

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

For

NETWORK WAITAKI LIMITED

Prepared by: Brett Piskulic – Veritek Limited

Date audit commenced: 20 March 2020

Date audit report completed: 26 April 2020

Audit report due date: 01-May-20

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EXECUTIVE SUMMARY

Network Waitaki Limited (Network Waitaki) is a Metering Equipment Provider (MEP) and is required to undergo an audit by 01 May 2020, in accordance with clause 16A.17(a).

The audit was carried out remotely using Zoom on April 21st, 2020 due to the nationwide lockdown in response to the COVID-19 pandemic.

This audit found six instances of non-compliance.

Network Waitaki had commenced recertification by statistical sampling for 101 ICPs with expired certification. The sample meters have been removed and sent to the ATH for testing but due to the impact of the Covid-19 pandemic the ATH has been unable to complete the testing of the meters and the recertification.

One Category 2 installation was recertified without low burden being addressed, which means certification is cancelled.

There were two category 1 metering installations which were not inspected during the inspection window due to access problems, certification is cancelled for these two installations.

There are robust processes and practices in place which has resulted in a high level of compliance.

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 recommends an audit frequency of 24 months. I agree with this recommendation.

AUDIT SUMMARY

NON-COMPLIANCES

Subject	Section	Clause	Non-Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Changes to registry records	4.10	3 of Schedule 11.4	Two records updated on the registry later than 10 business days.	Strong	Low	1	Cleared
Response to switch notification	6.1	1(1) of Schedule 11.4	Four late acceptances.	Strong	Low	1	Cleared
Provision of Registry Information	6.2	7 (1), (2) and (3) of Schedule 11.4	Small number of registry discrepancies.	Strong	Low	1	Identified
Cancellation of certification	6.4	6 of Schedule 11.4	Certification cancelled, and registry not updated for: <ul style="list-style-type: none"> - Two Category 1 ICPs not inspected, - One Cat 2 ICP certified with low burden. 	Strong	Low	1	Identified

Certification of metering installations	7.1	10.38 (a), clause 1 and clause 15 of Schedule 10.7	Certification expired for 101 ICPs.	Strong	Low	1	Identified
Category 1 inspections	8.1	45 of Schedule 10.7	Two Category 1 ICPs not inspected.	Strong	Low	1	Identified
Future Risk Rating						6	
Indicative Audit Frequency						24 months	

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

RECOMMENDATIONS

Subject	Section	Recommendation	Description
		Nil	

ISSUES

Subject	Section	Recommendation	Description
			Nil

1. ADMINISTRATIVE

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

Code reference

Section 11 of Electricity Industry Act 2010.

Code related audit information

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

Audit observation

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

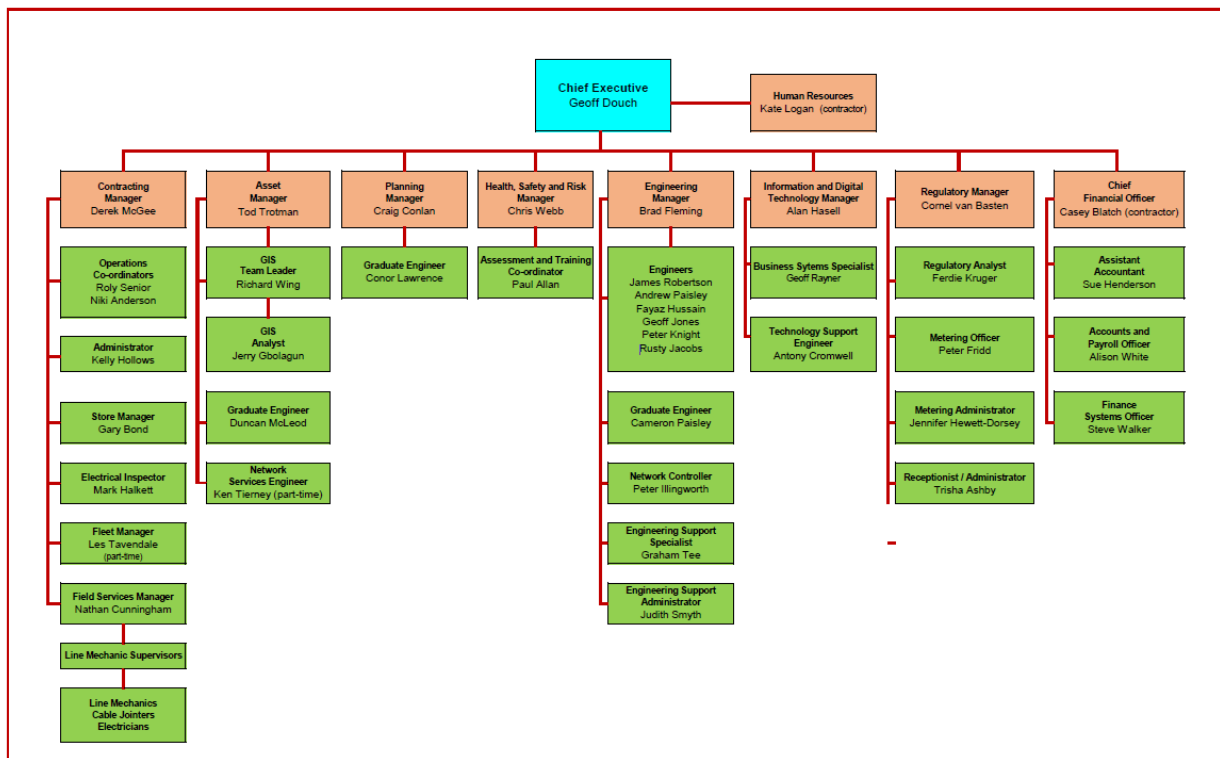
Audit commentary

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

1.2. Structure of Organisation

Network Waitaki Organisation Chart

April 2020



1.3. Persons involved in this audit

Auditor: Brett Piskulic

Veritek Limited

Electricity Authority Approved Auditor

Network Waitaki personnel assisting in this audit were:

Name	Title
Peter Fridd	Metering Manager
Steve Walker	Finance Systems Officer
Jennifer Dorsey	Metering Administrator

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 fulfillment 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

Network Waitaki engages with ATHs to conduct certification activities but there are no agents engaged to conduct MEP activities.

Audit commentary

Network Waitaki engages with ATHs to conduct certification activities but there are no agents engaged to conduct MEP activities.

1.5. Hardware and Software

Network Waitaki use a SQL database and Content Management Server.

Data storage is cloud hosted so all data is backed up live and can be restored in the event of a failure of local systems.

1.6. Breaches or Breach Allegations

Network Waitaki confirmed there were no breach allegations related to the scope of this audit.

1.7. ICP Data

Metering Category	Number of ICPs
1	4,520
2	8
3	0
4	0
5	0
9	0

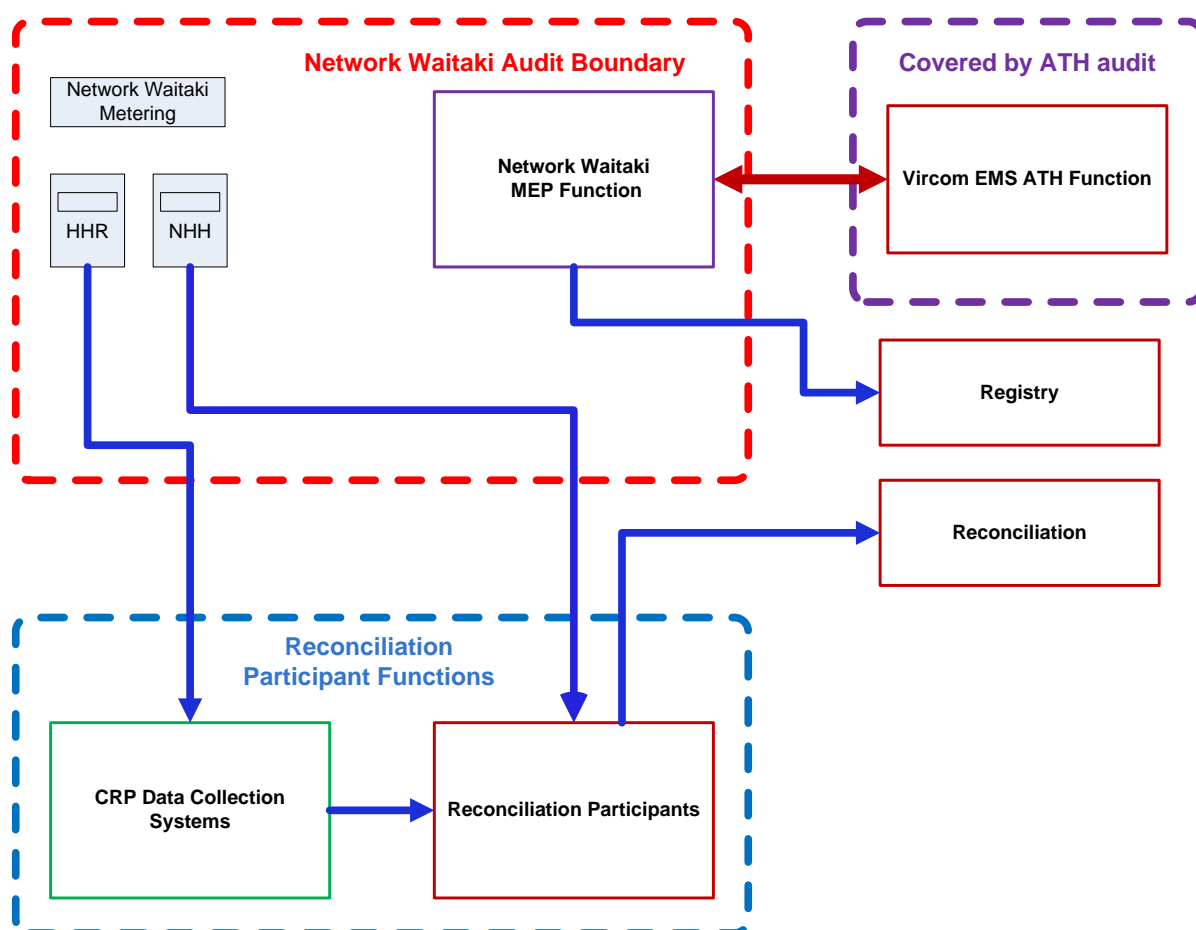
1.8. Authorisation Received

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 April 2018 by Steve Woods of Veritek Limited. The table below shows the status of the issues raised.

Table of Non Compliance

Subject	Section	Clause	Non-compliance	Status
Changes to registry records	4.10	3 of schedule 11.4	Metering records for 2 new connection ICPs notified to the registry late. 12,299 changes to registry records updated late.	Still existing
Accuracy of registry records	6.2	7(1) of schedule 11.4 & 11.2(1)(a) of part 11 & 10.6(1)(a) of part 10	Small number of registry discrepancies.	Still existing
Certification of metering installations	7.1	10.38(a) of part 10 & 15(1) of schedule 10.	Certification expired for 252 ICPs.	Still existing for lesser number

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 20 metering installations, all conducted by VEMS, the only ATH engaged by Network Waitaki.

Audit commentary

I checked 20 certification records and found the services access interface was recorded in every case.

Audit outcome

Compliant

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

Network Waitaki 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

Network Waitaki uses the WATA 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

Network Waitaki does not have any communication equipment that is required to comply with this clause. All AMI equipment installed on the Waitaki network is operated by other MEPs.

Audit commentary

Network Waitaki does not have any communication equipment that is required to comply with this clause. All AMI equipment installed on the Waitaki network is operated by other MEPs.

Audit outcome

Not applicable

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 Network Waitaki has taken all practicable steps to ensure that information is complete and accurate.

Audit outcome

Compliant

3. PROCESS FOR A CHANGE OF MEP

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

Code reference

Clause 10.22

Code related audit information

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

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

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

Audit observation

I checked if Network Waitaki had sent or received any invoices.

Audit commentary

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

Audit outcome

Not applicable

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

There were no examples found in the audit compliance report because Network Waitaki has not become the MEP for any ICPs other than new connections.

Audit commentary

There were no examples found in the audit compliance report because Network Waitaki has not become the MEP for any ICPs other than new connections.

Audit outcome

Not applicable

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 Network Waitaki to confirm whether there had been any requests from other MEPs.

Audit commentary

This has not occurred and no examples are available to examine.

Audit outcome

Not applicable

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 MEPs 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 Network Waitaki has ceased to be responsible for some metering installations by checking the event detail report.

Audit commentary

Network Waitaki has ceased to be responsible for some metering installations and they still continue with their responsibilities, mainly in relation to the storage or records, which are kept indefinitely. I confirmed this by checking an example of an ICP decommissioned during the audit period.

Audit outcome

Compliant

4. INSTALLATION AND MODIFICATION OF METERING INSTALLATIONS

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

Code reference

Clause 2 of Schedule 10.7

Code related audit information

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

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

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

Audit observation

I checked the design reports in use to confirm compliance with this clause.

Audit commentary

I checked four design reports and confirmed all of the requirements noted above were included and they were prepared by a person with the appropriate level of skills, expertise, experience and qualifications.

Audit outcome

Compliant

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

Code reference

Clause 9 of Schedule 10.6

Code related audit information

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

Audit observation

I confirmed that Network Waitaki has used VEMS as the only ATH during the audit period.

Audit commentary

I checked the Authority's website and confirm that VEMS has an appropriate scope 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 Network Waitaki to ensure compliance with the design and with the error thresholds stipulated in Table 1. I also checked the certification records for 20 metering installations.

Audit commentary

The design report confirms the errors stipulated in Table 1 will not be exceeded. All 20 certification reports correctly recorded the design report, and that the installation complied.

Audit outcome

Compliant

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

Code reference

Clause 4(2)(a) of Schedule 10.7

Code related audit information

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

Audit observation

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

Audit commentary

Network Waitaki does not have any metering installations where subtractive metering is used.

Audit outcome

Not applicable

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 Network Waitaki's list file to confirm compliance with this requirement.

Audit commentary

Network Waitaki only has Category 1 and Category 2 metering installations.

Audit outcome

Not applicable

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 Network Waitaki is responsible for any NSP metering.

Audit commentary

Network Waitaki is not the MEP for any NSP metering.

Audit outcome

Not applicable

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

I checked if Network Waitaki is responsible for any GXP metering by reviewing the NSP Mapping Table.

Audit commentary

Network Waitaki is not the MEP for any grid metering.

Audit outcome

Not applicable

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 Network Waitaki to provide details of how they ensure the suitability of metering installations.

Audit commentary

Network Waitaki provided a copy of the “Network Procedure – Authorised Contractors Installation of Meters” document. I confirmed that this document contains instructions to installers regarding the physical location of metering installations. The document also includes the certification requirements of the Electrical Safety Regulations for all scenarios relating to work completed on metering installations. Network Waitaki conducts regular audits of meter installers work to ensure compliance.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

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

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

Audit observation

I checked whether appropriate consultation had occurred.

Audit commentary

The design reports have all been sent to the relevant traders and no changes have been required as a result of their responses. Network Waitaki does not have any metering installations on other networks. There were no new design reports created during the audit period.

Audit outcome

Compliant

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

Code reference

Clause 3 of Schedule 11.4

Code related audit information

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

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

Audit observation

I checked the audit compliance report for the period 07/03/19 to 06/03/20 to evaluate the timeliness of registry updates.

Audit commentary

The table below shows that all new connections were updated within 10 business days.

There were two cases where the registry was updated late after recertification occurred due to a delay in paperwork being returned from the field.

Event	Year	Total ICPs	ICPs Notified Within 10 Days	ICPs Notified Greater Than 10 Days	Average Notification Days	Percentage Compliant
New connections	2017	11	9	2		82%
	2018	34	31	3	3.4	91%
	2020	17	17	0	Not calculated	100%
Update	2017	13,456	1,157	12,299		8.6%
	2018	2,109	2,031	73	4	97%
	2020	214	212	2	1.2	99.06%

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.10 With: Clause 3 of Schedule 11.4 From: 16-May-19 To: 06-Mar-20	Two records updated on the registry later than 10 business days. Potential impact: Low 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 in this area as Network Waitaki has checks in place to identify and resolve discrepancies and the number of late updates was low. The impact on participants, customers or settlement could be minor where a certification update is late; therefore, the audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
In the middle of last year, a series of Data Discrepancy reports were written and these have proved very beneficial to keeping data accurate in the Registry and NWL’s CRM system.		24/4/2020	Cleared
Preventative actions taken to ensure no further issues will occur		Completion date	
NWL feels that the introduction of the Daily and Weekly Data Discrepancy Reports has been hugely beneficial towards keeping records accurate in both data bases. It has shown itself already to be a strong tool and will continue to be built on to assist for future requirements.		24/4/2020	

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

Network Waitaki does not manage a data collection system that would be considered "metering infrastructure".

Audit commentary

Network Waitaki does not manage a data collection system that would be considered “metering infrastructure”.

Audit outcome

Not applicable

4.12. Responsibility for Metering at ICP (Clause 11.18B(3))

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 metering equipment provider that is responsible for decommissioning the metering installation must—

(a) if the metering equipment provider is responsible for interrogating the metering installation—

(i) arrange for a final interrogation to take place before the metering installation is decommissioned; and

(ii) provide the raw meter data from the interrogation to the trader that is recorded in the registry as being responsible for the ICP; or

(b) if another participant is responsible for interrogating the metering installation, advise the other participant not less than three business days before the decommissioning—

(i) of the date and time of the decommissioning; and

(ii) that the participant must carry out a final interrogation.

(2) To avoid doubt, if a metering installation at an ICP is to be decommissioned because the ICP is being decommissioned—

(a) the metering equipment provider is not responsible for arranging a final interrogation of the metering installation; and

(b) the trader that is recorded in the registry as being responsible for the ICP must arrange for a final interrogation of the metering installation under clause 11.18(3).

Audit observation

I checked whether Network Waitaki was the MEP at any decommissioned ICPs 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 Network Waitaki whether they had approved any burden changes during the audit period.

Audit commentary

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

Audit outcome

Not applicable

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

Network Waitaki is not the MEP for any metering installations where these changes would occur.

Audit commentary

Network Waitaki is not the MEP for any metering installations where these changes would occur.

Audit outcome

Not applicable

4.15. Temporary Energisation (Clause 10.28(6))

Code reference

Clause 10.28(6)

Code related audit information

An MEP must not request the temporary energisation of a new POC unless authorised to do so by the reconciliation participant responsible for that POC and has an arrangement with that reconciliation participant to provide metering services.

Audit observation

I checked examples of insufficient load certification to determine whether there were any examples of temporary energisation for the purposes of testing.

Audit commentary

I checked examples of insufficient load certification to determine whether there were any examples of temporary energisation for the purposes of testing. Network Waitaki does not conduct temporary livening, all metering installations are certified at the time of livening

Audit outcome

Not applicable

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*
- m) the signed inspection report confirming that the metering installation complies with the requirements of Part 10.*

Audit observation

I checked certification records for 20 metering installations to evaluate compliance with this clause. I also checked the Category 1 inspection records for the 2019 year.

Audit commentary

All certification records were complete and accurate, and the inspection process did not identify any information related issues.

Audit outcome

Compliant

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 Network Waitaki whether any requests had been made for copies of inspection reports.

Audit commentary

Network Waitaki has not been requested to supply any inspection reports, but these are available and can be supplied on request.

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 old metering records to confirm compliance.

Audit commentary

Network Waitaki keeps records indefinitely. I confirmed this by checking some records more than four years old.

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

Network Waitaki will comply with this requirement as it arises. There are no current examples where this has occurred.

Audit commentary

Network Waitaki will comply with this requirement as it arises. There are no current examples where this has occurred.

Audit outcome

Not applicable

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 to confirm whether all responses were within 10 business days.

Audit commentary

The switch breach history detail report identified four examples of late acceptance.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.1 With: Clause 1(1) of Schedule 11.4 From: 08-Nov-18 To: 06-Mar-20	Four late acceptances. Potential impact: Low Actual impact: None 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 reporting is in place to identify issues. The impact on settlement and participants is minor; therefore, the audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
The discrepancy report written middle of last year has helped identify MEP switches waiting in the registry as soon as they are loaded in.		24/4/2020	Cleared
Preventative actions taken to ensure no further issues will occur		Completion date	
The discrepancy report was introduced it has stopped this breach from occurring.		24/4/2020	

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

Code reference

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

Code related audit information

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

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

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

Audit observation

I checked the list file and audit compliance report to identify discrepancies.

Audit commentary

Analysis of the list file and audit compliance report found a small number of issues. The table below shows the issues found and has a comparison to the previous audit results.

Quantity of ICPs 2020	Quantity of ICPs 2018	Quantity of ICPs Dec 2016	Quantity of ICPs Feb 2016	Issue	Resolution
2				Incorrect ATH	Corrected
5	236	467	102	Incorrect certification or expiry dates	Corrected
1	1	1	1	ICP 0000050330WT582 does not have metering details recorded, but this is the Benmore HVDC link unmetered back-up supply which is likely to be metered by Meridian in late 2020	In progress
0	0	1	55	ICPs with a controlled tariff but no control device.	N/A
0	0	0	34	ICPs with CN only and a residential ANZSIC code. 3 ICPs were identified but the ANZSIC codes are incorrect, CN is correct.	N/A
1	0	0	2	ICPs with night but no day.	Corrected
0	0	0	4	Timed profiles with LCD certification = No.	N/A
0	0	0	2	Incorrect AMI flag	N/A
2	3	Not checked	Not checked	UN with a control device One of these has a control device which is not part of the metering installation which controls a streetlight. The second is the result of a single rate meter being installed to replace another MEP's two rate meter damaged by a lightning strike. WATA installed the meter as a temporary measure to restore supply and left the relay installed but it is not currently used. The other MEP	Investigating

				was to return to site to replace the meter but this has not yet occurred.	
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Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 6.2 With: Clause 7 (1), (2) and (3) of Schedule 11.4 From: 07-Mar-19 To: 06-Mar-20	Small number of registry discrepancies. Potential impact: Low 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 in this area because there were only a small number of issues which are all now resolved. There could be a minor impact on the retailer for one ICP where the register content code is UN but a control device is present. The audit risk rating is therefore low.		
Actions taken to resolve the issue		Completion date	Remedial action status
A Discrepancy report was written middle of last year		24/4/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
The running of a Discrepancy reports both daily and weekly, identifies Data errors which allow timely corrections within code guidelines		24/4/2020	

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. I checked Network Waitaki's reporting which shows days elapsed between finding a discrepancy and updating the registry.

Audit commentary

Network Waitaki has a full comparison capability through a database that was developed for this purpose. A "Data Rule Exception report" is automatically generated each Monday which identifies any discrepancies. All discrepancies are investigated and if an error is confirmed, the registry is updated immediately, which achieves compliance with the five business day requirement. I checked the most recent report was checked and confirmed that all updates were completed within five business days.

Audit outcome

Compliant

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

Code reference

Clause 20 of Schedule 10.7

Code related audit information

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

- a) the metering installation is modified otherwise than under sub clause 19(3) or 19(6)*
- b) the metering installation is classed as outside the applicable accuracy tolerances set out in Table 1 of Schedule 10.1, defective or not fit for purpose under this Part or any audit*
- c) an ATH advises the metering equipment provider responsible for the metering installation of a reference standard or working standard used to certify the metering installation not being compliant with this Part at the time it was used to certify the metering installation, or the failure of a group of meters in the statistical sampling recertification process for the metering installation, or the failure of a certification test for the metering installation*
- d) the manufacturer of a metering component in the metering installation determines that the metering component does not comply with the standards to which the metering component was tested*
- e) an inspection of the metering installation, that is required under this Part, is not carried out in accordance with the relevant clauses of this Part*
- f) if the metering installation has been determined to be a lower category under clause 6 and the maximum current conveyed through the metering installation at any time exceeds the current rating of its metering installation category as set out in Table 1 of Schedule 10.1*
- g) the metering installation is certified under clause 14 and sufficient load is available for full certification testing and has not been retested under clause 14(4)*
- h) a control device in the metering installation certification is, and remains for a period of at least 10 business days, bridged out under clause 35(1)*

- i) *the metering equipment provider responsible for the metering installation is advised by an ATH under clause 48(6)(b) that a seal has been removed or broken and the accuracy and continued integrity of the metering installation has been affected.*

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

Audit observation

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

Audit commentary

Inspection

There were two category 1 metering installations which were not inspected during the inspection window due to access problems, certification is cancelled for these two installations.

Low Burden

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

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

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

The memo also states:

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

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

The Authority confirmed on 01/03/18 that certification is cancelled for installations where low burden is not addressed.

Analysis of the certification records for the one Category 2 metering installation, (ICP 0000620117WT4C4) conducted during the audit period found that it had been certified with burden lower than the lowest test point. The extract from the certification report below confirms that the calculated full load burden was below the lowest test point for the CTs (1.25VA). The ATH's process includes a step for the addition of

burden if this scenario exists, this process was not followed for this installation. Certification is cancelled for this installation.

Calculated CT Burden at Full Load Current			
	Red Phase	White Phase	Blue Phase
CT Terminal Voltage & Current	0.014	0.014	0.015
CT Rated Secondary Current squared (I ²)	0.57	0.58	0.60
Calculated Burden at full load in VA	0.614	0.603	0.625
<input type="checkbox"/> Burden resistors added to metering circuit <input type="checkbox"/> Burden Measurements at the Testblock			
Calculated VA that are less than 25% of the CT rated VA on CT's with Ratios of 400/5 or less require added circuit burden			

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.4 With: Clause 6 of Schedule 11.4 From: 16-Aug-19 To: 06-Mar-20	Certification cancelled, and registry not updated for: <ul style="list-style-type: none"> - Two Category 1 ICPs not inspected, - One Cat 2 ICP certified with low burden. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1
Audit risk rating	Rationale for audit risk rating
Medium	I have recorded the controls as strong as Network Waitaki has a regime in place and only two inspections were not conducted due to access issues. It is unlikely that the missed inspections will impact on other participants and on settlement. The audit risk rating is low.
Actions taken to resolve the issue	
Completion date	Remedial action status

<p>Issue 1: NWL tried a number of times to gain access to this site. The site owner Vodafone, wanted NWL's Inspector to travel to Christchurch (500kms round trip) to undertake an induction, before he could go onsite to undertake the Inspection. NWL is going to approach Vodafone to see if they would consider replacing the NWL meter with an NGC Smart meter to help with access issues and, as the NGC Meter Installer has been through the induction process will hopefully mitigate this situation.</p> <p>Issue 2: NWL will again notify the Retailer and technically the Retailer should stop trading onsite until the Property owner gives NWL access to recertify ICP.</p> <p>Issue 3 - The Cat 2 ICP: NWL will undertake some research to ascertain going forward, what will be the best option for this site. We could convert the ICP to whole current metering but would first like to ring Vircom in Rangiora to discuss options with them.</p>	31/7/2020	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
While it is out of NWL's control if access cannot be gained and there is no assistance from the Retailer to achieve the desired result, NWL will always work hard to try and rectify the issue.	31/4/2020	

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 Network Waitaki 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 Network Waitaki 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 energisation, and
- I checked for ICPs where certification was cancelled to ensure the registry was updated accordingly.

Audit commentary

Network Waitaki has recertification programme to ensure installations are certified prior expiry. The weekly "Data Rule Exception report" identifies in advance any installations which will expire.

Network Waitaki is in the process of conducting recertification by statistical sampling for 101 category 1 installations which have expired since January 2020. The sample meters have been removed and sent to the ATH for testing but due to the impact of the Covid-19 pandemic the ATH has been unable to complete the testing of the meters and the recertification. All of the 101 expired installations were previously fully certified.

Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 7.1 With: Clause 10.38 (a), clause 1 and clause 15 of Schedule 10.7 From: 05-Jan-20 To: 06-Mar-20	Certification expired for 101 ICPs. Potential impact: High Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1

Audit risk rating	Rationale for audit risk rating		
Low	<p>I have recorded the controls as strong because Network Waitaki has a good process in place to identify and recertify installations.</p> <p>The impact on settlement is recorded as low. The likelihood of failure or inaccuracy for metering installations with expired certification is low based on the age and type of meters and previous calibration results for these meters.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
The Metering Office contacted the Test-house prior to the lock down and was informed it would be at least two weeks after they returned to work before NWL's meters would be tested. Once that occurs, NWL will update the Registry with the new date effectively making all the Expired Certs current again.		30/6/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
NWL intends to bring forward the start of the 2021 Stat sample to effectively bring forward the testing of the Meters at the Test-house. Our aim is for Meters to be at the Test-house no later than early to mid-November.		24/4/2020	

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*
- *the ATH has the appropriate scope of approval to certify and recertify the metering installation.*

Audit observation

I checked the certification records for 20 metering installations to confirm compliance. VEMS has shown that their processes include all tests and the reports confirm tests are completed.

Audit commentary

VEMS has shown that their processes include all tests and my checks of the 20 certification reports confirm tests have been completed.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

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

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

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

All other installations must measure and separately record:

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

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

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

Audit observation

All relevant metering is compliant with this clause.

Audit commentary

All relevant metering is compliant 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 Network Waitaki 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. In **section 6.4** I have recorded non-compliance due to low burden not being addressed.

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 all ICPs for examples where the CT ratio was above the threshold to confirm that protection was appropriate or that monitoring was in place.

Audit commentary

There are no metering installations certified as a lower category.

Audit outcome

Not applicable

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

Audit commentary

Network Waitaki does not allow certification in accordance with this clause. Load banks are required to be used to increase the load to conduct testing.

Audit outcome

Not applicable

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

Network Waitaki does not allow certification in accordance with this clause. Load banks are required to be used to increase the load to conduct testing.

Audit commentary

Network Waitaki does not allow certification in accordance with this clause. Load banks are required to be used to increase the load to conduct testing.

Audit outcome

Not applicable

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 5 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*
- *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

Not applicable

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 2 seconds per day over a period of 12 months*
- b) *is monitored and corrected at least once every 12 months.*

Audit observation

I asked Network Waitaki whether there were any metering installations with timeclocks.

Audit commentary

Network Waitaki confirmed there are no metering installations with timeclocks.

Audit outcome

Not applicable

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

A process is in place for the management of bridged control devices. None have occurred during the audit period and the inspection process did not identify any.

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 Network Waitaki had taken to identify regions with signal propagation issues.

Audit commentary

Network Waitaki's plant and control devices are reasonably modern with a low frequency so there are no signal propagation issues present. All control devices are tested prior to their installation in the field.

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

As recorded in **section 7.1** Network Waitaki has commenced statistical sampling recertification for 101 category 1 installations which have expired since January 2020. The sample meters have been removed and sent to the ATH for testing but due to the impact of the Covid-19 pandemic the ATH has been unable to complete the testing of the meters and the recertification.

Audit outcome

Compliant

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

Code reference

Clause 24(3) of Schedule 10.7

Code related audit information

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

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

Audit observation

There was one metering installation certified with compensation factors during the audit period.

Audit commentary

I checked the certification records and registry information for the one Category 2 certification conducted during the audit period. The compensation factor was correctly recorded in the certification report and the registry.

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 20 metering installations to confirm compliance.

Audit commentary

Meters were certified for all 20 installations.

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 the one Category 2 certification conducted during the audit period.

Audit commentary

The current transformers were correctly certified in this example.

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

No installations were certified with data storage devices during the audit period.

Audit commentary

No installations were certified with data storage devices during the audit period.

Audit outcome

Not applicable

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 VEMS ATHs has 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 no previously interim certified installations.

Audit outcome

Compliant

8. INSPECTION OF METERING INSTALLATIONS

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

Code reference

Clause 45 of Schedule 10.7

Code related audit information

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

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

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

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

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

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

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

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

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

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

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

Audit observation

I checked whether Network Waitaki had conducted sample inspections for Category 1 metering installations.

Audit commentary

Network Waitaki conducted inspections during 2019. They conducted full 10 yearly inspections of 378 ICPs, not sample inspections. There were two ICPs where access could not be arranged to conduct

inspections during the inspection window, non-compliance is recorded for these ICPs, non-compliance is also recorded in **section 6.4** for these two ICPs as certification was not cancelled.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 8.1 With: Clause 45 of Schedule 10.7 From: 16-Aug-19 To: 06-Mar-20	Two Category 1 ICPs not inspected. Potential impact: Low Actual impact: Low Audit history: None Controls: Strong Breach risk rating: 1		
Audit risk rating	Rationale for audit risk rating		
Low	I have recorded the controls as strong as Network Waitaki has a regime in place and only two inspections were not conducted due to access issues. It is unlikely that the missed inspections will impact on other participants and on settlement. The audit risk rating is low.		
Actions taken to resolve the issue		Completion date	Remedial action status
Will cancel Inspections		30/4/2020	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Not sure how NWL can overcome access issues but certainly more assistance from the retailers would help and NWL will continue to be proactive to gain access to sites to complete the inspections.		24/4/2020	

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 and I then checked the inspection reports for all relevant ICPs.

Audit commentary

No inspections were due during the audit period.

Audit outcome

Not applicable

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*
- *update the metering records in the registry.*

Audit observation

I checked the inspection process and the results to confirm compliance.

Audit commentary

I checked a sample of five inspection reports and confirmed that the information was checked against Network Waitaki's records within the required timeframe.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

- who removed or broke the seal*
- 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

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

Audit observation

I checked an example of notification of missing seals which was found during the inspection of a category 1 metering installation.

Audit commentary

Network Waitaki has a process in place for the management of seals and any subsequent investigation and reporting. In the case checked the ATH investigated and replaced the missing seal at the time of the inspection. The new sealing details were recorded in the inspection report and the MEP records were updated.

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 checked five examples of faulty Category 1 metering installations identified through retailer's requests.

Audit commentary

In all five cases the ATH went to site, replaced faulty meters and recertified the installation. Notification of the ATHs findings were provided to the retailers within 20 business days.

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 five examples of faulty Category 1 metering installations identified through retailer's requests.

Audit commentary

In all five cases the ATH went to site, replaced faulty meters and recertified the installation. Notification of the ATHs findings were provided to the retailers within 20 business days.

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 checked five examples of faulty Category 1 metering installations identified through retailer's requests.

Audit commentary

In all five cases the ATH went to site, replaced faulty meters and recertified the installation. Notification of the ATHs findings were provided to the retailers within 20 business days.

The information provided by the ATH satisfied the requirements for provision of statements of situation.

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

Network Waitaki will provide access to raw meter data in accordance with this clause. No requests have yet been made.

Audit commentary

Network Waitaki will provide access to raw meter data in accordance with this clause. No requests have yet been made.

Audit outcome

Not applicable

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

Network Waitaki will provide access to raw meter data in accordance with this clause. No requests have yet been made.

Audit commentary

Network Waitaki will provide access to raw meter data in accordance with this clause. No requests have yet been made.

Audit outcome

Not applicable

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

Access will be provided as required. No requests have been made.

Audit commentary

Access will be provided as required. No requests have been made.

Audit outcome

Not applicable

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

Access will be provided as required. No requests have been made.

Audit commentary

Access will be provided as required. No requests have been made.

Audit outcome

Not applicable

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

Code reference

Clause 8 of Schedule 10.6

Code related audit information

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

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

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

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

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

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

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

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

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

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

in a form that is accessible to authorised personnel.

Audit observation

Network Waitaki does not conduct electronic data collection.

Audit commentary

Network Waitaki does not conduct electronic data collection.

Audit outcome

Not applicable

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

Network Waitaki does not conduct electronic data collection.

Audit commentary

Network Waitaki does not conduct electronic data collection.

Audit outcome

Not applicable

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

Network Waitaki does not conduct electronic data collection.

Audit commentary

Network Waitaki does not conduct electronic data collection.

Audit outcome

Not applicable

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

Network Waitaki does not conduct electronic data collection.

Audit commentary

Network Waitaki does not conduct electronic data collection.

Audit outcome

Not applicable

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

Code reference

Clause 8(9) of Schedule 10.6

Code related audit information

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

Audit observation

Network Waitaki does not conduct electronic data collection.

Audit commentary

Network Waitaki does not conduct electronic data collection.

Audit outcome

Not applicable

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

Network Waitaki does not conduct electronic data collection.

Audit commentary

Network Waitaki does not conduct electronic data collection.

Audit outcome

Not applicable

CONCLUSION

This audit found six instances of non-compliance.

Network Waitaki had commenced recertification by statistical sampling for 101 ICPs with expired certification. The sample meters have been removed and sent to the ATH for testing but due to the impact of the Covid-19 pandemic the ATH has been unable to complete the testing of the meters and the recertification.

One Category 2 installation was recertified without low burden being addressed, which means certification is cancelled.

There were two category 1 metering installations which were not inspected during the inspection window due to access problems, certification is cancelled for these two installations.

There are robust processes and practices in place which has resulted in a high level of compliance.

PARTICIPANT RESPONSE

First time for Audit to be done with help of Zoom and the Auditor home in Whangarei, found time spent with Auditor informative and was able to share all the relevant documents.

It was a big advantage that the Metering Administrator was able to login and participate in the Audit as well.

This is probably the way of the future, save a lot of travel and accommodation costs