering installation records imported and exported electricity separately for each phase.

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 confirmed that all metering installations at Category 3 and above have HHR metering installations.

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 Energy website.

Audit outcome

Compliant

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

Code reference

Clauses 10.34(2), (2A), 2(D) 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 installation's:

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

This includes where the MEP is proposing to replace a metering component or metering installations with the same or similar design and functionality but excludes where the MEP has already consulted on the design with the distributor and trader.

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 Energy 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

If the MEP has an arrangement with the trader the MEP must advise the registry manager of the registry metering records, or any change to the registry metering records, for each metering installation for which it is responsible at the ICP, no later than 10 business days following:

- a) the electrical connection of the metering installation at the ICP*
- b) any subsequent change to the metering installation’s metering records*

If the MEP is update the registry in accordance with 8(11)(b) of Schedule 10.6, 10 business days after the most recent unsuccessful interrogation.

If update the registry in accordance with clause 8(13) of Schedule 10.6, 3 business days following the expiry of the time period or date from which the MEP determines it cannot restore communications.

Audit observation

I checked the audit compliance report for the period 1 November 2020 to 22 November 2021 to evaluate the timeliness of registry updates.

Audit commentary

The table below shows that there were registry updates for 1,494 new connections completed of which 52 were late, and 96.52% of updates were compliant. I checked all 52 records in detail, and I found that late updates were caused by late nomination by the trader for 20 of the 52. 15 of the late updates were due to replaced events where the original updates were on time. The remaining 17 were the result of late updates by Counties due to processing delays. 12 of the 17 were for new connections which occurred over the 2020/21 Christmas holiday period.

There were 1,797 registry updates completed after recertification of which 253 were late, and 85.92% of updates were compliant. 14 of the late updates were greater than 100 days, I checked these in detail and confirmed that they were all due to replaced events where the original updates were on time. I checked 25 records in detail, and I found that 24 of the late updates were due to replaced events where the original updates were on time. The remaining one was the result of a late update by Counties due to processing delays.

Event	Year	Total ICPs	ICPs Notified Within 10 Days	ICPs Notified Greater Than 10 Days	Percentage Compliant
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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%
	Jan 2022	1,494	1,442	52	96.52%
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%
	Jan 2022	1,797	1,544	253	85.92%

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

ICP	Category	Registry certification date at 22 Nov 2021	New certification date	Comment
1099577683CN7C3	4	10/09/2018	9/04/2021	Registry updated 10/2/2022
1099578322CNFFC	5	20/05/2019	21/10/2020	Registry updated 10/2/2022

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 4.10 With: Clause 3 of Schedule 11.4 From: 01-Nov-20 To: 22-Nov-21	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	I have recorded the controls as moderate in this area because there is room to improve and shorten the notification process for updates. 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.		
Actions taken to resolve the issue		Completion date	Remedial action status
Noted a couple of updates missed, and the need for additional administrative resource to address this area has been accepted.		10/02/2021	Cleared
Preventative actions taken to ensure no further issues will occur		Completion date	
Additional Administrative resource has recently been appointed to specifically attend to such MEP matters.		10/02/2021	

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 49 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 2022	Issue
5	CT burden range not recorded in certification reports by Accucal ATH.
3	CT burden range incorrectly recorded in Wells ATH certification reports.
3	CTs incorrectly recorded as certified by Wells ATH during comparative recertification.
1	Certification method incorrectly recorded as selected component on comparative recertification completed by Wells ATH.
31	Maximum interrogation cycle not recorded in AMS ATH Category 1 certification reports.

31	Each services access interface not recorded in AMS ATH Category 1 certification reports.
10	Incorrect maximum interrogation cycle recorded in certification reports.
3	NHH meters incorrectly recorded as HHR in AMS ATH Category 1 certification reports.
31	Test results not recorded in AMS ATH Category 1 certification reports.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 5.1 With: Clause 4(1) of Schedule 10.6 From: 01-Nov-20 To: 22-Nov-21	Some inaccurate certification records. Potential impact: Medium Actual impact: Low Audit history: Once 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
Noted the field work management tool needs updates to include missing data fields to allow the full data capture of the on-site work completed.		TBA	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Both the data capture and documentation output format are programmed to be updated in order to deliver the required.		TBA	

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 the Counties processes to confirm compliance.

Audit commentary

The Counties processes ensure that records are kept 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 2020 to 22 November 2021 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), (1A), (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 manager, in the prescribed form for each metering installation for which the MEP is responsible.

The MEP does not need to provide 'required' information if the information is only for the purpose of a distributor direct billing consumers on its network.

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 manager 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 audit compliance report and list file for 100% of records to identify discrepancies.

Audit commentary

Analysis of the list file and audit compliance report for all Counties ICPs found the following issues:

Quantity of ICPs Jan 2022	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?
2	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
5	10	162	-	-	-	-	Active with no metering. Caused by automatic acceptance of incorrect MN by Trader.	No
0	0	0	0	0	0	0	Fully certified installations since 29/08/13 with a multiplier of 3.	n/a
0	3	0	0	0	6	6	Incorrect metering category.	n/a
2	3	6	1	1	6	154	Incorrect certification or expiry dates.	No
0	0	0	0	0	1	1	CTs on Category 1 installation	n/a
0	0	0	0	0	2	13	Category 2 or above without CTs.	n/a
2	4	-	7	-	-	-	Incorrect ATH identifier recorded. (VEMS not VCOM)	No
0	2	0	-	-	-	-	HHR profile and submission type and meter or installation type is not HHR.	n/a
0	13	3	-	-	-	-	Metering installation type incorrectly recorded as NHH for	n/a

							Cat 3+ HHR installations	
5	8	14	-	-	-	-	CN only. Supplies to pumps with control only, ok.	Ok
852	1,048	1,670	-	-	-	-	No control device recorded. Older installations where ripple relays were not included in certification information.	No
81	84	101	-	-	-	-	Night without day. All have SWDPK, WWDPK, WDOP, N register contents.	Ok
0	26	6	-	-	-	-	UN only with a control device	n/a

Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 6.2</p> <p>With: Clause 7 (1), (2) and (3) of Schedule 11.4</p> <p>From: 01-Nov-20</p> <p>To: 22-Nov-21</p>	<p>Some registry records incomplete or incorrect.</p> <p>Potential impact: Medium</p> <p>Actual impact: Low</p> <p>Audit history: Multiple times</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>I have recorded the controls as moderate in this area because there are still a small number of areas where improvement can be made.</p> <p>Very few of the discrepancies have an impact on participants, customers or settlement. The audit risk rating is low.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
Noted		10/02/2021	Identified
The need for additional administrative resource to address this area has been accepted and actioned.			
Preventative actions taken to ensure no further issues will occur		Completion date	

Additional administrative resource has recently been appointed to specifically attend to such MEP matters.	10/02/2021	
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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), 19(3A) or 19(3C)*
- 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:

 - a. the MEP has not received the report under 6(2A)(a) or 6(2A)(b); or*
 - b. the report demonstrates the maximum current is higher than permitted; or*
 - c. the report demonstrates the electricity conveyed exceeds the amount permitted**
- 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.*
- j) the installation is an HHR AMI installation certified after 29 August 2013 and

 - a. the metering installation is not interrogated within the maximum interrogation cycle; or*
 - b. the HHR and NHH register comparison is not performed; or*
 - c. the HHR and NHH register comparison for the same period finds a difference of greater than 1 kWh and the issue is not remediated within 3 business days**

A metering equipment provider must (unless the installation has been recertified within the 10 business days) 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.

If any of the events in Clause 20(1)(j) of Schedule 10.7 have occurred, update the AMI flag in the registry to ‘N’.

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 12 Category 2 and above metering 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 timeframe. There were two installations which had been recertified within the inspection period, 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 22 Nov 2021	New certification date	Comment

1099577683CN7C3	4	10/09/2018	9/04/2021	Registry updated 10/2/2022
1099578322CNFFC	5	20/05/2019	21/10/2020	Registry updated 10/2/2022

There were six installations due for inspection and inspections were not completed and certification was not cancelled at the time of the audit. Certification has since been cancelled for all six installations, but I have recorded non-compliance as certification was not cancelled within 10 business days of the latest allowable inspection date. These are detailed in the table below.

ICP	Category	Registry certification date at 22 Nov 2021	Latest inspection date	Comment
1099568090CN629	2	13/08/2010	13/02/2021	Recertified on 20/01/2022.
1099570221CN738	2	27/05/2011	27/11/2021	Certification cancelled on 17/12/2021. Recertified on 18/01/2022.
0005001370CN915	3	9/12/2015	9/03/2021	Certification cancelled on 17/12/2021. Recertified, awaiting certification report from ATH.
0005002350CN6A0	5	24/04/2020	25/11/2021	Certification cancelled on 17/12/2021. Recertified on 20/01/2022.
0005002355CNBEF	5	24/04/2020	25/11/2021	Certification cancelled on 17/12/2021. Recertified on 20/01/2022.
1099574436CN0D9	5	24/04/2020	25/11/2021	Certification cancelled on 17/12/2021. Recertified on 20/01/2022.

Current transformer in-service burden

Clause 31 of schedule 7 was changed from 1st February 2021 to require the ATH to ensure that the in-service burden is within the burden range of the measuring transformers when certifying metering installations. The code change was announced on 15th December 2021. I checked a sample of 18 Category 2 and above certifications certified after 1st February 2021 to confirm compliance. One of the 18 metering installations was certified with in-service burden lower than the burden range of the current transformers as detailed in the table below,

ICP	ATH	Date certified	CT make/model	Ratio	Rated burden	Lowest in-service burden	Comment
0003404652CN0C6	Wells	26/10/21	TWS SEW90B	200/5	5VA	0.99VA	Burden resistors added but in-service burden still less than 25% of the stated rated burden of 5VA.

There are two Category 2 metering installations which were identified during the last audit with burden lower than the lowest test point, without a Class A ATH confirming that the measuring transformers will not be adversely affected. Certification for these installations has not yet been cancelled. The ICPs are shown in the table below,

ICP	ATH	Date certified	CT make/model	Ratio	Rated burden	Lowest in-service burden	Comment
0099553558CN454	Wells	24/01/20	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	6/07/20	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.

I have recorded non-compliance for the three metering installations with in-service burden lower than the burden range of the current transformers. The current transformers are not fit for purpose when operating outside their burden range and certification has not been cancelled.

Insufficient load certification

Two metering installations were identified in my checks of 18 Category 2+ certification records which were certified in accordance with the insufficient load clause and required monitoring. I checked and confirmed that both had been added to the list maintained by Counties of installations requiring monitoring and confirmed that monitoring had taken place each month. Compliance is confirmed.

Certification at a lower category

Two metering installations were identified in my checks of 18 category 2+ certification records which were certified at a lower category and required monitoring to ensure that the load does not exceed the category limit. I checked and confirmed that both had been added to the list maintained by Counties of installations requiring monitoring and confirmed that monitoring had taken place each month. Compliance is confirmed.

Bridged meters in Category 1 metering installations

I checked the details of three cases where meters had been bridged during the audit period. In all three examples the metering installations were recertified cancelling the previous certification. Compliance is confirmed.

Maximum interrogation cycle

I checked for examples where meters were not interrogated within the maximum interrogation and the AMI flag is still “Y” and certification was not cancelled. As recorded in **section 10.5** there were 780 ICPs not interrogated within the maximum interrogation cycle. In all 780 cases the AMI flag was changed to “N”. Certification is not cancelled for these ICPs. Compliance is confirmed.

Comparison of HHR Data with Register Data (Sum-check)

I checked for examples where certification was not cancelled after meters had failed a sum-check, or a sum-check was not performed within 30 days or 25% of the maximum interrogation cycle and the AMI flag is still “Y”. As recorded in **section 10.9** there were 86 ICPs identified with sum-check failures which were not resolved within three business days. 45 of these had been recertified but not within ten business days. I checked a sample of ten of the recertified ICPs and found that certification had not been cancelled prior to recertification. Non-compliance is recorded as certification was not cancelled within 10 business days for the 86 ICPs.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.4 With: Clause 20 of Schedule 10.7 From: 01-Nov-20 To: 27-Jan-22	Certification not cancelled within 10 business days on the registry for: <ul style="list-style-type: none"> - six metering installations where inspections were not completed, - three metering installations where low burden is present, and - 86 ICPs with failed sum-checks. Potential impact: Low Actual impact: Low Audit history: Twice Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	I have recorded the controls as moderate as there is room for improvement. 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.		
Actions taken to resolve the issue		Completion date	Remedial action status
All findings above noted, and those technicalities related burdens have raised with the Test Houses concerned to have the field work redone, burdens corrected and certifications reissued. All certification cancellations completed, effective from the date of actual sumcheck failure occurring.		10/02/2022	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Metering Installation certification cancellations within the 10 day window will be achievable going forward.		10/02/2022	

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

Analysis of the registry information from 22 November 2021 identified 299 Category 1 metering installations with expired full certification and 519 interim certified installations with expired interim certification. This is an improvement from the 376 fully certified and 641 interim certified reported in the last audit. Counties recertification activities have been impacted by both access issues and delays in availability of meter stock due to the Covid 19 pandemic.

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	33
Customer cancelled	107
Customer missed appointment	6
Incorrect Exp date	2
locate ICP	19
No Load	7
Room on switchboard	17
Substandard Wiring	11
TBC	2
Unable to arrange appointment	88
Vacant at the time - to be reissued	1

Interim Certified

Reason	Quantity
Board substandard	16
Customer cancelled	211
Customer missed appointment	4
Import/Export	1
locate ICP	17
Meters done but exp. to update Reg.	2
Meters done but need to update Reg.	2
No Load	13
Reissued	2
Room on switchboard	13
Substandard Wiring	158
TBC	3
Unable to arrange appointment	74
Vacant	2
Vacant at the time - to be reissued	1

As recorded in **section 6.4** there are 45 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-20</p> <p>To: 22-Nov-21</p>	<p>Certification expired for:</p> <ul style="list-style-type: none"> - 519 previously interim certified category 1 ICPs, - 299 category 1 ICPs, and - certification cancelled for 45 metering installations. <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
The number of expired certifications due to older meters remaining in service will continue to reduce through ongoing work in the field. The new requirements to cancel metering certifications for minor miscellaneous technicalities realistically will not help the timeliness as we head toward the ultimate goal here replacing all interim certified / expired meters.	N/A	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
Program of work continuing – just ongoing work and pressure applied. Pointing out expired status is < 2% of the fleet, so on a positive note > 98% of ICPs are fully physically certified on site without reliance on any statistical methods.	N/A	

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 49 metering installations to confirm compliance.

Audit commentary

The certification reports for all 18 Category 2 and above metering installations included test results which confirmed that all required testing had been completed.

The 30 certification reports for Category 1 metering installations certified by the AMS ATH did not contain the details or results of the certification tests conducted. I recommend Counties work with the AMS ATH to ensure the details and results of all testing completed are recorded in the metering installation certification reports provided.

Recommendation	Description	Audited party comment	Remedial action
Regarding Clause 10.38(b)	Work with the AMS ATH to ensure the details and results of all testing completed are recorded in the metering installation certification reports provided.	Noted – All omissions in Counties Energy metering certification reports are wholly associated with Counties Energy field work management platform that requires the new fields and formats to be implemented.	Identified

There was one example, ICP 0001737390CN0A3, where a category 1 metering installation was recertified by the AMS ATH on 10th March 2021 after a meter was unbridged. Table 3 of Schedule 10.1 requires that a prevailing load test is conducted when a category 1 metering installation is recertified without the meter being changed. Clause 9(1)(a) requires that prevailing load tests must be conducted using a working standard connected to the metering installation. I have recorded non-compliance as the ATH did not conduct a prevailing load test using a working standard. Counties advised that their field instruction was updated shortly after this to ensure Category 1 meters are replaced after certification is cancelled.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 7.2 With: Clause 10.38(b) From: 10-Mar-21 To: 27-Jan-22	Prevailing load test not conducted for one category 1 metering installation. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	The controls are recorded as strong as Counties has updated its field instructions to ensure that all Category 1 meters are replaced after certification is cancelled. The impact is low as the accuracy of the metering installation is unlikely to have been impacted by the prevailing load test not being completed, the audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Normal process was erroneously not followed in this one case identified.		10/02/2022	Cleared
Preventative actions taken to ensure no further issues will occur		Completion date	
Ensure meters are replaced and standard raw meter data output test completed. This has been communicated to all team members during team meetings.		10/02/2022	

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 16 metering installations where the CT ratio is above the metering category threshold. The certification records for all 16 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.

There were two metering installations certified since the last audit at a lower category, ICPs 0005011760CN758 and 0005001600CN94D. I checked and confirmed that both had been added to the list maintained by Counties of installations requiring monitoring, and also confirmed that monitoring had taken place each month.

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 were two examples of insufficient load certification, ICP 1099581746CN43B and 1099581223CN381. I checked and confirmed that both had been added to the list maintained by Counties of installations requiring monitoring, and also confirmed that monitoring had taken place each month.

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 were two examples 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 these ICPs 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 two examples identified where control devices were bridged during the audit period. The ATH returned within 10 business day to un-bridge the relays.

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 an external 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 update the compensation factor recorded in the registry in accordance with Part 11.

Audit observation

I checked the records for 18 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 18 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 49 metering installations to confirm compliance.

Audit commentary

Meters were certified for all 49 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. For Category 1 metering installations the meters are checked to ensure they have a certification sticker prior to installation and photos are taken of the certification sticker. There is no reference to the meter calibration or certification in the metering installation certification report. I recommend that Counties work with the AMS ATH to ensure the details of meter calibration and certification are recorded in the metering installation certification reports provided.

Recommendation	Description	Audited party comment	Remedial action
Regarding Clause 26(1) of Schedule 10.7	Work with the AMS ATH to ensure the details of meter calibration and certification are recorded in the metering installation certification reports provided.	Noted – to be implemented via appropriate new data fields in the tablet-based field service work management tool update. The meter certification details have captured in the site photographs in the interim.	Identified

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 18 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 18 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 49 metering installations to confirm compliance.

Audit commentary

The 49 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. I have made a recommendation in **section 7.15** to record meter certification details in Category 1 metering installation certification reports.

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 519 previously interim certified installations with expired certification. Further detail regarding expired certifications is included in **section 7.1**.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 7.19 With: Clause 18 of Schedule 10.7 From: 01-Apr-15 To: 22-Nov-21	519 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
An ongoing program of work is in place and resourced. This continues to be effective in resolving technical or customer issues and reducing the outstanding number of these ICPs in question.		TBA	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	

<p>Whilst a zero number may be impractical in the near term, ongoing pressure is being applied to customers directly and also via Retailers to allow access to the metering installations, or for them to upgrade unsatisfactory enclosures or unsafe electrical wiring / installations.</p>	<p>TBA</p>	
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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 126 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, ensure an ATH has completed inspections of a sample of the category 1 metering installations selected under clause 45(2) of Schedule 10.7.*

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 2 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 94 ICPs inspected the following issues were found:

Count of ICPs	Description of Non-compliance:
6	Seal or seals broken
1	Installation certification expired

All missing or broken seals were replaced at the time of inspection.

The installation with expired certification has subsequently been recertified.

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 12 category 2+ installations due for inspection.

Audit commentary

I identified 12 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 timeframe. There were two installations which had been recertified within the inspection period, 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 22 Nov 2021	New certification date	Comment
1099577683CN7C3	4	10/09/2018	9/04/2021	Registry updated 10/2/2022
1099578322CNFFC	5	20/05/2019	21/10/2020	Registry updated 10/2/2022

There were six 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 22 Nov 2021	Latest inspection date	Comment
1099568090CN629	2	13/08/2010	13/02/2021	Recertified on 20/01/2022.
1099570221CN738	2	27/05/2011	27/11/2021	Certification cancelled on 17/12/2021. Recertified on 18/01/2022.
0005001370CN915	3	9/12/2015	9/03/2021	Certification cancelled on 17/12/2021. Recertified, awaiting certification report from ATH.
0005002350CN6A0	5	24/04/2020	25/11/2021	Certification cancelled on 17/12/2021. Recertified on 20/01/2022.
0005002355CNBEF	5	24/04/2020	25/11/2021	Certification cancelled on 17/12/2021. Recertified on 20/01/2022.
1099574436CN0D9	5	24/04/2020	25/11/2021	Certification cancelled on 17/12/2021. Recertified on 20/01/2022.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 8.2 With: Clause 46(1) of Schedule 10.7 From: 13-Feb-21 To: 27-Nov-21	Inspections not conducted for six installations. Potential impact: Medium Actual impact: Low Audit history: Once 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
Resolved by recertification of the specific sites concerned. The overall work program was impacted by lockdowns and restrictions, however the majority of inspections and recertifications achieved on time.		10/02/2022	Cleared
Preventative actions taken to ensure no further issues will occur		Completion date	

Assuming no Covid lockdowns and restricted movements – generally late ICP inspections are not expected to feature in 2022	10/02/2022	
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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(1G), (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) 3 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.*

If the MEP is advised under 48(1B)(c) or (48(1F)(d) the MEP must update the relevant meter register content code for the relevant meter channel.

Audit observation

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

Audit commentary

During the Category 1 inspections six examples of broken seals were identified. In all six cases the installation was re-sealed by the ATH following confirmation that the integrity of the installation was not compromised.

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 two examples of Category 1 metering installations where the trader had requested Category 1 meters be removed and sent for testing following customer queries regarding the accuracy of the metering (special tests). In both cases the special tests confirmed that the meters were accurate, and Counties provided details of the investigations to the traders within the required timeframe.

Counties provided three examples where meters had been bridged. In all three cases the ATH attended, unbridged the meter and recertified the metering installation. Notification was provided to the trader within the required timeframe in all three cases.

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

Counties provided three examples where meters had been bridged. In all three cases the ATH attended, unbridged the meter and recertified the metering installation within the required timeframe. The information returned by the ATH met the requirement for the provision of a statement of situation.

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 three examples where meters had been bridged. In all three cases the ATH attended, unbridged the meter and recertified the metering installation. The information returned by the ATH met the requirement for the provision of a statement of situation.

Audit outcome

Compliant

9.4. Timeframe for correct defects and inaccuracies (Clause10.46A)

Code reference

Clause10.46A

Code related audit information

When the metering equipment provider is advised under 10.43 or becomes aware a metering installation it is responsible for is inaccurate, defective or not fit for purpose the metering equipment provider must undertake remedial actions to address the issue.

The metering equipment provider must use its best endeavours to complete the remedial action within 10 business days of the date it is required to provide a report to participants under 10.43(4)(c).

Audit observation

I checked three examples where Counties had become aware of faulty metering installations, where the meters had been bridged.

Audit commentary

I checked three examples where the meters had been bridged during the audit period. In all three cases the ATH attended, unbridged the meter and recertified the metering installation within the required timeframe.

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.

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 an events that may affect the integrity or operation of the metering installation, such as malfunctioning or tampering.

The MEP must investigate and remediate any events and advise the reconciliation participant.

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 by looking at examples of data and by checking security protocols.

Audit commentary

Interrogation cycle

Counties provided reporting from Intellihub of ICPs where interrogation had not occurred within the maximum interrogation cycle of the meter. The report identified 780 ICPs and included a field showing the status of the “AMI Comm” flag. The “AMI Comm” flag was set to “N” for all 780 ICPs, which means compliance is achieved. Intellihub provides a weekly report to Counties which identifies meters which have not been read within 60% of the maximum interrogation cycle to ensure that Counties can update the “AMI Comm” flag to “N” before the maximum interrogation cycle is reached.

Security of raw meter data

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

10.6. 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

Data is transmitted securely by SFTP and is only accessible to authorised persons with appropriate passwords. 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 2nd December 2021 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 2 December 2021 report contained 74 records from the previous week where clock errors were greater than 30 seconds for Category 1 HHR, or 10 seconds for Category 2 HHR, or 60 seconds for Category 1 and 2 NHH metering installations. Further analysis found that 40 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 34 meters that required corrections greater than the maximum allowable time errors as detailed in the table below:

	Number of meters
Cat 1 HHR time error > 30 seconds	26
Cat 2 HHR time error > 10 seconds	6
Cat 2 NHH time error > 60 seconds	2

Audit outcome

Non-compliant

Non-compliance	Description	
Audit Ref: 10.7 With: Clause 8(4) of Schedule 10.6 From: 01-Nov-20 To: 02-Dec-21	34 examples of clock errors outside the allowable thresholds in the 2 December 2021 report. 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
Typically, newly installed meters need initial time sync to system time at first interrogation. Otherwise, the audit shows the system is catching and correcting the minor time drifts as they occur, and is as good as the technology is as it stands in 2022.	10/02/2022	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
Discussed at length with L&G and Intellihub who advise there is no practical way to further improve the overall time keeping of the meters deployed and time syncing systems.	10/02/2022	

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 3rd December 2021, 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 for the same period.

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 validation occurs daily and is based on midnight-to-midnight NZST. The "fail" setting is 1 kWh, and all trading periods must be present for a pass to occur.

The Code requires additional practices and reporting from 1 February 2021, specifically: If an electronic interrogation is incomplete (missing register or missing intervals), Clause 8(11) of Schedule 10.6 applies, which is the requirement to complete an interrogation within the lesser of 30 days or 25% of the maximum interrogation cycle. If the interrogation is successful before 30 days or 25% of the maximum interrogation cycle, sum-check can be performed for the period the data had been incomplete. For example, if there is a successful interrogation on day 1 but the next successful interrogation (100% complete data including the register reading), is on day 5, sum-check can occur for a 5-day period. It also seems that if a sum-check is not performed for 30 days or 25% of the maximum interrogation cycle, the AMI flag must be changed to "N". With the flag set to "N", certification is not cancelled, because the services access interface changes from remote to local once the flag changes from "Y" to "N", and this clause only relates to installations where the services access interface is remote.

Intellihub implemented new processes and reporting on the 17th of May 2021 to meet the new code requirements with regard to managing the AMI flag within the lesser of 30 days or 25% of the maximum interrogation cycle and investigating interrogation failures. Intellihub provided reporting which identified

86 meters which had failed sum-checks which were not resolved within three business days. 45 of these had been recertified but not within ten business days. I checked a sample of ten of the recertified ICPs and found that certification had not been cancelled prior to recertification. Non-compliance is recorded in **section 6.4** as certification was not cancelled within 10 business days for the 86 ICPs. Compliance is recorded in this section because the sum-check is conducted.

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

10.11. Raw meter data and compensation factors (Clause 8(10) of Schedule 10.6)

Code reference

Clause 8(10) of Schedule 10.6

Code related audit information

The MEP must not apply the compensation factor recorded in the registry to raw meter data downloaded as part of the interrogation of the metering installation.

Audit observation

I checked whether Intellihub was applying compensation factors to raw meter data on behalf of Counties.

Audit commentary

Intellihub is not applying compensation factors to raw meter data.

Audit outcome

Compliant

10.12. Investigation of AMI interrogation failures (Clause 8(11), 8(12) and 8(13) of Schedule 10.6)

Code reference

Clause 8(11), 8(12) and 8(13) of Schedule 10.6

Code related audit information

If an interrogation does not download all raw meter data the MEP must investigate the registry why or update the registry to show the meter is no longer AMI.

If the MEP chooses to investigate the reasons for the failure the MEP has no more than 30 days or 25% of the maximum interrogation cycle, from the date of the last successful interrogation (whichever is shorter).

If the MEP does not restore communications within this time or determines they will be unable to meet this timeframe they must update the registry to show the meter is no longer AMI.

Audit observation

I checked whether reporting was in place for installations not interrogated within 30 days or 25% of the maximum interrogation cycle.

Audit commentary

I checked the process implemented by Intellihub to meet the new code requirements which require that a successful interrogation must occur within the lesser of 30 days or 25% of the maximum interrogation cycle. A “missing data export” report identifies meters where there are gaps in either the interval or register data. These are followed up to attempt to retrieve the missing data from the meter or Counties is advised to update the AMI flag to “N” on the registry or cancel certification.

I examined a report provided by Intellihub on 3rd December 2021. The report identified six meters which had not been successfully interrogated within 30 days or 25% of the maximum interrogation cycle. I checked the registry for these six meters and found that the meter had been replaced and metering installation recertified for one and five had no action taken to change the AMI flag to “N” or cancel the certification. I have recorded non-compliance for these five.

Whilst the current processes achieve compliance, Intellihub was not able to put the reporting required to achieve compliance in place prior to the 1 February 2021 code changes. I have recorded non-compliance for the period prior to reporting being put in place on 20th May 2021 as Intellihub were unable to identify meters requiring a change of the AMI flag to “N” or cancellation of certification. I was unable to identify the number of meters affected.

Audit outcome

Non-compliant

Non-compliance	Description
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<p>Audit Ref: 10.12</p> <p>With: Clause 8(11), 8(12) and 8(13) of Schedule 10.6</p> <p>From: 01-Feb-21</p> <p>To: 03-Dec-21</p>	<p>Reporting and processes not in place to resolve interrogation issues or change the AMI flag to “N” at 25% of the MIC or 30 days between 1 February and 20 May 2021.</p> <p>No action taken to change the AMI flag to “N” or cancel the certification for five meters which had not been successfully interrogated within 30 days or 25% of the maximum interrogation cycle.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: None</p> <p>Controls: Strong</p> <p>Breach risk rating: 1</p>				
Audit risk rating	Rationale for audit risk rating				
<p>Low</p>	<p>The controls are recorded as strong as reporting had been put in place at the time of the audit.</p> <p>The impact on settlement and participants is minor; therefore, the audit risk rating is low.</p>				
Actions taken to resolve the issue	Completion date	Remedial action status			
Resolved via Intellihub systems update in 2021	10/02/2022	Cleared			
Preventative actions taken to ensure no further issues will occur	Completion date				
Resolved via Intellihub systems update in 2021	10/02/2022				

CONCLUSION

Counties recertification activities have been impacted by both access issues and delays in availability of meter stock due to the Covid 19 pandemic. Though the number of metering installations with expired certification has decreased by 253 since the last audit.

The audit records fourteen non-compliances and makes one recommendation, the main issues are as follows:

- some inaccuracies and late updating of registry information,
- certification has not been cancelled for six metering installations where inspections were not completed, three metering installations where low burden is present, and 86 ICPs with failed sum-checks, and
- expired metering installation.

Non-compliance has been recorded in sections 2.1 and 5.1 due to ATHs not implementing all changes required to meet new requirements introduced on 1st February 2021 in the areas of certification of measuring transformers and recording of each available services access interface. I have recommended that Counties work with its contracted ATH to improve the content recorded in Category 1 metering installation certification reports.

Counties agent Intellihub has implemented new processes and reporting to meet the new requirements as they relate to data collection, particularly the maximum interrogation cycle and sum-check requirements, but these changes were not able to be implemented by 1st February 2021.

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 to reflect the number of non-compliances that had been resolved at the time the audit was finalised.

PARTICIPANT RESPONSE

The 2021 program of work was severely impacted by lockdowns, illnesses and also material supply issues, but still positive progress has been demonstrated in all areas including reduction of the category 1 non-compliant / and interim certified metering installations.

Audits are always focussed very much on the negative, and whilst not disputing any findings we suggest way the audit scoring matrix works is somewhat dysfunctional.

It seems for small numbers of miscellaneous non compliances (some real odd technicalities) generate a total score that exaggerates the apparent level of non-compliance - to a point that out of step with the real situation.

All very disheartening for an experienced and dedicated team working extremely hard to deliver an excellent metering service to our customers.