

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

For

**ELECTRICITY INVERCARGILL/THE
POWER COMPANY
(MANAGED BY POWERNET)**

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Date audit commenced: 23 November 2020

Date audit report completed: 14 December 2020

Audit report due date: 20-Dec-20

TABLE OF CONTENTS

Executive summary	5
Audit summary	6
Non-compliances	6
Recommendations	8
1. Administrative.....	9
1.1. Exemptions from Obligations to Comply With Code (Section 11)	9
1.2. Structure of Organisation	9
1.3. Persons involved in this audit	9
1.4. Use of Agents (Clause 10.3)	10
1.5. Hardware and Software	10
1.6. Breaches or Breach Allegations	10
1.7. ICP Data	11
1.8. Authorisation Received	11
1.9. Scope of Audit	11
1.10. Summary of previous audit	12
2. Operational Infrastructure	16
2.1. MEP responsibility for services access interface (Clause 10.9(2))	16
2.2. Dispute Resolution (Clause 10.50(1) to (3))	16
2.3. MEP Identifier (Clause 7(1) of Schedule 10.6)	17
2.4. Communication Equipment Compatibility (Clause 40 Schedule 10.7)	17
2.5. Participants to Provide Accurate Information (Clause 11.2 and Clause 10.6)	17
3. Process for a Change of MEP	20
3.1. Change of metering equipment provider (Clause 10.22)	20
3.2. Registry Notification of Metering Records (Clause 2 of Schedule 11.4)	20
3.3. Provision of Metering Records to Gaining MEP (Clause 5 of Schedule 10.6)	21
3.4. Termination of MEP Responsibility (Clause 10.23)	21
4. Installation and Modification of Metering Installations	23
4.1. Design Reports for Metering Installations (Clause 2 of Schedule 10.7)	23
4.2. Contracting with ATH (Clause 9 of Schedule 10.6)	24
4.3. Metering Installation Design & Accuracy (Clause 4(1) of Schedule 10.7)	24
4.4. Subtractive Metering (Clause 4(2)(a) of Schedule 10.7)	25
4.5. HHR Metering (Clause 4(2)(b) of Schedule 10.7)	26
4.6. NSP Metering (Clause 4(3) of Schedule 10.7)	26
4.7. Responsibility for Metering Installations (Clause 10.26(10))	27
4.8. Suitability of Metering Installations (Clause 4(4) of Schedule 10.7)	27
4.9. Installation & Modification of Metering Installations (Clauses 10.34(2), (2A) and (3))	28
4.10. Changes to Registry Records (Clause 3 of Schedule 11.4)	28
4.11. Metering Infrastructure (Clause 10.39(1))	30
4.12. Decommissioning of an ICP (Clause 10.23A)	31
4.13. Measuring Transformer Burden and Compensation Requirements (Clause 31(4) and (5) of Schedule 10.7)	31
4.14. Changes to Software ROM or Firmware (Clause 39(1) and 39(2) of Schedule 10.7)	32
4.15. Temporary Electrical Connection (Clauses 10.29A)	33
4.16. Temporary Electrical Connection (Clause 10.30A)	33

4.17. Temporary Electrical Connection (Clause 10.31A).....	34
5. Metering Records.....	35
5.1. Accurate and Complete Records (Clause 4(1)(a) and (b) of Schedule 10.6, and Table 1, Schedule 11.4)	35
5.2. Inspection Reports (Clause 4(2) of Schedule 10.6).....	38
5.3. Retention of Metering Records (Clause 4(3) of Schedule 10.6)	38
5.4. Provision of Records to ATH (Clause 6 Schedule 10.6).....	39
6. Maintenance of Registry Information	40
6.1. MEP Response to Switch Notification (Clause 1(1) of Schedule 11.4).....	40
6.2. Provision of Registry Information (Clause 7 (1), (2) and (3) of Schedule 11.4)	40
6.3. Correction of Errors in Registry (Clause 6 of Schedule 11.4)	43
6.4. Cancellation of Certification (Clause 20 of Schedule 10.7).....	44
6.5. Registry Metering Records (Clause 11.8A)	46
7. Certification of Metering Installations.....	47
7.1. Certification and Maintenance (Clause 10.38 (a), clause 1 and clause 15 of Schedule 10.7)	47
7.2. Certification Tests (Clause 10.38(b) and clause 9 of Schedule 10.6)	49
7.3. Active and Reactive Capability (Clause 10.37(1) and 10.37(2)(a))	49
7.4. Local Service Metering (Clause 10.37(2)(b)).....	50
7.5. Measuring Transformer Burden (Clause 30(1) and 31(2) of Schedule 10.7)	50
7.6. Certification as a Lower Category (Clauses 6(1)(b) and (d), and 6(2)(b) of Schedule 10.7).....	51
7.7. Insufficient Load for Certification Tests (Clauses 14(3) and (4) of Schedule 10.7) ..	52
7.8. Insufficient Load for Certification – Cancellation of Certification (Clause 14(6) of Schedule 10.7)	52
7.9. Alternative Certification Requirements (Clauses 32(2), (3) and (4) of Schedule 10.7)	53
7.10. Timekeeping Requirements (Clause 23 of Schedule 10.7)	53
7.11. Control Device Bridged Out (Clause 35 of Schedule 10.7).....	54
7.12. Control Device Reliability Requirements (Clause 34(5) of Schedule 10.7)	54
7.13. Statistical Sampling (Clauses 16(1) and (5) of Schedule 10.7).....	55
7.14. Compensation Factors (Clause 24(3) of Schedule 10.7).....	55
7.15. Metering Installations Incorporating a Meter (Clause 26(1) of Schedule 10.7)	56
7.16. Metering Installations Incorporating a Measuring Transformer (Clause 28(1) of Schedule 10.7)	58
7.17. Metering Installations Incorporating a Data Storage Device (Clause 36(1) of Schedule 10.7).....	60
7.18. Notification of ATH Approval (Clause 7 (3) Schedule 10.3).....	61
7.19. Interim Certification (Clause 18 of Schedule 10.7)	61
8. Inspection of metering installations.....	64
8.1. Category 1 Inspections (Clause 45 of Schedule 10.7)	64
8.2. Category 2 to 5 Inspections (Clause 46(1) of Schedule 10.7)	65
8.3. Inspection Reports (Clause 44(5) of Schedule 10.7).....	67
8.4. Broken or removed seals (Clause 48(4) and (5) of Schedule 10.7).....	68
9. Process for Handling Faulty Metering Installations	69
9.1. Investigation of Faulty Metering Installations (Clause 10.43(4) and (5))	69
9.2. Testing of Faulty Metering Installations (Clause 10.44).....	69
9.3. Statement of Situation (Clause 10.46(2))	70
10. Access to and Provision of Raw meter Data and Metering Installations.....	72

10.1. Access to Raw Meter Data (Clause 1 of Schedule 10.6).....	72
10.2. Restrictions on Use of Raw Meter Data (Clause 2 of Schedule 10.6).....	72
10.3. Access to Metering Installations (Clause 3(1), (3) and (4) of Schedule 10.6)	73
10.4. Urgent Access to Metering Installations (Clause 3(5) of Schedule 10.6)	73
10.5. Electronic Interrogation of Metering Installations (Clause 8(2), 8(3), 8(5) and 8(6) of Schedule 10.6)	74
10.6. Security of Metering Data (Clause 10.15(2))	75
10.7. Time Errors for Metering Installations (Clause 8(4) of Schedule 10.6)	75
10.8. Event Logs (Clause 8(7) of Schedule 10.6).....	76
10.9. Comparison of HHR Data with Register Data (Clause 8(9) of Schedule 10.6)	76
10.10. Correction of Raw Meter Data (Clause 10.48(2),(3)).....	77
Conclusion	78
Participant response.....	78
Appendix A - Template for non-compliance, issues and recommendations.	79
Non-compliance	79
Recommendation	79
Issue79	

EXECUTIVE SUMMARY

This participant audit was performed at the request of PowerNet to encompass the Authority's request for an audit, as required by clause 10.20, of Part 10, of the Electricity Industry Participation Code 2010. PowerNet is a management company which manages the MEP functions on behalf of The Power Company (TPCO) and Electricity Invercargill (ELIN). The company provides the MEP services for metering installations of category 1 and 2 only.

The relevant clauses were audited as required by the Guidelines for Metering Equipment Provider v.2.0 issued by the Electricity Authority.

The number of ICPs Electricity Invercargill (ELIN) MEP was responsible for in November 2020 reduced by 1190 to 1945, The Power Company (TPCO) reduced by 3378 to 4418 ICPs.

The PowerNet MEP staff have made considerable efforts to successfully address the non-compliances from the last audit. This was especially significant considering the challenging circumstances that had to be overcome during the audit period such as Covid 19 lockdown and associated restricted working environment. ELIN had 6 and TPCO 5 non compliances cleared from the previous audit.

This audit ELIN and TPCO both had 8 non compliances identified and 1 recommendation made. The main issue identified during the audit related to:

- Metering installations with expired certification.

There were a very small number of category 1 metering installations involved.

The 14 category 2 installations all occurred during the audit period. 101 category 2 metering installations were certified during the audit period including all historical occurrences.

It was noted that backdating of registry information updates with the consequence of non-compliance were still a problem.

Based on Table 1 of the Guidelines for Reconciliation Participant audit, the next audit should happen within the next 12 months.

Our recommendation is to conduct the next audit in 18 months. This would allow ELIN and TPCO to continue the improvements and commitment to compliance demonstrated during this audit period.

We thank PowerNet staff for their full and complete cooperation in this audit.

The audit period was 16 January 2020 to 20 November 2020.

AUDIT SUMMARY

NON-COMPLIANCES

Electricity Invercargill (ELIN)

Subject	Section	Clause	Non Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Participants to Provide Accurate Information	2.5	Clause 11.2 and Clause 10.6	Information for a small number of ICPs is missing or not up to date.	Moderate	Low	2	Identified
Changes to Registry Records	4.10	Clause 3 of Schedule 11.4	Registry metering information updated later than 10 business days	Strong	Low	1	Identified
Accurate and Complete Records	5.1	CI 4(1)(a)(b) 10.6 Table 1 11.4	Certification information missing for 991 Metec Q meters	Moderate	Low	2	Identified
Provision of Registry Information	6.2	CI 7(1)(2)(3) 11.4	11 x LCD records not populated in registry	Moderate	Low	2	Identified
Certification and Maintenance	7.1	CI 10.38(a) clause 1, clause 15 10.7	10 x cat 2 ICPs with expired certification.	Moderate	Low	2	Identified
Metering Installations Incorporating a meter	7.15	CI26(1) 10.7	10 x cat 2 meters have expired certification.	Moderate	Low	2	Identified

Metering Installations Incorporating a measuring transformer	7.16	CI 28(1) 10.7	10x cat 2 CT installations have expired certification.	Moderate	Low	2	Identified
Category 2 to 5 Inspections	8.2	CI 46(1) 10.7	10 x cat 2 installations were not inspected within the required timeframe.	Moderate	Low	2	Identified
						15	
Future Risk Rating							

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

The Power Company (TPCO)

Subject	Section	Clause	Non Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Participants to Provide Accurate Information	2.5	Clause 11.2 and Clause 10.6	Information for a small number of ICPs is missing or not up to date.	Moderate	Low	2	Identified
Changes to Registry Records	4.10	Clause 3 of Schedule 11.4	Registry metering information updated later than 10 business days	Strong	Low	1	Identified
Provision of Registry Information	6.2	CI 7(1)(2)(3) 11.4	118 x LCD records not populated in registry	Moderate	Low	2	Identified
Certification and Maintenance	7.1	CI 10.38(a) clause 1, clause 15 10.7	91 x cat 1 ICPs and 4 x cat 2 ICPs with expired certification.	Moderate	Low	2	Identified
Metering Installations	7.15	CI26(1) 10.7	4 x cat 2 meters have	Moderate	Low	2	Identified

Incorporating a meter			expired certification.				
Metering Installations Incorporating a measuring transformer	7.16	CI 28(1) 10.7	4 x cat 2 CT installations have expired certification.	Moderate	Low	2	Identified
Interim Certification	7.19	CI 18 10.7	203 TPCO ICPs with expired interim certification	Moderate	Low	2	Identified
Category 2 to 5 Inspections	8.2	CI 46(1) 10.7	4 x cat 2 installations were not inspected within the required timeframe.	Moderate	Low	2	Identified
						15	
Future Risk Rating							

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	Recommendation
1. Design Reports for Metering Installations	4.1	A number of anomalies were observed in the Approved Test House (ATH) installation/certification reports that could potentially lead to some misunderstanding.	PowerNet discuss and resolve the anomalies identified with their contracted ATHs.

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.

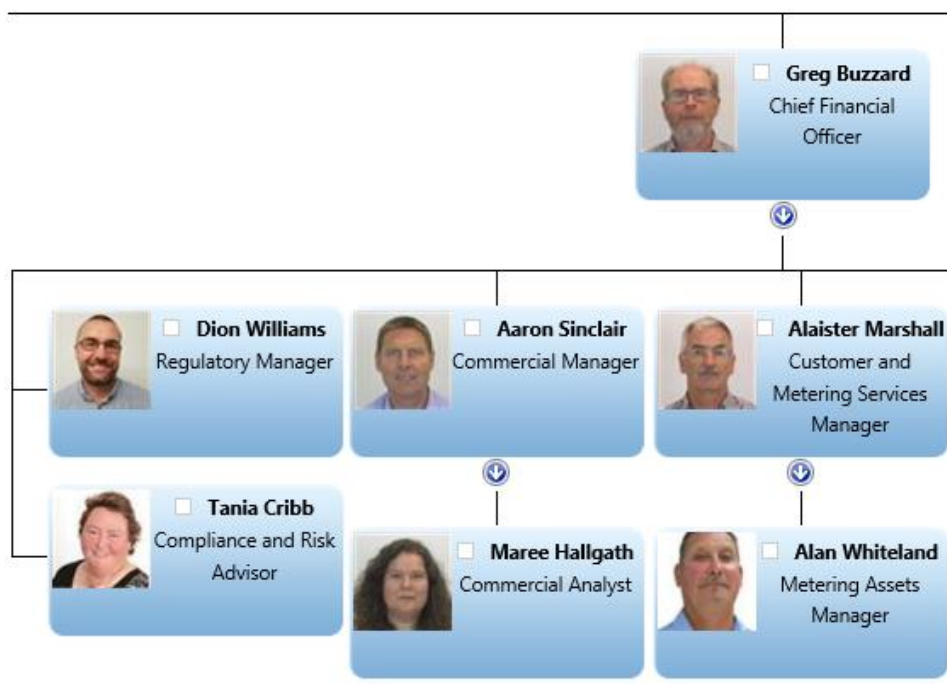
Audit observation

The Electricity Authority website was checked, and it is confirmed that there are no exemptions in place that apply for TCPO or ELIN during this audit period.

Audit commentary

The Electricity Authority has not exempted TPCO/ELIN from compliance with all or any of the clauses.

1.2. Structure of Organisation



1.3. Persons involved in this audit

Name	Title	Company	Comment
Alaister Marshall	Customer and Metering Services Manager	PowerNet	
Alan Whiteland	Metering Assets Manager	PowerNet	Contact person
Fiona Mason	Operations Administrator	PowerNet	
Allan Borcoski	Electricity Authority Approved Auditor	Borcoski Energy Services Ltd	

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 participant's 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

This was checked with PowerNet Staff. TPCO/ELIN does not use agents for the functions covered by this audit

Audit commentary

All functions covered in this audit are performed in-house by PowerNet's staff, or by their database developer Ace Computer Consultants.

1.5. Hardware and Software

The Metering Database is the key system used to deliver the audited processes. The system is maintained appropriately, and it is updated regularly to add tools that assist the MEP function.

1.6. Breaches or Breach Allegations

2. A check of the Electricity Authority Website shows no code breaches during this audit period.

1.7 ICP Data

ELIN

Metering Category	Number of ICPs (Nov 2020)	Number of ICPs (Feb 2020)
1	1882	3013
2	63	122
3	0	0
4	0	0
5	0	0

TPCO

Metering Category	Number of ICPs (Nov 2020)	Number of ICPs (Feb 2020)
1	4366	7702
2	52	94
3	0	0
4	0	0
5	0	0

1.8 Authorisation Received

- PowerNet provided a letter of authorisation to Borcoski Energy Services Ltd enabling the collection of data from other parties for matters directly related to the audit.

1.9 Scope of Audit

PowerNet Limited (PowerNet) is a joint venture company that manages the metering equipment provider (MEP) functions on behalf of Electricity Invercargill (ELIN) and The Power Company (TPCO).

PowerNet utilises the same processes and software to provide the MEP service for both MEPs consequently this audit will cover both ELIN and TPCO MEP functions.

In the body of this report the name PowerNet will be used to represent ELIN and TPCO equally. Where the names ELIN and TPCO are used they will refer singularly.

The scope of the audit is:

(a) The management and maintenance of each metering installation for which the MEP is responsible. This includes the maintenance of metering records, metering components, certification, inspections and investigations.

(b) Provision of metering records to the registry and reconciliation manager.

(c) Provision of access under Part 10 to raw meter data, metering records, and the metering installation.

(d) The security of each meter installation, back office system and communication between the metering installation and back office system that the MEP is responsible for.

The purpose of the audit regime is to evaluate participants' compliance with the Code, to enable the Authority to make informed decision regarding audit of frequency of participants. Important part of the audit is an assessment of controls (processes) which assist to the company to meet their obligation as described in the Code.

The Audit findings were obtained by observation, discussion with PowerNet staff, review of systems, processes and records at an on-site meeting and analysis of information provided by PowerNet and the registry.

1.10 Summary of previous audit

Electricity Invercargill (ELIN)

Subject	Section	Clause	Non-Compliance	Comment
Participants to provide accurate information	2.5	11.2	Information for a small number of ICPs is missing or not up to date.	Still Exists
Registry Notification of Metering Records	3.2	Cl 2 11.4	Metering information registry updates at MEP nomination greater than 15 Days	Cleared
Metering Installation Design & Accuracy	4.3	Cl 4(1) 10.7	A number of metering installation design anomalies and missing design numbers were identified in the metering installation reports	Cleared
Changes to registry records	4.1	3 of Schedule 11.4	Registry metering information updated later than 10 business days for a small percentage of metering installation records	Still Exists
Accurate and complete records	5.1	4(1)(b)(v) of Schedule 10.6	Certification information missing for Metec Q meters	Still Exists

Provision of registry information	6.2	7(1) of Schedule 11.4	5 x CT records not populated in registry	Cleared
Correction of errors in Registry	6.3	CI6 11.4	The day 13 discrepancy report process has been operating irregularly during this audit period.	Cleared
Registry metering records	6.2	11.8A	5 x CT records and 190 x Load Control Devices not recorded in registry	Cleared
Certification and maintenance	7.1	CI 10.38(a)clause 1 clause 15 10.7	424 Category 1 and 7 category 2 TPCO ICPs with expired certification.	Still Exists
Metering Installations Incorporating a meter	7.15	CI26(1) 10.7	2 x cat 2 for ELIN installations have expired certification. The selected component method of certification (all components have same certification) means the meter certification has also expired	Still Exists
Metering Installations Incorporating a measuring transformer	7.16	CI 28(1) 10.7	2 x cat 2 for ELIN installations have expired certification. The selected component method of certification (all components have same certification) means the CT certification has also expired	Still Exists
Category 1 inspections	8.1	45 of Schedule 10.7	Category 1 metering installations were not inspected in 2018	Cleared
Category 2 to 5 inspections	8.2	CI 46(1) of Schedule 10.7	2 x cat 2 ELIN installations were not inspected within the required timeframe	Still Exists

The Power Company (TPCO)

Subject	Section	Clause	Non-Compliance	Comment
Participants to provide accurate information	2.5	11.2 & 10.6	Information for a small number of ICPs is missing	Still Exists
Registry Notification of Metering Records	3.2	CI 2 11.4	Metering information registry updates at MEP nomination greater than 15 Days	Cleared
Metering Installation Design & Accuracy	4.3	CI 4(1) 10.7	A number of metering installation design anomalies and missing design numbers were identified in the metering installation reports	Cleared
Changes to registry records	4.1	3 of Schedule 11.4	Registry metering information updated later than 10 business days for a small percentage of metering installation records	Still exists
Provision of registry information	6.2	7(1) of Schedule 11.4	9 x CT records not populated in registry	Cleared
Correction of errors in Registry	6.3	C I6 11.4	The day 13 discrepancy report process has been operating irregularly during this audit period.	Cleared
Registry metering records	6.5	11.8A	TPCO 9 x CT records and 486 x Load Control Devices not recorded	Cleared
Certification and maintenance	7.1	10.38(a)	1x Category 1 and 2 Category 2 Metering Installation Certificates expired	Still Exists
Metering Installations Incorporating a meter	7.15	CI26(1) 10.7	7 x cat 2 TPCO installations have expired certification. The selected component method of certification (all components have same certification) means the meter certification has also expired	Still Exists
Metering Installations Incorporating a measuring transformer	7.16	CI 28(1) 10.7	7 x cat 2 TPCO installations have expired certification. The selected component method of certification (all components have same certification) means the CT certification has also expired	Still Exists

Interim Certification	7.19	CI 18 10.7	383 TPCO ICPs with expired interim certification	Still Exists
Category 2 to 5 Inspections	8.2	CI 46(1) 10.7	7 x cat 2 TPCO installations were not inspected within the required timeframe.	Still Exists

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

This was discussed with PowerNet Staff.

Audit commentary

ELIN and TPCO are MEP for both non-SMART (no AMI) and SMART meters, however neither MEP offers meter reading or data services. All meters are manually read by retailer managed meter readers, who read the meter registers on site visually and the recorded readings are transferred to the retailer.

The meter register display is the designated services access interface for meters operated by the ELIN and TPCO MEPs. Issues reported by Retailers are dealt with promptly, the standard remedy is to upgrade the metering and transition it to SmartCo MEP.

The SMART meters installed since 2017 have had communications modules fitted to connect to PowerNet's radio mesh communications system. PowerNet does not operate headend infrastructure to support remote access, these meters are read manually. PowerNet is working through a plan to transition these meters to SmartCo where the smart meter functionality will be enabled.

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

This was discussed with PowerNet Staff

Audit commentary

There have been no disputes related to metering that have not been able to be resolved. No disputes have been referred to the Electricity Authority during this audit period.

PowerNet MEP function uses the same disputes resolution procedure that is in place for its distributor function.

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

The LIS file dated 19/11/2020 was checked and this was discussed with PowerNet Staff.

Audit commentary

The LIS file confirmed that the 4-letter code of ELIN is used for Electricity Invercargill and TPCO for The Power Company.

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

Several TOU certification documents were checked and this was also discussed with PowerNet Staff

Audit commentary

PowerNet does not operate headend infrastructure to support remote access to the SMART meters provided by ELIN and TPC. Consequently, all meters are manually read by retailer managed meter readers.

SMART meters installed by PowerNet since 2017 have had communications modules fitted to connect to PowerNet's radio mesh communications system however neither MEP offers meter reading or data services and the functionality is not utilised by ELIN or TPC.

Compliance was not assessed.

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 ELIN/TPCO LIS, EDA, PR-255 files and Audit Summary Report for the audit period were checked.

Audit commentary

The metering database was observed in operation and samples of data fields were provided for review. In addition a number of meter installation reports were reviewed and information checked against the fields available in the metering database.

The PowerNet Installation Requirements and Guidelines were reviewed along with the metering installation designs used by SmartCo in the PowerNet network.

PowerNet stores all metering records in a system called the Metering Database. Meter change information is input both manually for single jobs and in bulk uploads for large meter replacement work. The system updates the registry every night and also checks for discrepancies and if any they are reported for remedial action next day. The Metering Database is a comprehensive, effective and well supported metering information system.

The following areas identified information discrepancies:

Section	Information discrepancy
4.10	<ul style="list-style-type: none">Registry updates later than 10 business days
5.1	<ul style="list-style-type: none">Missing Q meter calibration reports
6.2	<ul style="list-style-type: none">LCD information not populated in Registry
7.1	<ul style="list-style-type: none">Expired metering installation certification
7.15	<ul style="list-style-type: none">Meter Certification expired
7.16	<ul style="list-style-type: none">CT equipment certification expired
7.19	<ul style="list-style-type: none">Interim Certification expiry
8.2	<ul style="list-style-type: none">Metering installations not inspected within required timeframe

Audit outcome

Non-compliant

NON-COMPLIANCE

Non-compliance	Description		
<p>Audit Ref: 2.5</p> <p>With:</p> <p>Clause 11.2 and Clause 10.6</p> <p>From: 16-Jan-20</p> <p>To: 20-Nov-20</p>	<p>Information for a small number of ICPs for both TPCO and ELIN is missing or not up to date.</p> <p>Potential impact: Low</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>Controls are assessed as moderate. Monitoring and correction process are in place and registry data is corrected as anomalies are identified. PowerNet is committed to accurate registry data even where backdating is required with consequent non-compliance. There was no impact on settlement outcomes. The audit risk rating is recorded as low.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>In PowerNet we believe our metering information is of a very high level, but unfortunately there are still a small number of deficiencies which are due to historic information. These can only be obtained by detailed examination within the meter boards on site. As ICPs come up for recertification the information will be collected.</p>		Ongoing	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>Utmost accuracy is employed with all new data loaded</p>		Ongoing	

3 PROCESS FOR A CHANGE OF MEP

3.1 Change of metering equipment provider (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 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

This was discussed with PowerNet Staff and they state that this has not occurred during the audit period.

Audit commentary

PowerNet are cognisant of the ELIN/TPCO MEP obligations and accept those responsibilities for the metering installations under their control. It is noted that PowerNet have an arrangement in place to transition metering installations from ELIN and TPCO MEPs to SmartCo MEP.

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 manager of the registry metering records for the metering installation within 15 days of becoming the MEP for the metering installation.

Audit observation

The ELIN/TPCO MEP EDA file and Audit Compliance report 19/11/2020 were checked along with the registry. This was also discussed with PowerNet Staff.

Audit commentary

ELIN and TPCO did not receive any valid MEP nominations during the audit period.

The Audit Compliance Report identified 3 x TPCO ICPs that appeared to have been MEP nominations where metering information was not updated in the Registry within 15 days. Further investigation showed that 1 was an expired metering installation certificate (this will be addressed in sect 7.1). 2 x ICPs were expired installations that had meters replaced and installations recertified, 1 x which was also transitioned to SMCO.

ELIN had 3 x ICPs identified in the Audit Compliance Report, further examination identified 2 x were data corrections. The final ICP was a Contact prepay metering installation being replaced with PowerNet metering and then transitioned to SMCO.

Audit outcome

Compliant

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

The ELIN/TPCO LIS, EDA, PR-255 files 19/11/2020 were checked. This was also discussed with PowerNet Staff.

Audit commentary

ELIN/TPCO have not been asked to provide metering records by a gaining MEP during the audit period.

ELIN and TPCO have arrangements in place to transition metering installations to SmartCo which necessitates the transfer of metering information to SmartCo.

Since 2017 PowerNet has been installing its own Smart meters under the respective MEPs. PowerNet initially installs, certifies the metering installation and populates the registry. The retailer is then asked to nominate SmartCo to be the MEP for the metering installation. Acceptance by SmartCo triggers a process where PowerNet provides the metering records to SmartCo to upload the registry. This transfer process occurs in batches and has been operating successfully for some years.

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 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

The code requirement was discussed with PowerNet MEP Staff. The metering data and information systems used by PowerNet MEP were examined.

Audit commentary

PowerNet stores all metering records in a system called the Metering Database, related documents (including scanned paper based metering information) are captured in and can be retrieved from a connected document management system.

Metering records are retained by PowerNet after meters are transitioned to SmartCo.

PowerNet's long term strategy is to be a meter equipment owner only and proposes to retain information on the meters it owns. SmartCo will provide the MEP functions for the PowerNet owned meters. As meters are transitioned to SmartCo the meter information is retained in the Metering Database.

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

The design documentation was reviewed also a random sample of 15 category 1 and 7 category 2 installation/certification reports and the Registry were checked. The code requirement was discussed with PowerNet MEP Staff.

Audit commentary

PowerNet use the Delta and Vircom EMS Approved Test Houses. PowerNet have adopted Delta approved Test House metering installation designs for category 1 metering installations in the ELIN and TPCO networks. PowerNet installs only EDM1 meters on category 1 sites.

Category 2 installations use a mixture of Delta and Vircom EMS Approved Test house metering installation designs. PowerNet installs class 1 meters and class 0.5 CTs using the selective component certification method as per Table 1 schedule 10.1 of the code.

While the sample ICP documentation demonstrated that commissioning test results met the code requirements (for example allowable installation errors for category 1 and 2 metering) a number of anomalies were observed in the ATH installation/certification reports that could potentially lead to some misunderstanding:

	Anomaly	Comment
1	The design set does not appear to cover all ELIN/TPCO metering configurations	For example multiple meters with mixture of single and dual element meters.
2	Reports were not always fully completed with some values missing.	For example <ul style="list-style-type: none">prevailing load check start stop times (duration of load check unclear)

		<ul style="list-style-type: none"> meter pulse output values
3	The installation/certification reports indicate HHR metering with remote service access using mesh radio. ELIN/TPCO record its metering as NHH Non AMI.	Registry checks show recertified metering recorded as NHH no AMI.
4	The installation/certification reports indicate service access as back office remote with a 90 day interrogation cycle.	Registry checks show ELIN/TPCO record NHH non AMI meter with a 365 day interrogation cycle.
5	No burden calculations included to ascertain the actual value of burden required to be installed, even though it was stated in the installation/certification reports burden was added.	ELIN/TPCO require burden to be installed according to code requirements.
6	In one installation/certification report the VA rating was used in the Burden at Full Load calculation instead of the required CT secondary current rating.	Using the correct values listed in the report the calculation met code requirements.

It is recommended that PowerNet discuss and resolve the above anomalies with the contracted ATHs.

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

The Electricity Authority website was checked and this was discussed with PowerNet MEP Staff.

Audit commentary

PowerNet use the Delta and Vircom-EMS Approved Test Houses to certify Category 1 and 2 metering installations.

Delta and Vircom-EMS Approved Test Houses are approved by the Electricity Authority to carry out the certification activities undertaken for PowerNet according to the Electricity Authority's website.

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

The design documentation was reviewed also a random sample of 15 category 1 and 7 category 2 installation/certification reports and the Registry were checked. The code requirement was discussed with PowerNet MEP Staff.

Audit commentary

The design set used by PowerNet are approved designs provided by Delta and Vircom-EMS. as Electricity Authority Approved Test Houses.

Delta and Vircom-EMS are Electricity Authority Approved Test Houses subject to regular audit and so subsequently the designs meet code requirements.

PowerNet installs class 1 meters and class 0.5 CTs and uses the selective component certification method as per Table 1 schedule 10.1 of the code.

The review of the sample metering installation/certification reports identified some anomalies, these have been addressed in **sect 4.1**. It should be noted the sample installations passed their certification tests and appear to have met code requirements with respect to this section.

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

The design documentation was reviewed also a random sample of 15 category 1 and 7 category 2 installation/certification reports and the Registry were checked. The code requirement was discussed with PowerNet MEP Staff.

Audit commentary

Current ELIN/TPCO metering designs and installations do not use subtraction to determine submission information used for the purposes of Part 15.

ELIN/TPCO do not offer meter reading or data services and consequently, all meters are manually read by retailer managed meter readers.

PowerNet is aware that there may be a very small number of historic metering installations using subtraction metering (only within the remaining interim certified installations). If subtraction metering is found during metering replacement it is removed.

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

The ELIN and TPCO LIS files 19/11/2020 were checked and this was discussed with PowerNet MEP Staff.

Audit commentary

ELIN and TPCO MEPs do not have any category 3 metering installations and also do not provide MEP services for Category 3 metering installations.

This clause is not applicable. Compliance was not assessed.

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

This was discussed with PowerNet MEP Staff.

Audit commentary

PowerNet MEP Staff state ELIN and TPCO are not MEPs for any NSP metering installations that are not connected to the grid.

This clause is not applicable. Compliance was not assessed.

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

This was discussed with PowerNet MEP Staff

Audit commentary

PowerNet MEP Staff state ELIN and TPCO are not responsible for any metering installations for a point of connection to the grid.

This clause is not applicable. Compliance was not assessed.

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

The design documentation was reviewed also a random sample of 15 category 1 and 7 category 2 installation/certification reports and the Registry were checked. This was also discussed with PowerNet MEP Staff.

Audit commentary

PowerNet have adopted the Meter Installation requirements and Guidelines used by SmartCo for the SMART meter rollout in the PowerNet network in 2015 for use by the ELIN and TPCO MEPs. They are a comprehensive set of guides and instructions for metering technicians and have proven effective in managing the quality of metering installations.

Where it is believed necessary electrical inspectors are used to perform metering installations.

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 installation's:

- *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

The design documentation was reviewed also a random sample of 15 category 1 and 7 category 2 installation/certification reports and the Registry were checked. This was also discussed with PowerNet MEP Staff.

Audit commentary

ELIN/TPCO have adopted the Meter Installation requirements and Guidelines used by SmartCo, and specifically developed for the SMART meter rollout in the PowerNet network.

These arrangements have met the requirements of the ELIN and TPCO distributor function and Retailers effectively since 2015.

New connections to the network are inspected by an electrical inspector. PowerNet MEP staff state that they are not aware of any metering installations that may be inappropriate with regard to the physical and electrical characteristics of the POC.

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 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*

Audit observation

The ELIN/TPCO EDA files 19/11/2020 were checked.

Audit commentary

TPCO Registry update performance during the audit period was 97.68 % and ELIN 99.09 %. A summary of the discrepancies is outlined in the following table:

	Registry updates	Registry updated Later than 10 Business days within Audit Period	Historic Registry Updates/Data Corrections
ELIN	1894	<ul style="list-style-type: none"> • 18 x ICPs (0.95 %) • Range 11 to 84 days 	<ul style="list-style-type: none"> • 112 x ICPs (5.91 %) • Range 117 to 5090 days
TPCO	3195	<ul style="list-style-type: none"> • 74 x ICPs (2.32 %) • Range 11 to 104 days 	<ul style="list-style-type: none"> • 154 x ICPs (4.8%) • Range 104 to 4491 days

PowerNet endeavours to have correct and complete information in the registry and have a data monitoring and correction process in place. Transactions are checked daily before upload to the Registry.

In some cases corrections to registry information are backdated and this has the unfortunate consequence of this creating non-compliance.

Audit outcome

Non-compliant

NON-COMPLIANCE

Non-compliance	Description		
Audit Ref: 4.10 With: Clause 3 of Schedule 11.4 From: 16-Jan-20 To: 20-Nov-20	ELIN/TPCO- Registry metering information updated later than 10 business days for a small percentage of metering installation records 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	Controls are assessed as strong. Monitoring and correction process are in place and registry data is corrected as anomalies are identified. PowerNet is committed to accurate registry data even where backdating is required even with the consequent non-compliance. There was no impact on settlement outcomes. The audit risk rating is recorded as low.		
Actions taken to resolve the issue		Completion date	Remedial action status

The rule for timeframe for Registry updates is well understood, and every endeavour is made to comply. However, at times circumstances will be such that to comply with rules requiring complete accuracy backdating will occur.	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
As data continually improves less need for backdating is expected	Ongoing	

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

The design documentation was reviewed along with a random sample of 15 category 1 and 7 category 2 installation/certification reports were checked along with the Registry. The code requirement was discussed with PowerNet MEP Staff.

Audit commentary

ELIN/TPCO use the EDM I Mk7 1 phase and 10D 3 phase range of meters for all new and replacement category 1 meter installations. Category 2 metering installations use L&G meters. Meter installation is supported by the SmartCo EDM I Meter Installation requirements and Guidelines specifically developed for the SMART meter rollout in the PowerNet network. Metering installations are NHH with the service interface at the meter and manually read by Retailer contracted data collectors.

PowerNet and ELIN/TPCO MEPs operate a number of non-SMART meters as well as the EDM I and L & G SMART meter, however they are never installed together in the same metering installation. Where a non-SMART meter installation requires maintenance or service those meters are removed and replaced with EDM I meters.

Meter installations are installed, commissioned and certified using approved Test House procedures (Delta or Vircom-EMS). Metering installation reports are completed by the installation technicians and returned to PowerNet where the metering information is captured in the Metering Database.

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*
- *the responsible trader must arrange for a final interrogation of the metering installation*

Audit observation

The decommissioning process was reviewed along with the registry for ten ICPs decommissioned, and this was discussed with PowerNet MEP Staff.

Audit commentary

PowerNet as the network/distributor receives decommissioning requests from Retailers and customers directly and after approval the network passes the request to the MEP function to have the metering removed.

The field staff complete a metering report with all metering information including final meter reading even though this is the Traders responsibility. The MEP populates the information into the metering database and then uploaded into the registry in the daily registry update. The removed metering information is also provided to the Retailer.

If the ICP is SMART metered, then the Retailer will also arrange a remote final read from SmartCo.

We confirmed the process was followed appropriately.

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

The approach to managing measuring transformer burden and compensation requirements was discussed with the PowerNet MEP staff. 7 category 2 installation/certification reports were also checked.

Audit commentary

ELIN/TPCO have a standing instruction with the ATHs carrying out work on Cat 2 metering installations to apply burdening as required by the code when installing or recertifying a CT metering installation.

At certification expiry ELIN/TPCO replace the metering equipment with L&G meters and carry out comparative test method certification providing the installation is suitable for this, otherwise the CTs are replaced with TWS CTs.

Category 2 Metering Installations:

ELIN

Metering Category	Number of ICPs (Nov 2020)	Number of ICPs (Feb 2020)
2	63	122

TPCO

Metering Category	Number of ICPs (Nov 2020)	Number of ICPs (Feb 2020)
2	52	94

Whilst checking the CT metring installation/certification reports it was noted that no calculations were completed to identify the value of burden required. The information recorded did allow the final in service burden to be calculated. This has been included in the table of anomalies in **Sect 4.1** to be discussed and resolved with the ATHs.

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

The approach to managing changes to software, ROM or firmware was discussed with the PowerNet MEP staff.

Audit commentary

PowerNet MEP staff state ELIN/TPCO MEPs do not have any metering installations where meters would require changes to data storage device software as the new SMART metering is transitioned to SmartCo MEP soon after installation.

Audit outcome

Compliant

4.15 Temporary Electrical Connection (Clauses 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

ELIN/TPCO does not provide MEP services to grid owners.

Audit commentary

This clause is not applicable. Compliance was not assessed.

Audit outcome

Not applicable

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

ELIN/TPCO does not provide MEP services to NSPs

Audit commentary

This clause is not applicable. Compliance was not assessed.

Audit outcome

Not applicable

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

The PowerNet Metering Installation Requirements and Guidelines were reviewed and this was discussed with the PowerNet MEP staff.

Audit commentary

PowerNet MEP staff stated that PowerNet staff only are authorised to connect to the network. Metering technicians are not authorised to connect to the network and consequently ELIN/TPCO MEP does not request temporary electrical connections from PowerNet.

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

Audit observation

The metering database was reviewed along with 15 cat 1 and 7 cat 2 metering installation reports along with samples of meter and CT calibration reports.

Audit commentary

PowerNet stores all metering records in a system called the Metering Database, summary information is also able to be viewed only in PowerNet Connect. Related documents (including scanned paper metering installation reports) are captured in and can be retrieved from a connected document management system. The Metering Database is a comprehensive, effective and well supported metering information system.

Paper based Metering installation reports (including certification test results for cat 2) are completed by the metering technicians, returned to PowerNet where the metering information is entered into the Metering Database and paper record scanned and stored in the document management system.

There are some meter certification/calibration reports missing, for example PowerNet do not hold certification information for a number of Metec Q meters, however these are historic installations and are being actively replaced by EDMI meters. There are 991 ICP's with Metec Q meters currently installed.

	Metering Installation Attribute	Primary Record Storage	Comment
a.	The certification expiry date of each metering component in the metering installation	Metering Database Also read only in PowerNet connect	metering installation reports archived in document management <ul style="list-style-type: none">991 Metec Q meter installations with information missing
b.	All equipment used in relation to the metering installation, including serial numbers and details of the equipment's manufacturer	Metering Database Also read only in PowerNet connect	metering installation reports archived in document management
c.	The manufacturer's or (if different) most recent test certificate for each metering component in the metering installation	Metering Database	metering installation reports archived in document management <ul style="list-style-type: none">991 Metec Q meter installations with information missing
d.	The metering installation category and any metering installations certified at a lower category	N/A	ELIN/TPCO do not certify to lower categories
e.	All certification reports and calibration reports showing dates tested, tests carried out, and test results for all metering components in the metering installation	Metering Database for certification numbers and dates	<ul style="list-style-type: none">metering installation reports, calibration reports and certification reports archived in document managementTWS CT test certificates filed as hard copies
f.	The contractor who installed each metering component in the metering installation	metering installation reports archived in document management	
g.	The certification sticker, or equivalent details, for each metering component that is certified under Schedule 10.8 in the metering installation:	Metering Database	metering installation reports archived in document management
h.	Any variations or use of the 'alternate certification' process	N/A	ELIN/TPCO do not use any alternate certification process
i.	Seal identification information	metering installation reports archived in	

		document management	
j.	Any applicable compensation factors	Metering Database	metering installation reports archived in document management
k.	The owner of each metering component within the metering installation	Metering Database	metering installation reports archived in document management
l.	Any applications installed within each metering component	Metering Database records the basic register configuration and load control function that are programmable	<ul style="list-style-type: none"> • ELIN/TPCO provide only NHH/Non SMART MEP services from meter registers • metering installation reports archived in document management
m.	The signed inspection report confirming that the metering installation complies with the requirements of Part 10.	metering installation reports archived in document management	

Audit outcome

Non-compliant

NON-COMPLIANCE

Non-compliance	Description
<p>Audit Ref: 5.1</p> <p>With:</p> <p>4(1)(a) and (b) of Schedule 10.6, and Table 1, Schedule 11.4</p> <p>From: 16-Jan-20</p> <p>To: 20-Nov-20</p>	<p>ELIN do not have certification information for 991 Metec Q meter Installations.</p> <p>Potential impact: None</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	Controls are assessed as moderate. This is a known industry issue. The issue is being managed and will correct itself as the meters are removed from service. There was no impact on settlement. The audit risk rating is recorded as low.

Actions taken to resolve the issue	Completion date	Remedial action status
This is an historic situation relating to meters purchased a number of years ago. As time goes on these meters are being withdrawn from service, thus the situation is diminishing and with only 991 installations remaining it is expected to replace these during the next audit period where customer approval is granted	ongoing	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
For future meter purchases certification documents are obtained. Therefore no reoccurrence is expected.	N/A	

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

This was discussed with PowerNet MEP Staff

Audit commentary

PowerNet MEP Staff state that no participant has requested an inspection report during the audit period. These reports would be available 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

This was discussed with PowerNet MEP Staff

Audit commentary

PowerNet MEP Staff state that PowerNet's long term strategy is to be a meter equipment owner only and proposes to retain information on the meters it owns. SmartCo will provide the MEP functions for the PowerNet owned meters. When meters are transitioned to SmartCo the meter information is retained in the Metering Database.

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

The metering data and information systems used by ELIN/TPCO MEPs were examined. This was also discussed with PowerNet MEP staff

Audit commentary

PowerNet have no plans to change ATH arrangements in the near future, however if this were to happen PowerNet are aware of their obligation with respect to this clause.

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 manager 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 manager it accepts responsibility for the ICP and of the proposed date on which it will assume responsibility.

Audit observation

The ELIN/TPCO MEP EDA files for the audit period were checked along with the registry and the Audit Summary report. A live demonstration of running the MEP nomination process along with a discussion with PowerNet MEP Staff.

Audit commentary

A well-documented procedure for running the registry report to identify and process ELIN/TPCO MEP nominations was reviewed. The demonstration observed found no MEP nominations to process. No valid nominations were received during the audit period. Traders have been instructed to send all MEP nominations to Smartco and they will drive the metering replacement and recertification.

The Audit Compliance report identified a small number of apparent MEP nominations however further investigation found them to be due to historic data corrections or in the process of being recertified and transitioned to Smartco.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

The MEP must provide the information indicated as being 'required' in Table 1 of clause 7 of Schedule 11.4 to the registry manager, 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 manager must derive from the metering equipment provider's records or the metering records contained within the current trader's system.

Audit observation

The ELIN/TPCO MEP LIS,EDA files 19/11/2020 were checked along with the registry and the Audit Summary report. This was also discussed with PowerNet MEP Staff.

Audit commentary

PowerNet stores all metering records in a system called the Metering Database. The system updates the registry every night and also checks for discrepancies and if any they are reported for remedial action next day. The Metering Database is a comprehensive, effective and well supported metering information system.

PowerNet MEP staff endeavour to maintain accurate metering information in the metering database and consequently the Registry, they are aware of how other participants registry activity can create discrepancies that are difficult to identify and correct.

The audit summary report was used by PowerNet MEP Staff during the audit period and has proven to be a useful tool to assist with identifying discrepancies.

Query	ELIN ICPs	TPCO ICPs	Comment
Active with no metering	Nil	Nil	<ul style="list-style-type: none"> TPCO Audit Compliance report identified 3 ICPs. Checked and all were SMCO MEP.
Accuracy of certification dates	Nil	Nil	
Certification duration	NA	Nil	<ul style="list-style-type: none"> ICP 0000933319NV351 in process of downgrade to Cat 1
Cat 3 and above without HHR Submission or HHR Metering or HHR installations	Nil	Nil	<ul style="list-style-type: none"> ELIN/TPCO have only cat 1 and 2 metering only
Compensation Factor on Category 1 Metering Installation	Nil	Nil	
CT component installed on category 1 metering installation	Nil	Nil	
HHR profile and submission type and meter or installation type is not HHR	Nil	Nil	
Blank Registry records	Nil	Nil	
Compensation factor of 3	Nil	Nil	
Over category 1 with no CT's	NA	Nil	<ul style="list-style-type: none"> 0000931705NV5A3 identified in routine checks but data correction failed to load to registry. Retrieved 26/11/20.
All compensation factors	Nil	Nil	
CN only	Nil	Nil	<ul style="list-style-type: none"> TPCO Audit Compliance report identified 0000387638TP834. Registry checks show switched to SMCO Oct 2020 but metering info not uploaded until Dec 2020.

No control device recorded	11 (Historical)	118 (Historical)	<ul style="list-style-type: none"> A further 109 ELIN ICPs are SMART meters with internal load control waiting for transition to SMCO 162 TPCO ICPs identified in the audit compliance report are SMART meters with internal load control waiting to transition to SMCO.
Day + night not = 24	Nil	Nil	
Day without night	Nil	Nil	
Night without day	Nil	Nil	
IN24 or IN0	Nil	Nil	
UN not = 24	Nil	Nil	<ul style="list-style-type: none"> ELIN Audit Compliance identified 31 x ICPs. Checked, PowerNet MEP Staff state they are a valid code in PowerNet Networks.
UN only with a control device	Nil	Nil	<ul style="list-style-type: none"> ELIN Audit Compliance identified 35 x ICPs. Checked, PowerNet MEP Staff state they are historic relays no longer used for load control but left in place because the customer was using the switches. They are being removed as they are found.

Overall an improvement from last audit.

Audit outcome

Non-compliant

NON-COMPLIANCE

Non-compliance	Description		
<p>Audit Ref: 6.2</p> <p>With:</p> <p>Clause 7 (1), (2) and (3) of Schedule 11.4</p> <p>From: 16-Jan-20</p> <p>To: 20-Nov-20</p>	<p>A relatively small number of control device discrepancies.</p> <ul style="list-style-type: none"> 11 x ELIN LCD missing records in Registry 118 x TPCO LCD missing records in Registry <p>Potential impact: None</p> <p>Actual impact: Low</p> <p>Audit history: Multiple times</p> <p>Controls: Strong</p> <p>Breach risk rating: 1</p>		
Audit risk rating	Rationale for audit risk rating		
Low	<p>Controls are assessed as strong because there is a robust metering database and processes in place. The issue is being managed and will correct itself as metering is upgraded and transitioned to SMCO. There was no impact on settlement. The audit risk rating is recorded as low.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>Non-Recorded LCD:-</p> <p>ELIN 11 and TPCO 118 Installations are historic data where LCD information is missing, which we have not had visibility of in the past. This situation will be corrected as meters are replaced for recertification.</p> <p>The majority of these are modern smart meters with internal LCD, i.e. there is no separate LCD to record. We consider this is compliant, as there is no specific LCD to record.</p>		Ongoing	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>The audit summary report has been used by PowerNet MEP Staff during the audit period and has proven to be a useful tool to assist with identifying discrepancies and ensuring these can be prioritised for correction.</p>		Ongoing Monthly Checks	

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 5 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 5 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 manager of any necessary changes to the registry metering records.

Audit observation

The "day 13 comparison report" schedule was viewed and discussed with PowerNet MEP Staff.

Audit commentary

The "day 13 comparison report" process appeared to be operating appropriately. This was an improvement on the last audit.

PowerNet MEP Staff advised that a daily file check was also in place to check for discrepancies identified during the registry upload process, a report identifies any discrepancies to be addressed next day. A demonstration of the daily check process was observed. PowerNet have also used the Audit Compliance report extensively during the Audit period with good effect.

PowerNet MEP staff commented on how other participants registry activity can create discrepancies that are difficult to identify and correct.

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

Audit commentary

	Certification Cancellation Reasons	ELIN/TPCO MEP
a.	the metering installation is modified	<ul style="list-style-type: none"> ELIN/TPCO use Delta and Vircom-EMS ATH. ELIN/TPCO have adopted the EDMl Meter Installation requirements and Guidelines used by SmartCo for the SMART meter rollout in the PowerNet network. PowerNet advise they are not aware of any modifications reported during this audit period.
b.	the metering installation is classed as outside the applicable accuracy tolerances	<ul style="list-style-type: none"> PowerNet MEP Staff advise this has not occurred during this audit period. ELIN/TPCO uses the selective component method of certification, by definition the metering equipment meets the accuracy tolerances.
c.	<ol style="list-style-type: none"> reference standard or working standard used to certify the metering installation not being compliant the failure of a group of meters in the statistical sampling recertification process for the metering installation the failure of a certification test for the metering installation 	PowerNet MEP Staff advise this has not occurred during this audit period.
d.	metering component does not comply with the standards	<ul style="list-style-type: none"> PowerNet MEP Staff advise this has not occurred during this audit period.
e.	an inspection of the metering installation, that is required under this Part, is not carried out	<ul style="list-style-type: none"> ELIN/TPCO use statistical sampling to meet these obligations for Cat 1. PowerNet state the annual inspections samples have been completed.

		<ul style="list-style-type: none"> PowerNet MEP Staff state this has not occurred during this audit period. PowerNet MEP Staff state Cat 2 meters are replaced and installations recertified at the 10 year point rather than inspected.
f.	if the metering installation has been determined to be a lower category and the maximum current exceeds the current rating of its metering installation category	<ul style="list-style-type: none"> PowerNet does not allow this practice.
g.	sufficient load is available for full certification testing and has not been retested	<ul style="list-style-type: none"> ELIN/TPCO provide only NHH MEP services for cat 1 and 2 metering installations.
h.	a control device in the metering installation certification is, and remains for a period of at least 10 business days, bridged out	<ul style="list-style-type: none"> PowerNet Fault Call Centre handle faults on behalf of ELIN/TPCO See section 7.11 for detail on fault procedure
i.	a seal has been removed or broken and the accuracy and continued integrity of the metering installation has been affected.	Reseal jobs sent to technician immediately with a next day service level. See section 8.4 for more detail

PowerNet MEP Staff state ELIN/TPCO have not had any reason to cancel any metering installation certificates during this audit period.

Audit outcome

Compliant

6.5 Registry Metering Records (Clause 11.8A)

Code reference

Clause 11.8A

Code related audit information

The MEP must provide the registry manager 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

The ELIN/TPCO MEP LIS, EDA file and Audit Compliance reports 19/11/2020 were checked along with the registry. This was also discussed with PowerNet Staff.

Audit commentary

PowerNet stores all TPCO/ ELIN metering records the Metering Database, the system updates the registry every night using the appropriate information protocols. The system also checks for discrepancies if any they are reported for remedial action next day. The Metering Database is a comprehensive, effective and well supported metering information system.

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

The LIS, EDA file and Audit Compliance reports 19/11/2020 were checked along with the registry. This was also discussed with PowerNet MEP Staff.

Audit commentary

ELIN/TPCO policy is to recertify or replace Category 2 metering installations at certification expiry (or 120 months as appropriate).

ELIN/TPCO meters do not require battery replacement.

The number of expired metering installation certificates during the audit period are summarised below.

MEP	Metering Category 1	Metering Category 2	Comment
TPCO	294	5	<ul style="list-style-type: none">• Cat 1 includes 203 Interim certified ICPs <p>Cat 2</p> <ul style="list-style-type: none">• 0008001685TP65A Switchboard hazard customer to make safe prior to metering upgrade.• 0005791154TPB14 Network negotiating new tariff with customer.• 0000401810TPE90 Recertification issued to contractor waiting for after-hours opportunity to complete.• 0000373002TP847 WorkSafe deem switchboard hazard. Customer to make safe prior to metering upgrade. Also network negotiating new tariff with customer.
ELIN	0	10	<ul style="list-style-type: none">• PowerNet MEP state undergoing tariff change discussions with the retailer due to network commercial requirements, meters need to be HHR.

			<ul style="list-style-type: none"> 5 of these ICPs are already on a demand based individual tariff
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Audit outcome

Non-compliant

NON-COMPLIANCE

Non-compliance	Description		
<p>Audit Ref: 7.1</p> <p>With:</p> <p>Clause 10.38 (a), clause 1 and clause 15 of Schedule 10.7</p> <p>From: 16-Jan-20</p> <p>To: 20-Nov-20</p>	<p>A relatively small number of ICPs with expired certification</p> <p>Potential impact: Low</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>Controls are assessed as moderate because there is a robust process in place. Circumstances impacted recertification programme to some degree. The audit risk rating is recorded as low due to low number of ICPs.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status
<p>Health and safety reasons have prevented the recertification of 2 ICP's these are waiting for remedial action by the customer.</p> <p>PowerNet Commercial team have prevented the recertification where the tariff code requires HHR metering. The Commercial team are in discussions with the Retailers due to network commercial requirements, 1 of these discussions has resulted in a meter change to HHR at ICP 0000176257TP8FF during this current audit period.</p>		Ongoing	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
MEP Responsibilites are transferred to Retailer			

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

The PowerNet Installation Requirements, metering design documentation was reviewed also a random sample of 15 category 1 and 7 category 2 installation/certification reports and the Registry were checked. The Electricity Authority website was checked for Delta and Vircom-EMS ATH status. This was also discussed with PowerNet MEP Staff.

Audit commentary

Delta and Vircom -EMS provide ATH functions for ELIN/TPCO and approve PowerNet staff and contractors to operate under the their respective ATH systems.

Delta and Vircom-EMS are both appropriately EA approved ATHs.

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

This was discussed with PowerNet MEP Staff

Audit commentary

ELIN/TPCO provide MEP services for Category 1 & 2 NHH metering installations only.

ELIN/TPCO do not provide MEP services for HHR metering installations

ELIN/TPCO do not provide MEP services for grid metering.

This clause is not applicable. Compliance was not assessed.

Audit outcome

Not applicable

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 was discussed with PowerNet MEP Staff

Audit commentary

PowerNet MEP Staff state that ELIN/TPCO do not have any local service metering.

This clause is not applicable. Compliance was not assessed.

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

The PowerNet Installation Requirements, metering design documentation was reviewed also a random sample of 7 category 2 installation/certification reports were checked. The Electricity This was also discussed with PowerNet MEP Staff.

Audit commentary

PowerNet MEP Staff state that ELIN/TPCO do not allow other load to be connected to the metering transformers. ELIN/TPCO do not provide MEP services for grid metering.

PowerNet MEP Staff advised that their burdening policy allowed for burdening to be carried out at metering installation or re-certification, consequently the installing ATH carries out the burdening.

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

This was discussed with PowerNet MEP Staff

Audit commentary

PowerNet MEP Staff state advise ELIN/TPCO have no metering installations certified as a lower category.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

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

Audit observation

This was discussed with PowerNet MEP Staff

Audit commentary

ELIN/TPCO do not provide MEP services for HHR metering installations

This clause is not applicable. Compliance was not assessed.

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

This was discussed with PowerNet MEP Staff

Audit commentary

ELIN/TPCO does not provide MEP services for new installations. The situation would only arise for recertification of an existing metering installations where there would typically be sufficient load for testing.

PowerNet MEP staff state there were no metering installations where there was insufficient load for certification testing during this audit period.

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 Authority, 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 Authority 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 Authority 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

This was discussed with PowerNet MEP Staff

Audit commentary

PowerNet MEP Staff state that ELIN/TPCO have not put any Alternative Certification in place during the audit period.

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

Audit observation

This was discussed with PowerNet MEP Staff

Audit commentary

PowerNet State that ELIN/TPCO were responsible for a remaining 10 timeclocks during the audit period. PowerNet advise the timeclocks are programmed to adjust for daylight saving, and are visited and checked annually.

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, advise 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

The process for handling metering faults was discussed with PowerNet MEP staff.

Audit commentary

Hot water issues are reported by customers to the PowerNet Faults Call Centre in the first instance. The customers will be advised to call out their own electrician to attend initially to address any customer related issues, if the load control device is found to be the problem the electrician will call contact the faults call centre and authorisation to bridge the device will be given This is logged by the fault call centre, the retailer will be notified and a next day job will be raised with the MEP to remedy the fault. The MEP will send a fault job to a metering technician and as per procedure take the opportunity to replace the metering with a Smart meter upgrade.

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 3 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

This was discussed with PowerNet MEP Staff

Audit commentary

PowerNet MEP Staff state ELIN/TPCO have not had any requests to have load control devices certified during this audit period.

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

This was discussed with PowerNet MEP Staff

Audit commentary

PowerNet MEP Staff state ELIN/TPCO did not carry out any statistical sampling under this clause during this audit period. ELIN/TPCO last carried out statistical sampling under this clause in 2017.

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

Audit observation

The LIS report 19/11/2020 was checked along with the registry. This was also discussed with PowerNet MEP Staff.

Audit commentary

ELIN/TPCO are not responsible for any NSP metering.

This clause is not applicable. No compliance was assessed.

Audit outcome

Not applicable

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

The LIS files and Audit Compliance reports 19/11/2020 were checked along with the registry. This was also discussed with PowerNet MEP Staff.

Audit commentary

For category one metering installations it is the meter certification date that drives the installation certificate expiry date. The following tables summarise the meter certification expiry during the audit period:

MEP	Total Installations expired	Interim Certification	Full Certification
TPCO	294	203	91
ELIN	0	0	0

The certification method used is selected component with the CTs, meter and installation having the same certification date, expiry would occur at the same time, as a consequence the meter certification at these installations will have expired during the audit period.

The meters at the following Category 2 metering installations have not been recertified by the due date:

TPCO

ICP	Meter Expiry	PowerNet MEP Staff Comment
0008001685TP65A	28/06/2020	<ul style="list-style-type: none">Switchboard hazard customer to make safe prior to metering upgrade.
0005791154TPB14	04/02/2020	<ul style="list-style-type: none">Network negotiating new tariff with customer.
0000401810TPE90	10/02/2020	<ul style="list-style-type: none">Recertification issued to contractor waiting for after-hours opportunity to complete.
0000373002TP847	25/03/2020	<ul style="list-style-type: none">WorkSafe deem switchboard hazard. Customer to make safe prior to metering upgrade. Also network negotiating new tariff with customer.

ELIN

ICP	Meter Expiry	PowerNet MEP Staff Comment
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0007406245NV8CD	25/02/2020	<ul style="list-style-type: none"> • Network negotiating new tariff with customer.
0007302445NVD40	23/02/2020	<ul style="list-style-type: none"> • Network negotiating new tariff with customer.
0000900390NVB86	05/02/2020	<ul style="list-style-type: none"> • Network negotiating new tariff with customer. • Currently on demand tariff using NHH meter
0000900319NV09D	10/02/2020	<ul style="list-style-type: none"> • Network negotiating new tariff with customer. • Currently on demand tariff using NHH meter
0000734470NV384	10/02/2020	<ul style="list-style-type: none"> • Network negotiating new tariff with customer. • Currently on demand tariff using NHH meter
0000734347NV6B4	19/03/2020	<ul style="list-style-type: none"> • Network negotiating new tariff with customer.
0000731881NV4FA	04/02/2020	<ul style="list-style-type: none"> • Network negotiating new tariff with customer. • Currently on demand tariff using NHH meter
0000724187NV3BD	08/03/2020	<ul style="list-style-type: none"> • Network negotiating new tariff with customer. • Currently on demand tariff using NHH meter
0008102904NV286	23/02/2020	<ul style="list-style-type: none"> • Network negotiating new tariff with customer.
0007302197NV582	08/02/2020	<ul style="list-style-type: none"> • Network negotiating new tariff with customer.

The metering installations identified in the last audit have all had metering upgraded and installations recertified.

Audit outcome

Non-compliant

NON-COMPLIANCE

Non-compliance	Description
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Audit Ref: 7.15 With: Clause 26(1) of Schedule 10.7 From: 16-Jan-20 To: 20-Nov-20	A relatively small number of Meters with expired certification. 91 Category 1 and 4 category 2 TPCO meters 10 Elin category 2 meters Potential impact: Low Actual impact: Low Audit history: once previously Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are assessed as moderate because there is a robust process in place. Circumstances impacted the recertification programme to some degree. The audit risk rating is recorded as low due to low number of ICPs.		
Actions taken to resolve the issue		Completion date	Remedial action status
The expired Cat 2 installations is also covered in Clause 7.1 of this audit. A program of recertification of installations is underway for the remaining ICP's when recertification is required		Ongoing	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Certification expiry is monitored and recertification initiated.		Ongoing	

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

The LIS files and Audit Compliance reports 19/11/2020 were checked along with the registry. This was also discussed with PowerNet MEP Staff.

Audit commentary

ELIN/TPCO policy is to recertify or replace Category 2 metering installations at certification expiry.

New CTs are certified by the manufacturer TWS. When CTs require recertification the comparative method of certification is used if appropriate otherwise the CTs are replaced with TWS 500/5 CTs.

The certification method used is selected component with the CTs, meter and installation having the same certification date, expiry would occur at the same time, as a consequence the meter certification at these installations will have expired during the audit period.

The CTs at the following Category 2 metering installations have not been recertified by the due date:

TPCO

ICP	Meter Expiry	PowerNet MEP Staff Comment
0008001685TP65A	28/06/2020	<ul style="list-style-type: none"> Switchboard hazard customer to make safe prior to metering upgrade.
0005791154TPB14	04/02/2020	<ul style="list-style-type: none"> Network negotiating new tariff with customer.
0000401810TPE90	10/02/2020	<ul style="list-style-type: none"> Recertification issued to contractor waiting for after-hours opportunity to complete.
0000373002TP847	25/03/2020	<ul style="list-style-type: none"> WorkSafe deem switchboard hazard. Customer to make safe prior to metering upgrade. Also network negotiating new tariff with customer.

ELIN

ICP	Meter Expiry	PowerNet MEP Staff Comment
0007406245NV8CD	25/02/2020	<ul style="list-style-type: none"> Network negotiating new tariff with customer.
0007302445NVD40	23/02/2020	<ul style="list-style-type: none"> Network negotiating new tariff with customer.
0000900390NVB86	05/02/2020	<ul style="list-style-type: none"> Network negotiating new tariff with customer. Currently on demand tariff using NHH meter
0000900319NV09D	10/02/2020	<ul style="list-style-type: none"> Network negotiating new tariff with customer. Currently on demand tariff using NHH meter
0000734470NV384	10/02/2020	<ul style="list-style-type: none"> Network negotiating new tariff with customer. Currently on demand tariff using NHH meter
0000734347NV6B4	19/03/2020	<ul style="list-style-type: none"> Network negotiating new tariff with customer.
0000731881NV4FA	04/02/2020	<ul style="list-style-type: none"> Network negotiating new tariff with customer. Currently on demand tariff using NHH meter
0000724187NV3BD	08/03/2020	<ul style="list-style-type: none"> Network negotiating new tariff with customer. Currently on demand tariff using NHH meter
0008102904NV286	23/02/2020	<ul style="list-style-type: none"> Network negotiating new tariff with customer.
0007302197NV582	08/02/2020	<ul style="list-style-type: none"> Network negotiating new tariff with customer.

The metering installations identified in the last audit have all had metering upgraded, CTs and installations recertified.

Audit outcome

Non-compliant

NON-COMPLIANCE

Non-compliance	Description		
Audit Ref: 7.16 With: Clause 28(1) of Schedule 10.7 From: 16-Jan-20 To: 20-Nov-20	A relatively small number of CTs with expired certification. 4 Category 2 TPCO CTs 10 Category 2 Elin CTs Potential impact: Low Actual impact: Low Audit history: once previously Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are assessed as moderate because there is a robust process in place. Circumstances impacted the recertification programme to some degree. The audit risk rating is recorded as low due to low number of ICPs.		
Actions taken to resolve the issue		Completion date	Remedial action status
See comments in 7.15		Ongoing	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
See comments in 7.15		Ongoing	

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

This was discussed with PowerNet MEP Staff.

Audit commentary

ELIN/TPCO does not provide MEP services for installations where a data storage device is installed.

This clause is not applicable. Compliance was not assessed.

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 given notice 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 clauses 10.43 to 10.48.

Audit observation

This was discussed with PowerNet MEP Staff.

Audit commentary

PowerNet MEP Staff are aware of clause 7 (3) Schedule 10.3.

PowerNet MEP Staff confirm that this situation did not occur during the audit period. If it were to occur PowerNet would take appropriate action in conjunction with the Electricity Authority.

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

The LIS files and Audit Compliance reports 19/11/2020 were checked along with the registry. This was also discussed with PowerNet MEP Staff.

Audit commentary

Expired Interim Certification

MEP	Quantity	PowerNet MEP Staff Comment
TPCO	203	<ul style="list-style-type: none"> 383 at last audit 64 ICPs have been are with Retailers to deal with as customers refuse to have meters changed.
ELIN	0	

Good progress being made to recertify these metering installations.

Audit outcome

Non-compliant

NON-COMPLIANCE

Non-compliance	Description		
Audit Ref: 7.19 With: Clause 18 of Schedule 10.7 From: 16-Jan-20 To: 20-Nov-20	203 TPCO ICPs with interim certification. Potential impact: Low Actual impact: Low Audit history: Multiple Times Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are assessed as moderate because there is a process in place to recertify. The remaining ICPs are the difficult to access. The audit risk rating is recorded as low due to low number of ICPs.		
Actions taken to resolve the issue		Completion date	Remedial action status

<p>Recertification of expired interim certified Category 1 sites was attempted via a statistical sample method in 2016. This group of ICPs failed to achieve recertification.</p> <p>In consultation with Retailers, PowerNet engages directly with customers for meter replacement and these ICPs have been issued to an FSP for meter replacement. Attempts have been made, which to date have been unsuccessful for a variety of reasons, eg customer refusal or technical.</p> <p>Efforts continue, and progress is still made. Where issues fall completely on the customer and they will not progress any solution the ICPs and have been referred to the Retailer to provide access.</p>	Ongoing	Identified
Preventative actions taken to ensure no further issues will occur	Completion date	
By definition there can be no recurrence of this situation.	Ongoing	

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 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

The EA approved statistical sampling programme was checked along with the 2020 (for the 2019 calendar year) Report of Inspection of Category 1 Metering Installations to the EA for both ELIN/TPCO. The proposed work plan and results year to date were checked. This was also discussed with PowerNet MEP Staff

Audit commentary

PowerNet has an Electricity Authority (EA) approved statistical sampling programme in place to meet the inspection requirements of clause 45(1) (b) of schedule 10.7.

The following was provided by PowerNet MEP Staff:

2020 statistical sampling plan summary

MEP	Batch Size	Inspections Required	Actual Inspections issued YTD	Inspections completed YTD
TPCO	1201 to 3200	125	93	43
ELIN	151 to 280	32	35	7

PowerNet MEP staff are confident they will be able to complete the sampling by 31 March 2021

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

The Audit Compliance Report 19/11/2020 was checked along with the registry. This was also discussed with the PowerNet MEP Staff.

Audit commentary

ELIN/TPCO policy is to recertify or replace Category 2 metering installations at certification expiry (or 120 months as appropriate).

The Category 2 metering installations at the following ICPs have not been recertified by the due date and therefore have not been inspected.

PowerNet MEP staff state that ELIN/TPCO policy is to recertify or replace Category 2 metering installations at certification expiry (or 120 months as appropriate).

The Category 2 metering installations at the following ICPs have not been recertified by the due date and therefore have not been inspected within the applicable period of 120 months:

TPCO

ICP	Meter Expiry
0008001685TP65A	28/06/2020
0005791154TPB14	04/02/2020
0000401810TPE90	10/02/2020
0000373002TP847	25/03/2020

ELIN

ICP	Meter Expiry
0007406245NV8CD	25/02/2020
0007302445NVD40	23/02/2020
0000900390NVB86	05/02/2020
0000900319NV09D	10/02/2020
0000734470NV384	10/02/2020
0000734347NV6B4	19/03/2020
0000731881NV4FA	04/02/2020
0000724187NV3BD	08/03/2020
0008102904NV286	23/02/2020
0007302197NV582	08/02/2020

The metering installations identified in the last audit have all had metering upgraded, CTs and installations recertified.

Audit outcome

Non-compliant

NON-COMPLIANCE

Non-compliance	Description		
Audit Ref: 8.2 With: Clause 46(1) of Schedule 10.7 From: 16-Jan-20 To: 20-Nov-20	4 x category 2 installations for which TPCO is responsible were not inspected and 10 x category 2 installations for ELIN were not inspected within the applicable period. Potential impact: Low Actual impact: Low Audit history: Multiple Times Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are assessed as moderate because there is a process in place to recertify. Circumstances impacted the recertification programme to some degree. The audit risk rating is recorded as low due to low number of ICPs.		
Actions taken to resolve the issue		Completion date	Remedial action status
For Cat 2 installations inspections fall due at the same time as certification expires, therefore there is no intention to carry out inspections. Installations will be recertified as has been outlined earlier in this report. Those that have not been recertified are subject to clause 7.1		Ongoing	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Ongoing recertification will negate the requirement for inspections			

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

The Meter inspection process was checked along with the current inspection results. This was also discussed with the PowerNet MEP Staff.

Audit commentary

PowerNet engage electrical inspectors to carry out sample metering installation inspections. The inspectors are approved to work under Delta and Vircom-EMS approved test houses.

Inspection reports are returned to PowerNet regularly and the report information verified with the Metering Database records, updates are made if required. The metering Database will update the registry with the nightly registry update. Any discrepancies are either dealt with at the inspection and noted on the report or arrangements made to remedy the issue at a later date. The inspection report is archived so it can be retrieved if necessary.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

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

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

The MEP must make the above arrangements within

- a) 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.*

Audit observation

The missing or broken seal process was checked and this was discussed with PowerNet MEP Staff. 2 x broken seal jobs were reviewed.

Audit commentary

If advised seals are missing or broken PowerNet MEP Staff will issue a fault job to an approved contractor to investigate, remedy if appropriate and report back the result to PowerNet (service level is next day). In most cases the opportunity will be taken to replace the metering with a new SMART meter.

If broken seals are found during an inspection the seal is remedied immediately (usually by upgrading the metering) and the situation reported back to PowerNet.

The 2 jobs reviewed were remedied and the information updated in the Registry within 10 business days.

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

The process for handling meter faults was checked and was also discussed with PowerNet MEP Staff. 2 x category 1 meter fault jobs were checked.

Audit commentary

PowerNet MEP Staff state ELIN/TPCO are the MEPs for installations of category 1 and 2 only.

Potential meter faults notifications are received from retailers, Powernet staff or contractors by email and logged in the Metering Database/PowerNet Connect.

An investigation/repair job is raised same day and issued to an approved metering contractor with a service level of next day resolution. The meter installation report is received at PowerNet next day and information entered into The Metering Database immediately. A copy of the meter installation report is sent to the retailer by email and the registry is uploaded with the new metering information overnight.

PowerNet have a standard instruction in place to replace the metering in all cases so every job becomes a meter replacement by default.

Faulty load control devices are resolved by replacing the metering with a SMART meter with inclusive load control.

The 2 jobs reviewed were remedied and the information communicated back to the retailer updated in the Registry within 10 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 5 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

The process for handling meter faults was checked and was also discussed with PowerNet MEP Staff. 2 x category 1 meter fault jobs were checked.

Audit commentary

PowerNet MEP Staff state that a standard instruction is in place to replace the metering in all cases so every meter fault becomes a meter replacement by default. If the Retailer requests removed metering to be tested for accuracy the meters will be sent to an ATH for the tests to be carried out.

The 2 jobs reviewed had metering upgraded and recertified. The removed meters were tested by the ATH and test results (both meters were within accuracy requirements) communicated back to the retailers as required.

Audit outcome

Compliant

9.3 Statement of Situation (Clause 10.46(2))

Code reference

Clause 10.46(2)

Code related audit information

Within 3 business days of receiving the statement from the ATH, the MEP must provide copies of the statement to:

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

Audit observation

The process for handling meter faults was checked and was also discussed with PowerNet MEP Staff. 2 x category 1 meter fault jobs were checked.

Audit commentary

PowerNet MEP Staff state ELIN/TPCO are the MEPs for installations of category 1 and 2 only.

PowerNet MEP Staff state that a standard instruction is in place to replace the metering in all cases so every meter fault becomes a meter replacement by default. The meter installation report is received at PowerNet next day and information entered into The Metering Database immediately. A copy of the meter installation report is sent to the retailer by email and the registry is uploaded with the new metering information overnight.

If the Retailer requests removed metering to be tested for accuracy the meters will be sent to an ATH for the tests to be carried out.

The 2 jobs reviewed had metering upgraded and recertified. The removed meters were tested by the ATH and test results (both meters were within accuracy requirements) communicated back to the retailers as required.

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

The PowerNet Metering Installation Requirements and Guidelines were reviewed along with the design documentation, this was also discussed with the PowerNet MEP staff.

Audit commentary

The services access interface for all ELIN/TPCO MEP meters is at the meter. Meters are manually read by retailers.

Retailers are provided with all metering information needed and given access to the meters to enable meter readings to be collected.

PowerNet MEP staff state that ELIN/TPCO do not have headend infrastructure to electronically interrogate meters, consequently they have no access to raw data.

This clause is not applicable. Compliance was not assessed.

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

The PowerNet Metering Installation Requirements and Guidelines were reviewed along with the design documentation, this was also discussed with the PowerNet MEP staff.

Audit commentary

The services access interface for all ELIN/TPCO MEP meters is at the meter. Meters are manually read by retailers.

PowerNet MEP staff state that ELIN/TPCO do not have headend infrastructure to electronically interrogate meters, consequently they have no access to raw data.

This clause is not applicable. Compliance was not assessed.

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

The PowerNet Metering Installation Requirements and Guidelines were reviewed along with the design documentation, this was also discussed with the PowerNet MEP staff.

Audit commentary

PowerNet MEP staff state that during this audit period they have had no requests for physical access to metering installations under this clause, and advise it would use its best endeavours to provide physical access to a metering installation to subject to health and safety requirements.

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

The PowerNet Metering Installation Requirements and Guidelines were reviewed along with the design documentation, this was also discussed with the PowerNet MEP staff.

Audit commentary

PowerNet MEP staff state that during this audit period ELIN/TPCO has not been asked to provide urgent physical access to a metering installation, and advise it would use its best endeavours to provide physical access to an installation subject to health and safety requirements

Audit outcome

Compliant

10.5 Electronic Interrogation of Metering Installations (Clause 8(2), 8(3), 8(5) and 8(6) of Schedule 10.6)

Code reference

Clause 8(2), 8(3), 8(5) and 8(6) 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 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

The PowerNet Metering Installation Requirements and Guidelines were reviewed along with the design documentation, this was also discussed with the PowerNet MEP staff.

Audit commentary

PowerNet MEP staff state that the services access interface for all ELIN/TPCO MEP meters is at the meter. Meters are manually read by retailers.

PowerNet MEP staff confirm that ELIN/TPCO do not have headend infrastructure to electronically interrogate meters, consequently they have no access to raw data.

This clause is not applicable. Compliance was not assessed.

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

The PowerNet Metering Installation Requirements and Guidelines were reviewed along with the design documentation, this was also discussed with the PowerNet MEP staff.

Audit commentary

PowerNet MEP staff state that the services access interface for all ELIN/TPCO MEP meters is at the meter. Meters are manually read by retailers.

PowerNet MEP staff confirm that ELIN/TPCO do not have headend infrastructure to electronically interrogate meters, consequently they have no access to raw data.

This clause is not applicable. Compliance was not assessed.

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

The PowerNet Metering Installation Requirements and Guidelines were reviewed along with the design documentation, this was also discussed with the PowerNet MEP staff.

Audit commentary

PowerNet MEP staff confirm that ELIN/TPCO do not have headend infrastructure to electronically access or interrogate meters, consequently they have no access to raw data.

This clause is not applicable. Compliance was not assessed.

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

The PowerNet Metering Installation Requirements and Guidelines were reviewed along with the design documentation, this was also discussed with the PowerNet MEP staff.

Audit commentary

PowerNet MEP staff state that the services access interface for all ELIN/TPCO MEP meters is at the meter. Meters are manually read by retailers.

PowerNet MEP staff confirm that ELIN/TPCO do not have headend infrastructure to electronically access or interrogate meters, consequently they have no access to raw data or meter event logs.

This clause is not applicable. Compliance was not assessed.

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

The PowerNet Metering Installation Requirements and Guidelines were reviewed along with the design documentation, this was also discussed with the PowerNet MEP staff.

Audit commentary

PowerNet MEP staff state that the services access interface for all ELIN/TPCO MEP meters is at the meter. Meters are manually read by retailers.

PowerNet MEP staff confirm that ELIN/TPCO do not have headend infrastructure to electronically access or interrogate meters, consequently they have no access to raw data.

This clause is not applicable. Compliance was not assessed.

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

The PowerNet Metering Installation Requirements and Guidelines were reviewed along with the design documentation, this was also discussed with the PowerNet MEP staff.

Audit commentary

PowerNet MEP staff confirm that the services access interface for all ELIN/TPCO MEP meters is at the meter. Meters are manually read by retailers.

PowerNet MEP staff state that ELIN/TPCO do not have headend infrastructure to electronically access or interrogate meters, consequently they have no access to raw data.

This clause is not applicable. Compliance was not assessed.

Audit outcome

Not applicable

CONCLUSION

PARTICIPANT RESPONSE

At PowerNet we strive for full compliance and are pleased to see the improvements that have been archived during this audit period.

The introduction and use of the analysis tools during this audit period identified a number of historic registry data errors for TCPO and ELIN that have been worked through using this tool to reduce the non-conformances prior to this audit. We will continue our efforts to reduce the number and severity.

We note that the non-compliances for this audit period identified adds to the overall score, but are still due to the same fundamental non-compliance, had these not received cumulative scoring as non-compliance we believe our future risk rating would have been in single figures and would have triggered an 18 or 24 month Indicative audit frequency.

We ask that the following points are taken into consideration when setting the timeframe for our next audit, and seek eighteen months be applied:-

- A certain number of non-compliant issues come up repeatedly, such as CAT 2 recertification where we have been advised by our commercial team of a need to change the metering to HHR metering. Something that PowerNet / SMCO are unable to provide, we are then reliant on the Retailer seeking approval from their Customers and engaging a different MEP, this remains out of our control and where we believe the responsibility is now with the Retailer. This single item generates multiple non-compliances.
- Clauses 7.15 and 7.16 effectively duplicate non-compliance regarding CT metering, which again generates another score.
- Clause 8.2 investigates inspections of Category 2 and higher installation. It appears there is an anomaly in the code in that the Cat 2 inspection period is the same as the certification period. Once an installation has exceeded the inspection period it has also reached certification expiry. We recognise we have a small number of installations which have reached this point, but question whether it is appropriate to score it on both counts that has shown up again in this audit.

APPENDIX A - TEMPLATE FOR NON-COMPLIANCE, ISSUES AND RECOMMENDATIONS.

NON-COMPLIANCE

Non-compliance	Description	
Audit Ref: With: From: Click here to enter a date. To: Click here to enter a date.	Potential impact: Choose an item. Actual impact: Choose an item. Audit history: Controls: Choose an item. Breach risk rating:	
Audit risk rating	Rationale for audit risk rating	
Choose an item.		
Actions taken to resolve the issue	Completion date	Remedial action status
		Choose an item.
Preventative actions taken to ensure no further issues will occur	Completion date	

RECOMMENDATION

Issue	Recommendation	Audited party comment	Remedial action

ISSUE

Description	Issue	Remedial action