

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

For

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

Prepared by: Ewa Glowacka of TEG & Associates Ltd

Date audit commenced: 6 June 2023

Date audit report completed: 20 June 2023

Audit report due date: 20-Jun-23

TABLE OF CONTENTS

Executive summary	5
Audit summary	7
Non-compliances	7
Recommendations	8
Issues 8	
Recommendations	9
Issues 9	
1. Administrative	11
1.1. Exemptions from Obligations to Comply With Code (Section 11)	11
1.2. Structure of Organisation	11
1.3. Persons involved in this audit	11
1.4. Use of Agents (Clause 10.3)	12
1.5. Hardware and Software	12
1.6. Breaches or Breach Allegations	12
1.7. ICP Data	12
1.8. Authorisation Received	13
1.9. Scope of Audit	13
1.10. Summary of previous audit	14
2. Operational Infrastructure	17
2.1. MEP responsibility for services access interface (Clause 10.9(2))	17
2.2. Dispute Resolution (Clause 10.50(1) to (3))	17
2.3. MEP Identifier (Clause 7(1) of Schedule 10.6)	17
2.4. Communication Equipment Compatibility (Clause 40 Schedule 10.7)	18
2.5. Participants to Provide Accurate Information (Clause 11.2 and Clause 10.6)	18
3. Process for a Change of MEP	21
3.1. Change of metering equipment provider (Clause 10.22)	21
3.2. Registry Notification of Metering Records (Clause 2 of Schedule 11.4)	21
3.3. Provision of Metering Records to Gaining MEP (Clause 5 of Schedule 10.6)	22
3.4. Termination of MEP Responsibility (Clause 10.23)	22
4. Installation and Modification of Metering Installations	24
4.1. Design Reports for Metering Installations (Clause 2 of Schedule 10.7)	24
4.2. Contracting with ATH (Clause 9 of Schedule 10.6)	25
4.3. Metering Installation Design & Accuracy (Clause 4(1) of Schedule 10.7)	25
4.4. Net metering and Subtractive Metering (Clause 10.13A and 4(2)(a) of Schedule 10.7)	26
4.5. HHR Metering (Clause 4(2)(b) of Schedule 10.7)	26
4.6. NSP Metering (Clause 4(3) of Schedule 10.7)	27
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) 2(D) and (3)) ..	28
4.10. Changes to Registry Records (Clause 3 of Schedule 11.4)	29
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)	32

4.14.	Changes to Software ROM or Firmware (Clause 39(1) and 39(2) of Schedule 10.7).....	33
4.15.	Temporary Electrical Connection (Clauses 10.29A).....	33
4.16.	Temporary Electrical Connection (Clause 10.30A)	34
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)	39
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) (1A), (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.....	48
7.1.	Certification and Maintenance (Clause 10.38 (a), clause 1 and clause 15 of Schedule 10.7)	48
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)).....	50
7.4.	Local Service Metering (Clause 10.37(2)(b))	51
7.5.	Measuring Transformer Burden (Clause 30(1) and 31(2) of Schedule 10.7)	51
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).....	53
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)	54
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)	55
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)	56
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).....	59
7.17.	Metering Installations Incorporating a Data Storage Device (Clause 36(1) of Schedule 10.7)	62
7.18.	Notification of ATH Approval (Clause 7 (3) Schedule 10.3)	63
7.19.	Interim Certification (Clause 18 of Schedule 10.7)	63
8.	Inspection of metering installations	65
8.1.	Category 1 Inspections (Clause 45 of Schedule 10.7)	65
8.2.	Category 2 to 5 Inspections (Clause 46(1) of Schedule 10.7)	66
8.3.	Inspection Reports (Clause 44(5) of Schedule 10.7)	69
8.4.	Broken or removed seals (Clause 48(1G), (4) and (5) of Schedule 10.7)	70
9.	Process for Handling Faulty Metering Installations.....	71
9.1.	Investigation of Faulty Metering Installations (Clause 10.43(4) and (5))	71
9.2.	Testing of Faulty Metering Installations (Clause 10.44)	71

9.3. Statement of Situation (Clause 10.46(2))	72
9.4. Timeframe to correct defects and inaccuracies (Clause 10.46A)	73
9.5. Meter bridging (Clause 10.33C)	73
10. Access to and Provision of Raw meter Data and Metering Installations	75
10.1. Access to Raw Meter Data (Clause 1 of Schedule 10.6)	75
10.2. Restrictions on Use of Raw Meter Data (Clause 2 of Schedule 10.6)	75
10.3. Access to Metering Installations (Clause 3(1), (3) and (4) of Schedule 10.6)	76
10.4. Urgent Access to Metering Installations (Clause 3(5) of Schedule 10.6).....	76
10.5. Electronic Interrogation of Metering Installations (Clause 8(2), 8(3), 8(5) and 8(6) of Schedule 10.6)	77
10.6. Security of Metering Data (Clause 10.15(2)).....	78
10.7. Time Errors for Metering Installations (Clause 8(4) of Schedule 10.6).....	78
10.8. Event Logs (Clause 8(7) of Schedule 10.6)	79
10.9. Comparison of HHR Data with Register Data (Clause 8(9) of Schedule 10.6)	79
10.10. Correction of Raw Meter Data (Clause 10.48(2),(3))	80
10.11. Raw meter data and compensation factors (Clause 8(10) of Schedule 10.6).....	80
10.12. Investigation of AMI interrogation failures (Clause 8(11), 8(12) and 8(13) of Schedule 10.6)	
81	
Conclusion	82
Participant response	82

EXECUTIVE SUMMARY

PowerNet requested a participant audit to fulfil the Authority's requirement for an audit under clause 16A.17(a) of the Electricity Industry Participation Code 2010. PowerNet is a management company that manages MEP functions for The Power Company (TPCO) and Electricity Invercargill (ELIN) and provides metering installations for categories 1 and 2 only. The audit was conducted in accordance with the Guidelines for Metering Equipment Provider v.2.0, which were issued by the Electricity Authority.

The audit period was from 1 May 2022 to 30 April 2023.

The number of ICPs for which TPCO/ELIN provides MEP services steadily decreases. Since the last audit, the number of ICPs for TPCO has reduced from 1,567 to 1,084 and ELIN from 672 to 462.

In this audit, we noted that ELIN had 9 non-compliances and TPCO had 10 non-compliances. This is an increase from last year's findings.

The audit found that the main issue is uncertified installations. As of the completion of this report, it has been found that approximately 77% of ELIN/TPCO installations are not certified.

We identified 1,121 category 1 metering installations (349 ELIN and 772 TPCO) with expired certifications. There are also 19 category 2 metering installations (11 ELIN and 8 TPCO) with an expired certification, almost half of which were already noted in the previous audit report.

It was discussed with PowerNet staff, and the comment was that in the last 12 months, PowerNet has mainly focused on maintaining its metering assets under SMCO MEP services. There were insufficient resources assigned to support MEP operation to work, at the same time, on the ELIN/TPCO meter replacement program; therefore, the number of uncertified installations increased.

The level of compliance with the accuracy of registry data was good; most of the updates were uploaded within the timeframe specified by the Code. Changes to the Metering Database, such as meter removal or installation, are no longer recorded manually. Metering installers use PDAs to record information, which is transferred to the Delta office. Delta provides PowerNet with a daily spreadsheet of meter changes, which is uploaded to the Metering Database. Although converting the Delta spreadsheet to an MS Access format is slightly complex, the process is well-documented and easy to follow. Some manual input is still required to verify the spreadsheet information with the Metering Database.

As per the Code, the MEP is responsible for obtaining a list of ICPs for their metering installations from the registry on the 13th business day of each reconciliation period. They must then compare this information with their own records. If discrepancies are found, the MEP must rectify their records and update the registry metering records accordingly. The compliance with this requirement has been evaluated, and it was found that although the report is run twice a month, action was not taken.

PowerNet is managing fewer and fewer ICPs on behalf of ELIN/TPCO, but this does not mean the workload is decreasing. In fact, the remaining metering installations are proving to be more challenging to certify for various reasons. For instance, some customers refuse to install smart meters, while others have small or unsafe switchboards or lack access.

The Electricity Authority determines the date of the next audit and depends on the compliance level during this audit. Table 1 of the Guidelines for MEP audit provides some guidance. The Future Risk Rating score is 21 (ELIN) and 23 (TPCO), which is higher than the previous score of 16, resulting in an indicative audit frequency of six months. We agree with the result.

There were some challenges to providing information for pre-audit analyses due to insufficient resources, but all information was provided in the end. We would like to thank the PowerNet staff for their full cooperation in this audit.

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	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	3 of Schedule 11.4	Registry metering information updated later than 10 business days	Moderate	Low	2	Identified
Accurate and Complete Records	5.1	4(1)(a)(b) of Schedule 10.6 & Table 1 of Schedule 11.4	Certification information missing for 209 Metec Q meters	Moderate	Low	2	Identified
Provision of Registry Information	6.2	7(1)(2)(3) of Schedule 11.4	14 LCD records not populated in registry	Strong	Low	1	Identified
Correction of errors in the registry	6.3	6 of Schedule 11.4	Report "day 13" is run but not analyzed	Weak	Low	3	Identified
Certification and Maintenance	7.1	10.38(a) clause 1, clause 15 of Schedule 10.7	349 ICPs with expired certification	Weak	Low	3	Identified
Metering Installations Incorporating a meter	7.15	26(1) of Schedule 10.7	349 ICPs with meters have expired certification.	Weak	Low	3	Identified
Metering Installations Incorporating a measuring transformer	7.16	28(1) of Schedule 10.7	11 cat 2 CT installations have expired certification.	Weak	Low	3	Identified
Category 2 to 5 Inspections	8.2	46(1) of Schedule 10.7	11 cat 2 installations were not inspected within the applicable period	Moderate	Low	2	Identified
Future Risk Rating						21	

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
			Nil

ISSUES

Subject	Section	Description	Issue
			Nil

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	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	3 of Schedule 11.4	Registry metering information updated later than 10 business days	Moderate	Low	2	Identified
Accurate and Complete Records	5.1	4(1)(a)(b) of Schedule 10.6 & Table 1 of Schedule 11.4	Certification information missing for 408 Metec Q meters	Moderate	Low	2	Identified
Provision of Registry Information	6.2	7(1)(2)(3) of Schedule 11.4	87 LCD records not populated in registry	Strong	Low	1	Identified
Correction of errors in the registry	6.3	6 of Schedule 11.4	Report "Day 13" is run but not analysed	Weak	Low	3	Identified

Certification and Maintenance	7.1	10.38(a) clause 1, clause 15 of Schedule 10.7	780 ICPs with expired certification	Weak	Low	3	Identified
Metering Installations Incorporating a meter	7.15	26(1) of Schedule 10.7	772 ICPs with meters have expired certification.	Weak	Low	3	Identified
Metering Installations Incorporating a measuring transformer	7.16	28(1) of Schedule 10.7	8 cat 2 CT installations have expired certification.	Weak	Low	3	Identified
Interim Certification	7.19	46(1) of Schedule 10.7	47 ICPs with interim certification	Moderate	Low	2	Identified
Category 2 to 5 Inspections	8.2	11.2 and Clause 10.6	8 category 2 installations for which TPCO is responsible were not inspected within the applicable period	Moderate	Low	2	Identified
Future Risk Rating						23	

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
			Nil

ISSUES

Subject	Section	Description	Issue
			Nil

1. ADMINISTRATIVE

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

Code reference

Section 11 of Electricity Industry Act 2010.

Code related audit information

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

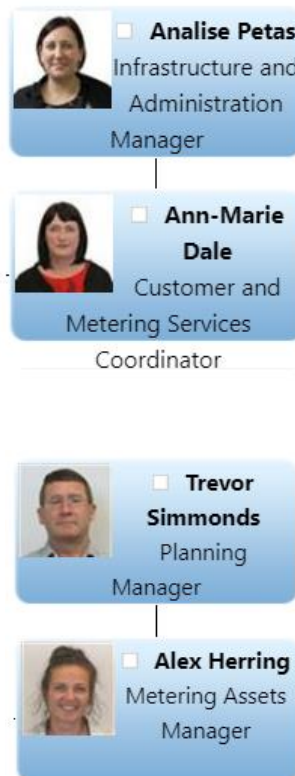
Audit observation

TPCO/ELIN do not have any exemptions granted to exempt them from compliance with all or any of the clauses.

Audit commentary

TPCO/ELIN did not apply for any exemptions. We checked the Electricity Authority website and confirm that there are no exemptions in place.

1.2. Structure of Organisation



1.3. Persons involved in this audit

Name	Title	Company
Alex Herring	Metering Assets Manager	PowerNet

Name	Title	Company
Ann-Marie Dale	Customer and Metering Services	PowerNet
Trevor Simmonds	Planning Manager	PowerNet
Grant Smith	Director	Ace Computing Specialist
Ewa Glowacka	Electricity Authority Approved Auditor	TEG & Associates 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

PowerNet, on behalf of 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 staff or their database developer Ace Computer Consultants.

1.5. Hardware and Software

The key infrastructure required for the audited processes comprises of the Metering Database. The software is constantly updated to add monitoring functionality.

1.6. Breaches or Breach Allegations

We can confirm that there were no breaches related to areas covered since the last audit.

1.7. ICP Data

ELIN

Metering Category	Number of ICPs (2023)	Number of ICPs (2022)	Number of ICPs (Nov 2020)	Number of ICPs (Feb 2020)	Number of ICPs (2019)
1	439	647	1,882	3,013	6,267
2	23	25	63	122	126
3	0	0	0	0	0
4	0	0	0	0	0
5	0	0	0	0	0

TPCO

Metering Category	Number of ICPs (2023)	Number of ICPs (2022)	Number of ICPs (Nov 2020)	Number of ICPs (Feb 2020)	Number of ICPs (2019)
1	1,061	1,545	4,366	7,702	12,834
2	23	22	52	94	90
3	0	0	0	0	0
4	0	0	0	0	0
5	0	0	0	0	0

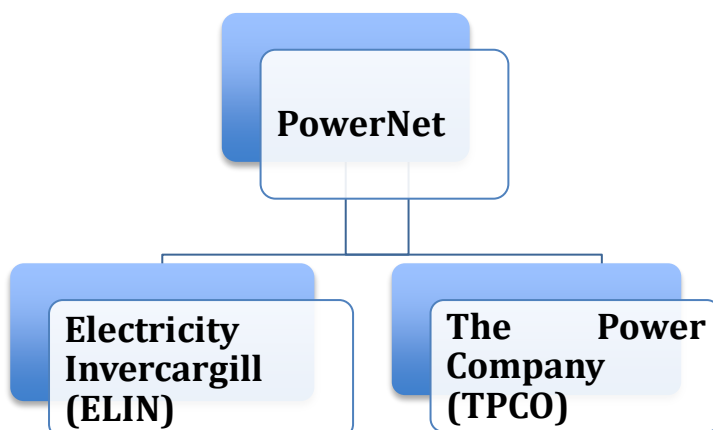
1.8. Authorisation Received

PowerNet provided a letter of authorisation to TEG & Associates permitting the collection of data from other parties for matters directly related to the audit.

1.9. Scope of Audit

PowerNet requested a participant audit to fulfil the Authority's requirement for an audit under clause 16A.17(a) of the Electricity Industry Participation Code 2010. PowerNet Limited is a joint venture that manages metering equipment provider functionality for Electricity Invercargill and The Power Company.

This report covers the analysis of compliance for both Electricity Invercargill and The Power Company. The company uses the same processes and software to deliver the MEP service for both entities. If there are any differences in compliance with the Code, they will be highlighted in this audit. Throughout the report, the name PowerNet will be used to represent both ELIN and TPCO equally. When referring to ELIN and TPCO individually, their respective names will be used.



The audit was carried out on the 6 & 8 June 2023 in the PowerNet office in Invercargill.

The audit covered the following functions:

- Process for changing an MEP
- Installation and modification of metering installations
- Metering records
- Maintenance of registry information
- Certification of metering installations
- Inspection of metering installations
- Process of handling faulty metering installations
- Access to and provision of raw meter data and metering installations

We obtained the Audit findings through various methods such as observing, discussing with PowerNet staff, reviewing their systems, processes, and records, and analysing information provided by PowerNet and the registry.

1.10. Summary of previous audit

The previous audit was conducted on June 2022 by Ewa Glowacka of TEG & Associates Ltd. The following non-compliances were identified.

Electricity Invercargill (ELIN)

Subject	Section	Clause	Non Compliance	Comment
Participants to Provide Accurate Information	2.5	11.2 and Clause 10.6	Information for a small number of ICPs is missing or not up to date	Still exits
Changes to Registry Records	4.10	3 of Schedule 11.4	Registry metering information updated later than 10 business days	Still exits
Accurate and Complete Records	5.1	4(1)(a)(b) of Schedule 10.6 & Table 1 of Schedule 11.4	Certification information missing for 512 Metec Q meters	Still exits
Provision of Registry Information	6.2	7(1)(2)(3) of Schedule 11.4	7 LCD records not populated in registry	Still exits
Certification and Maintenance	7.1	10.38(a) clause 1, clause 15 of Schedule 10.7	378 ICPs with expired certification	Still exits

Metering Installations Incorporating a meter	7.15	26(1) of Schedule 10.7	378 ICPs with meters have expired certification.	Still exits
Metering Installations Incorporating a measuring transformer	7.16	28(1) of Schedule 10.7	9 cat 2 CT installations have expired certification.	Still exits
Category 2 to 5 Inspections	8.2	46(1) of Schedule 10.7	9 cat 2 installations were not inspected within the required timeframe	Still exits

The Power Company (TPCO)

Subject	Section	Clause	Non Compliance	Comment
Participants to Provide Accurate Information	2.5	11.2 and Clause 10.6	Information for a small number of ICPs is missing or not up to date.	Still exits
Changes to Registry Records	4.10	3 of Schedule 11.4	Registry metering information updated later than 10 business days	Still exits
Provision of Registry Information	6.2	7(1)(2)(3) of Schedule 11.4	41 LCD records not populated in registry	Still exits
Certification and Maintenance	7.1	10.38(a) clause 1, clause 15 10.7	920 ICPs with expired certification	Still exits
Metering Installations Incorporating a meter	7.15	26(1) of Schedule 10.7	920 ICPs with meters expired certification	Still exits
Metering Installations Incorporating a measuring transformer	7.16	28(1) of Schedule 10.7	3 cat 2 CT installations have expired certification	Still exits
Interim Certification	7.19	18 Schedule 10.7	54 TPCO ICPs with expired interim certification	Still exits
Category 2 to 5 Inspections	8.2	46(1) Schedule 10.7	3 cat 2 installations were not inspected within the required timeframe	Still exits

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

We discussed this with PowerNet Staff.

Audit commentary

ELIN and TPCO provide MEP services for both “vanilla” and smart meters, but they do not offer meter reading or data services. Traders appoint meter readers who visit the site to manually read the meter and record the data, which is then passed on to the traders.

A meter register display is considered to be the service access interface. Any issues with the service access interface reported during inspections or reported by traders are attended to promptly. If necessary, the metering is upgraded and transitioned to SmartCo MEP (SMCO).

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

We discussed this 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.

MEP PowerNet uses the same dispute resolution procedure 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

We reviewed the LIS file from 09/05/2023 and discussed it with PowerNet Staff.

Audit commentary

The LIS files 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

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

Audit commentary

Smart meters installed by PowerNet have had communications modules fitted to connect to the PowerNet radio mesh communications system however neither MEP offers meter reading or data services and the functionality is not utilised by ELIN or TPCO.

Compliance was not assessed.

Audit outcome

Not applicable

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

Code reference

Clause 11.2 and Clause 10.6

Code related audit information

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

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

Audit observation

We analysed the ELIN/TPCO LIS, EDA, PR-255 files, and Audit Summary Reports for the audit period. We also reviewed the PowerNet Installation Requirements and Guidelines.

Audit commentary

The Metering Database stores all records related to metering. To ensure accuracy, the process was improved since the last audit by reducing manual entries. Changes to the Metering Database, such as meter removal or installation, are no longer recorded manually. Instead, metering installers use PDAs to record information, which is then transferred to the Delta office.

Delta provides PowerNet with a daily spreadsheet of meter changes, which is uploaded to the Metering Database. Although converting the Delta spreadsheet to an MS Access format is slightly complex, the process is well-documented and easy to follow. There is still some manual input required to verify the spreadsheet information with the Metering Database.

The system updates the registry every night and checks for discrepancies. Any discrepancies found are reported the following day for remedial action. The Metering Database is a comprehensive, effective, and well-supported system for metering information.

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 etc
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	Description		
Audit Ref: 2.5 With: clause 11.2 and Clause 10.6 From: 01-May-22 To: 15-Apr-23	Information for a small number of ICPs, for both TPCO and ELIN, is or not up to date. 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. Monitoring and correction processes are in place and registry data is corrected as anomalies are identified. 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
Training has been undertaken to address the resourcing issue, which was a result of staff movements, to make sure that the Registry is able to be updated within 10 business days.		20/06/2023	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Responsibilities and knowledge are now being shared between the Metering Manager and the Coordinator to ensure Registry deadlines are met.			

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

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

The gaining MEP is not required to pay costs if:

- *the losing MEP has agreed in writing that the gaining MEP is not required to pay costs, or the losing MEP has failed to provide notice within 40 business days.*
- *within 3 business days, the gaining MEP replaces, removes or recertifies the metering component or metering installation*
- *the losing MEP has failed to provide notice of the costs to the gaining MEP within 40 business days.*

Audit observation

We discussed this with PowerNet Staff.

Audit commentary

ELIN/TPCO has a full understanding of their obligation that until another MEP accepts responsibility for an installation, they must meet their obligations. It is noted that PowerNet has an arrangement in place to transition metering installations from ELIN and TPCO MEPs to SMCO MEP.

PowerNet stated that this clause has not been exercised since the last audit.

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 files and Audit Compliance reports were checked along information in the registry. This was also discussed with PowerNet Staff and the process of sending data to the registry was examined.

Audit commentary

The Audit Compliance Reports did not identify, neither for TPCO MEP nor ELIN MEP, nominations for existing installations during the audit period.

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 MEP EDA files and Audit Compliance reports were checked along with information in the registry. This was also discussed with PowerNet Staff.

Audit commentary

ELIN/TPCO has not been asked to provide metering records by a new MEP since the last audit. ELIN and TPCO have arrangements in place to transition metering installations to SMCO, which requires the transfer of metering information to SMCO. ELIN/TPCO retains ownership of meters.

According to the latest audit report, PowerNet has been installing its smart meters since 2017 and placing them under the respective MEPs. They install the meter, ensure its certification, and add it to the registry. The retailer is asked to nominate SMCO as an MEP. When Delta certifies the installation, PowerNet updates the registry and informs the retailer. Once the SMCO accepts the nomination, PowerNet passes the metering records to them. This transfer process happens regularly, enabling the smooth transition of responsibility for the installation to the SMCO.

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

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

Audit commentary

ELIN and TPCO's long term strategy is to be a meter equipment owner only, with MEP functions being covered by SMCO.

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 in the Metering Database after meters are transitioned to SMCO. Compliance is confirmed based on a review of records while working through different sections of this report.

Audit outcome

Compliant

4. INSTALLATION AND MODIFICATION OF METERING INSTALLATIONS

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

Code reference

Clause 2 of Schedule 10.7

Code related audit information

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

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

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

Audit observation

We reviewed the design documentation and a random sample of 10 category 1 installation/certification reports and one category 2 metering installation and checked the registry. The Code requirement was discussed with PowerNet MEP Staff.

Audit commentary

PowerNet use the Delta Approved Test House. PowerNet have adopted Delta approved Test House metering installation designs for category 1 metering installations in the ELIN and TPCO networks. PowerNet installs EDMI and L&G meters on category 1 metering sites.

Category 2 installations use Delta Approved Test house metering installation designs. PowerNet installs L&G meters class 1 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, two anomalies were observed in the ATH installation/certification reports that could potentially lead to some misunderstanding:

Audit outcome

	Observation	Comment
1	The installation/certification reports does not specify if it is NHH or HHR metering with remote service access using mesh radio.	Registry checks show recertified metering recorded as NHH no AMI.
2	The installation/certification reports does not indicate service access is it NHH with no comms or 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.

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

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

Audit commentary

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

Delta is 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

We reviewed the design documentation and a random sample of 10 category 1 installation/certification reports and one category 2 metering installation and checked the registry. The Code requirement was discussed with PowerNet MEP Staff.

Audit commentary

The design set used by PowerNet are approved designs provided by Delta. Delta is 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.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

MEPs must ensure that the metering installation records imported electricity separately from exported electricity. For category 1 and 2 installations the MEP must ensure the metering installation records imported and exported electricity separately for each phase. For category 3 or higher installations, the MEP does not need to ensure that imported and exported electricity is recorded separately for each phase.

If the metering installation contains multiple phases, the MEP may aggregate together the amounts of imported electricity recorded on different phases, or the amounts of exported electricity recorded on different phases. However, the MEP must not aggregate imported and exported electricity together. 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

We reviewed the design documentation and a random sample of 10 category 1 installation/certification reports and one category 2 metering installation and checked the registry. The Code requirement was discussed with PowerNet MEP Staff.

Audit commentary

Current ELIN/TPCO metering designs and installations do not use net metering or subtractive metering to determine submission information used for Part 15.

According to the latest audit report, PowerNet acknowledges that there may be a few older metering installations using subtraction metering, but only in the remaining interim certified installations. If any subtraction metering is discovered during meter replacement, it will be 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

We reviewed the ELIN and TPCO LIS files and discussed the matter with the PowerNet MEP Staff.

Audit commentary

ELIN and TPCO MEPs do not do not provide MEP services for category 3 metering installations.

This clause is not applicable. Compliance was not assessed.

Audit outcome

Not applicable

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

Code reference

Clause 4(3) of Schedule 10.7

Code related audit information

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

Audit observation

The NSP table was reviewed and 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

Compliant

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

Code reference

Clause 10.26(10)

Code related audit information

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

Audit observation

We discussed it 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

We reviewed the design documentation and a random sample of 10 category 1 installation/certification reports and one category 2 metering installation and checked the registry. The Code requirement was discussed with PowerNet MEP Staff.

Audit commentary

In 2015, PowerNet adopted the Meter Installation requirements and Guidelines previously used by SmartCo during their Smart meter rollout. These guidelines have been found to be effective in ensuring the quality of metering installations and are now being used by ELIN and TPCO MEPs. They provide comprehensive instructions for metering technicians.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

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

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

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

Audit observation

We reviewed the design documentation and a random sample of 10 category 1 installation/certification reports and one category 2 metering installation and checked the registry. The Code requirement was discussed with PowerNet MEP Staff.

Audit commentary

In 2015, PowerNet adopted the Meter Installation requirements and Guidelines previously used by SmartCo during their Smart meter rollout. These guidelines have been found to be effective in ensuring the quality of metering installations and are now being used by ELIN and TPCO MEPs. They provide comprehensive instructions for metering technicians.

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

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

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

If the MEP is updating the registry in accordance with 8(11)(b) of Schedule 10.6, it must do so within 10 business days after the most recent unsuccessful interrogation.

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

Audit observation

The ELIN/TPCO EDA files and Audit Compliance reports were checked.

Audit commentary

TPCO registry update performance during the audit period was 90.48 %, and the average Business Days between the Metering Installation Certification Date and the Metering Event input date was 18.86.

ELIN registry update performance during the audit period was 75.68 %, and the average Business Days between the Metering Installation Certification Date and the Metering Event input date was 44.08

A summary of the discrepancies is outlined in the following table:

MEP	Registry updates (total)	Registry updated later than 10 BD within Audit Period	Historic registry Updates/Data Corrections
ELIN	44	<ul style="list-style-type: none">• 7 ICPs• Range 12 to 25 business days	<ul style="list-style-type: none">• 2 ICPs• Range 134 to 1309 business days
TPCO	233	<ul style="list-style-type: none">• 14 ICPs• Range 14 to 125 business days	<ul style="list-style-type: none">• 6 ICPs• Range 53 to 1471 business days

During this audit period, there were fewer updates to the registry than in the past. PowerNet staff clarified that there were two reasons for this. First, they focused their available resources on maintaining metering assets under SMCO's MEP services. Secondly, there were insufficient resources to work on the ELIN/TPCO meter replacement program.

There have been a few late updates, primarily due to a shortage of resources to process the metering information from Delta promptly.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 4.10 With: clause 3 of Schedule 11.4 From: 01-May-22 To: 15-Apr-23	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: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are assessed as moderate. Monitoring and correction process are in place but lack of resources do not allow to take a full advantage of it. PowerNet is committed to accurate registry data even where backdating is required to comply with clause 11.2 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
Training has been undertaken to address the resourcing issue, which was a result of staff movements, to make sure that the Registry is able to be updated within 10 business days.		20/06/2023	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Responsibilities and knowledge are now being shared between the Metering Manager and the Coordinator to ensure Registry deadlines are met.			

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

We reviewed the design documentation and a random sample of 10 category 1 installation/certification reports and one category 2 metering installation and checked the registry. The Code requirement was discussed with PowerNet MEP Staff.

Audit commentary

ELIN/TPCO use the EDMI Mk7 and L&G U1325 for 1-phase installations and EDMI Mk10D and L&G U3401 for 3-phase installations for all replacement category 1 meter installations. Category 2 metering installations use L&G meters. In the future, the company is planning to use L&G meters only.

Meter installations are supported by the SmartCo 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 meter readers.

As the ELIN/TPCO MEP, PowerNet is responsible for managing both "vanilla" meters and EDMI and L&G smart meters. However, the two types of meters are never installed together in the same metering installation. When maintenance or service is required for a "vanilla" meter, it is removed and replaced with a smart meter.

Meters are installed, commissioned and certified using the approved Delta Test House procedures. Metering installation reports are completed by the installation technicians and returned to Delta, which forwards them electronically to PowerNet. Electronic files are imported to the Metering Database by PowerNet staff.

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

We reviewed the decommissioning process and discussed it with PowerNet MEP Staff. The company has provided us with 10 decommissioned ICPs.

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 the final meter reading. The MEP populates the information into the Metering Database, which is then uploaded into the registry in the daily update. The removed metering information is provided to the trader.

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

We discussed with the PowerNet MEP staff about managing the burden of measuring transformers and compensating requirements.

Audit commentary

During this audit period only one installation category 2 was recertified. PowerNet provided the Metering Installation Certification report.

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 TWS CTs.

The tables below show cat 2 metering Installations managed by ELIN/TPCO

ELIN

Metering Category 2	Number of ICPs (2023)	Number of ICPs (2022)	Number of ICPs (Nov 2020)	Number of ICPs (Feb 2020)
	23	25	63	122

TPCO

Metering Category 2	Number of ICPs (2023)	Number of ICPs (2022)	Number of ICPs (Nov 2020)	Number of ICPs (Feb 2020)
	23	22	52	94

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

We discussed it with PowerNet MEP staff during the audit.

Audit commentary

ELIN/TPCO MEPs does not have any metering installations where meters would require changes to data storage device software as the EDMI metering is transitioned to SmartCo MEP soon after installation.

This clause is not applicable.

Audit outcome

Not applicable

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

Compliant

4.17. Temporary Electrical Connection (Clause 10.31A)

Code reference

Clause 10.31A

Code related audit information

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

Audit observation

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 are only authorised to connect to the network. Metering technicians are not authorised to connect to the network therefore 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

We reviewed the Metering Database, as well as ten category 1 and one category 2 metering installation reports, along with samples of meter calibration reports. The Meter Reports and Metering Installation Certification Reports are the main sources of metering information.

PowerNet doesn't hold meter certification for some Q meters.

Audit commentary

Metering records are stored in PowerNet's Metering Database, with summary information available to PowerNet staff (distributor) through PowerNet Connect. Related documents are captured by a document management system. Metering installation reports are completed by the installation technicians and returned to Delta, which forwards them electronically to PowerNet. Electronic files are imported to the Metering Database by PowerNet staff.

The Metering Database is a reliable and comprehensive system for managing metering information.

However, some meter certification/calibration reports are missing. For example, PowerNet does not have certification information for several Metec Q meters installed at historical sites. These meters are being replaced by EDM I or L&G meters, and there are currently 617 ICP Metec Q meters installed.

	Metering Installation Attribute	Primary Record Storage	Comment
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a.	The certification expiry date of each metering component in the metering installation	Metering Database Also read only in PowerNet connect	Meter Reports archived in document management. Provided by Delta in electronic form <ul style="list-style-type: none">617 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	Meter 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	Meter Reports archived in document management <ul style="list-style-type: none">617 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">Meter Reports, calibration reports and certification reports archived in document managementTWS CT test certificates are filed as hard copies
f.	The contractor who installed each metering component in the metering installation	Meter 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	Meter 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	Meter Reports archived in document management	

j.	Any applicable compensation factors	Metering Database	Meter Reports archived in document management. CT rating is recorded
k.	The owner of each metering component within the metering installation	Metering Database	Meter 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 • Meter Reports archived in document management
m.	The signed inspection report confirming that the metering installation complies with the requirements of Part 10.	Meter Reports archived in document management	

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 5.1 With: clause 4(1)(a)(b) of Schedule 10.6 & Table 1 of Schedule 11.4 From: 01-May-22 To: 30-Apr-23	<ul style="list-style-type: none"> ELIN do not have certification information for 209 Metec Q meter Installations TPCO do not have certification information for 408 Metec Q meter Installations Potential impact: None 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. 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 issue, the number of Metec Meters will continue to decrease as they are replaced.		Ongoing	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
As these meters are no longer installed this will cease to be an issue once all Metec Meters are replaced.			

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

We discussed this with the PowerNet MEP Staff.

Audit commentary

According to PowerNet MEP Staff, no one has asked for an inspection report during the audit period, but these reports are available upon 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

We discussed this with the PowerNet MEP Staff.

Audit commentary

According to PowerNet MEP Staff, their long-term strategy is to only own meter equipment and keep records of the meters. SMCO will provide the MEP functions for the meters owned by PowerNet. When meters are transferred to SMCO, the information about them will be kept in the Metering Database.

We have confirmed compliance by auditing various sections of the Code and reviewing records 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

PowerNet currently uses DELTA ATH and has no plans to switch to another ATH. However, in the event of a change, all relevant certification documentation will be provided to the new ATH.

Audit commentary

Currently, PowerNet has no plans to alter their ATH arrangements in the near future. However, if any changes were to occur, PowerNet is fully aware of their obligation to uphold 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

We reviewed the ELIN/TPCO MEP EDA files and the Audit Summary report for the audit period.

Audit commentary

We reviewed a well-documented procedure for running the registry report to identify and process ELIN/TPCO MEP nominations. The EDA files did not record any MEP nominations as traders have been instructed to send all MEP nominations to SMCO.

Audit outcome

Compliant

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

Code reference

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

Code related audit information

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

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

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

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

Audit observation

We reviewed the ELIN/TPCO MEP LIS, EDA files, and Audit Summary report for the audit period. We also had a discussion with the PowerNet MEP Staff.

Audit commentary

The Metering Database used by PowerNet, stores all metering records. It is updated every night and thoroughly checked for discrepancies. Any issues found are reported for remedial action the following day. This system is highly effective and well-supported for accurate metering.

The PowerNet MEP staff is committed to keeping the metering database and registry up-to-date with accurate metering information.

Query	ELIN ICPs	TPCO ICPs	Comment
Active with no metering	0	0	
Accuracy of certification dates	0	0	
Certification duration	0	0	
Cat 3 and above without HHR Submission or HHR Metering or HHR installations	0	0	
Compensation Factor on Category 1 Metering Installation	0	0	
CT component installed on category 1 metering installation	0	0	
HHR profile and submission type and meter or installation type is not HHR	0	0	
Blank Registry records	0	0	<ul style="list-style-type: none"> ELIN Audit Compliance report identified 1 ICP. Checked and it was SMCO MEP
Compensation factor of 3	0	0	
Over category 1 with no CT's	0	0	
All compensation factors	0	0	
CN only	0	0	
No control device recorded	14 (Historical)	87 (Historical)	
Day + night not = 24	0	0	
Day without night	0	0	
Night without day	0	0	
IN24 or IN0	0	0	
UN not = 24	5	19	<ul style="list-style-type: none"> Checked, PowerNet MEP Staff state they are a valid code in PowerNet Networks. Settlement flag is N
UN only with a control device	2	5	<ul style="list-style-type: none"> ELIN Audit Compliance identified 2 ICPs. Checked, PowerNet MEP Staff state they are historic relays no longer used

			<p>for load control but left in place because the customer was using the switches. They are being removed as they are found.</p> <ul style="list-style-type: none"> • TPCO Audit Compliance identified 5 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. At the time of report being finalised there were none left.
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Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref 6.2</p> <p>With: clause 7(1)(2)(3) of Schedule 11.4</p> <p>From: 01-May-22</p> <p>To: 30-Apr-23</p>	<p>A relatively small number of control device discrepancies.</p> <ul style="list-style-type: none"> • 14 ELIN LCD missing records in Registry • 87 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 process in place. The issue is being managed and will correct itself as metering is upgraded and transitioned to SMCO.</p> <p>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
This is an historic issue that is being addressed as Meters are replaced in our Recertification programme.		Ongoing	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Using the Audit Compliance Report, run monthly, to identify these discrepancies and ensuring these issues are prioritised to be corrected.		Ongoing	

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

PowerNet regularly monitors the quality of data in the Metering Database, and when the company learns new information or errors are discovered, information is changed, and the registry is updated. The "day 13 comparison report" was discussed with PowerNet MEP Staff.

Audit commentary

PowerNet Staff confirmed that the "day13" is run t every month but it is not being checked.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref 6.3 With: clause 6 of Schedule 11.4 From: 01-May-22 To: 30-Apr-23	Report "Day 13" is run but not analysed Potential impact: None Actual impact: Low Audit history: None Controls: Weak Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are assessed as weak because there is a process in place but not followed. 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
Day 13 Report to be run in-house so it can be checked for errors and the report disseminated to the Metering Team to ensure this is being done.		31/07/2023	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
By taking this task back in-house we are better able to ensure actions are taken.			

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

Code reference

Clause 20 of Schedule 10.7

Code related audit information

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

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

- f) if the metering installation has been determined to be a lower category under clause 6 and:
 - (i) the MEP has not received the report under 6(2A)(a) or 6(2A)(b); or
 - (ii) the report demonstrates the maximum current is higher than permitted; or
 - (iii) the report demonstrates the electricity conveyed exceeds the amount permitted
- g) the metering installation is certified under clause 14 and sufficient load is available for full certification testing and has not been retested under clause 14(4)
- h) a control device in the metering installation certification is, and remains for a period of at least 10 business days, bridged out under clause 35(1)
- i) the metering equipment provider responsible for the metering installation is advised by an ATH under clause 48(6)(b) that a seal has been removed or broken and the accuracy and continued integrity of the metering installation has been affected.
- j) the installation is an HHR AMI installation certified after 29 August 2013 and
 - (i) the metering installation is not interrogated within the maximum interrogation cycle; or
 - (ii) the HHR and NHH register comparison is not performed; or
 - (iii) the HHR and NHH register comparison for the same period finds a difference of greater than 1 kWh and the issue is not remediated within 3 business days

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

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

Audit observation

We reviewed the PowerNet Metering Installation Requirements and Guidelines. We checked the statistical sampling process, job management process, and had a discussion with PowerNet Staff.

Audit commentary

During the audit, we discussed scenarios listed in Clause 20(1) of Schedule 10.7 and we listed references to the appropriate sections in this report below:

	Certification Cancellation Reasons	ELIN/TPCO MEP
a.	the metering installation is modified	<ul style="list-style-type: none"> • ELIN/TPCO use Delta ATH. ELIN/TPCO have adopted the EDMI 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.	1. reference standard or working standard used to certify the metering installation not being compliant	PowerNet MEP Staff advise this has not occurred during this audit period

	<p>2. the failure of a group of meters in the statistical sampling recertification process for the metering installation</p> <p>3. the failure of a certification test for the metering installation</p>	
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 metering installations. PowerNet MEP Staff state Cat 2 meters are replaced and installations recertified at the 10 year point rather than inspected. Some cat 2 sites were neither recertified nor inspected. It was noted as non-compliance in section 7.1.
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. Refer to section 7.11 for detail on fault procedure outside of business hours During Business hours PowerNet MEP, issues a job
i.	a seal has been removed or broken and the accuracy and continued integrity of the metering installation has been affected.	<ul style="list-style-type: none"> Reseal jobs are sent to a technician immediately with a next day service level. Refer to section 8.4 for more detail

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

We reviewed the ELIN/TPCO MEP LIS, EDA files, and Audit Summary report for the audit period. We also had a discussion with the PowerNet MEP Staff.

Audit commentary

At PowerNet, all TPCO/ELIN metering records are stored in the Metering Database. The system updates the registry every night using appropriate information protocols. Additionally, the system checks for any discrepancies and reports them for remedial action the next day.

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

We checked the PR-255 Audit Compliance Report to identify any ICPs with expired certifications. Additionally, we also checked the registry.

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 is summarised below.

MEP	Metering Category 1	Metering Category 2	Comment
TPCO	764	8	Includes 47 Interim certified ICPs
ELIN	338	11	

Note 1 There are also 47 category 1 TPCO interim certified installations that have expired. This has been dealt with under **section 7.19**.

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 7.1 With: Clause 10.38 (a), clause 1 and clause 15 of Schedule 10.7 From: 01-May-22 To: 30-Apr-23	<ul style="list-style-type: none"> TPCO – 772 ICPs with expired certification ELIN -349 ICPs with expired certification Potential impact: None Actual impact: Low Audit history: Multiple times Controls: Weak Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are assessed as weak. There is a process in place to recertify these installations but it was not followed during the audit period. 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
We are currently in the process of setting up a Recertification Meter Replacement Batch to reduce the number of Uncertified Meters. We will be making use of the “Unable To Complete” Report to identify those that need to be referred back to the Retailer when it has been identified that no further action can be taken by the Network.			Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Responsibilities and knowledge are now being shared between the Metering Manager and the Coordinator.			

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

We reviewed the design documentation and a random sample of ten category 1, and one category 2 installation/certification reports, and checked the registry. The Electricity Authority website was checked for Delta ATH status. This was also discussed with PowerNet MEP Staff.

Audit commentary

Delta provides ATH functions for ELIN/TPCO and approve PowerNet staff and contractors to operate under the Delta ATH system. Delta is an appropriately EA approved Test House.

PowerNet has adopted the EDM I Meter Installation requirements and Guidelines used by SmartCo for the SMART meter rollout on the PowerNet network.

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

We discussed it 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 neither HHR metering installations nor 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

We discussed it with PowerNet MEP Staff.

Audit commentary

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

This clause is not applicable. Compliance was not assessed.

Audit outcome

Compliant

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

We reviewed the PowerNet Installation Requirements and one category 2 installation/certification report done in the audit period. This was also discussed with PowerNet MEP Staff.

Audit commentary

The company policy is to replace CTs if changes or additions to burden or compensation factors are necessary, consequently, the installing ATH carries out the burdening.

ELIN/TPCO does not provide MEP services for a POC to the grid.

PowerNet MEP Staff state that ELIN/TPCO do not allow other loads to be connected to the metering transformers.

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

We discussed it 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

We discussed it with PowerNet MEP Staff.

Audit commentary

ELIN/TPCO does not provide the MEP services to HHR 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

We discussed it with PowerNet MEP Staff.

Audit commentary

ELIN/TPCO does not offer MEP services for new installations. Additionally, the PowerNet MEP team has confirmed that there were metering installations with insufficient load for certification testing during the 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 ten 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

We discussed it with PowerNet MEP Staff.

Audit commentary

PowerNet MEP Staff state that ELIN/TPCO has not used the Alternative Certification process 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

We discussed it with PowerNet MEP Staff.

Audit commentary

PowerNet stated that ELIN/TPCO were responsible for six meters with time clocks. The meters are configured to adjust for DLS, and all ICPs are reconciled as NHH using the RPS profile, so reconciliation volumes are not impacted.

The company confirmed that last year the clocks were checked during the annual visit in 2022.

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

We discussed the process with PowerNet MEP Staff.

Audit commentary

If a customer contacts the PowerNet Faults Call Centre about a lack of hot water, their electrician will be authorized to bridge out the ripple receiver. If the load control device is the cause of the problem, the electrician will contact the call centre, and they will authorize the bridging of the device. The call centre logs this and notifies the retailer, who will raise a next-day job with MEP to fix the problem.

The Faults Call Centre also notifies MEP, who will arrange a meter replacement and upgrade the site to a smart meter installation. Following standard procedures, the MEP will send a job to a metering technician to fix the fault and replace the meter 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

We discussed the process with PowerNet MEP Staff.

Audit commentary

During this audit period, PowerNet MEP staff has confirmed that ELIN/TPCO did not receive any requests for load control device certification.

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

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

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

In all other cases the MEP must update the compensation factor recorded in the registry in accordance with Part 11.

Audit observation

We checked the NSP table was checked and 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

We reviewed the Audit Compliance reports and PR-255, and we discussed it with the PowerNet MEP Staff.

Audit commentary

For category 1 metering installations, the meter certification date determines the installation certificate expiry date. The following tables summarise the meter certification expiry during the audit period:

MEP	Total Installations expired (cat1)		Interim Certification (cat1)		Full Certification expired (cat1)	
	2022	2023	2022	2023	2022	2023
TPCO	917 (59%)	764 (72%)	54	47	863	717

ELIN	378 (58%)	338 (77%)	0	0	378	338
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The overall percentage of non-certified installation cat 1 increased since the last audit.

For category 2 metering installations, the selected component certification method is used with the CT, meter and installation having the same certification date; expiry would occur at the same time for all elements.

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

TPCO

ICP	Meter Expiry	PowerNet MEP Staff Comment
0008001685TP65A	28/06/2020	Switchboard hazard customer to make safe prior to metering upgrade.
0000658467TPD07	21/04/2022	Job to be raised again, no noted why it was not done
0008001876TPC86	06/03/2022	Contacted customer on 11/02/2022; a building project is undertaken; TPCO will be contacted when the project is finalised. It is 300 kVA therefore it will be instigated by a retailer to nominate another MEP. PowerNet will contact a customer asking for an update.
0000655717TP179	28/02/2023	Job not raised yet
0000482070TPCA8	21/12/2022	300 kVA CT 400/5 PNET policies determine that any ICPs with a load over 150kVA should have full HH metering, ELIN/TPCO do not supply full HH metering so require the retailer to nominate another MEP.
0000308479TPA96	26/07/2022	200 kVA CT 500/5 Retailer to be contacted to make arrangements
0000177604TP196	23/05/2022	Now IHUB accepted MEP nomination
0000405769TPC13	21/11/2022	200 kVA CT 300/5 Retailer to be contacted to make arrangements

Installation certification for ICP highlighted in orange expired during this audit period

ELIN

ICP	Meter Expiry	PowerNet MEP Staff Comment
0007302445NVD40	23/02/2020	Job to be issued
0000900319NV09D	10/02/2020	With retailer as requires TOU metering

0000734347NV6B4	19/03/2020	Board unsafe, cannot recertify installation, with retailer
0008102904NV286	23/02/2020	Cust advised they want to change from Cat2 to WC metering
0007302197NV582	08/02/2020	Installation certified, late registry update
0007344596NVB93	09/05/2022	No job raised
0000744540NV7C1	30/03/2022	No job raised
0007227013NV247	21/05/2022	No job raised
0007227012NVE02	21/05/2022	No job raised
0000732181NVF13	08/05/2023	No job raised
0000930505NVE04	05/07/2022	No job raised 400/5 150kVA
0007447592NVD72	13/12/2022	No job raised, possible capacity downgrade, currently 150 kVA CT 200/5

Installation certification for ICP highlighted in orange expired during this audit period

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref 7.15 With: Clause 26(1) of Schedule 10.7 From: 01-May-22 To: 30-Apr-23	<ul style="list-style-type: none"> TPCO – 772 ICPs with expired meter certification ELIN – 349 ICPs with expired meter certification Potential impact: Low Actual impact: Low Audit history: Twice previously Controls: Weak Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are assessed as weak. 1,121 installations have expired installation certification. There is a process in place but it was not followed during this audit period. 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
We are currently in the process of setting up a Recertification Meter Replacement Batch to reduce the number of Uncertified Meters. We will be making use of the “Unable To Complete” Report to identify those that need to be referred back to the Retailer when it has been identified that no further action can be taken by the Network. 5 Cat 2 Jobs have been raised for Meter Replacements and CT Certification. 1 Job for ELIN has now been completed for ICP 0000732181NVF13, completed 12/06/2023. Action step created to contact Retailers for ICP’s with higher than 150kVA to install and certify new metering.			Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
We will be investigating the financial viability of conducting another Stat Sampling Project as numbers are reducing and we are now left with difficult installations that are on the Unable to Complete Report.			

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

We reviewed the Audit Compliance reports and PR-255, and we discussed it with the 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 insitu certification procedure is used if appropriate, otherwise the CTs are replaced with TWS 500/5 CTs.

PowerNet state they have re-certified one CT metering installations during the audit period.

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

TPCO

ICP	Meter Expiry	PowerNet MEP Staff Comment
0008001685TP65A	28/06/2020	Switchboard hazard customer to make safe prior to metering upgrade.
0000658467TPD07	21/04/2022	Job to be raised again, no noted why it was not done
0008001876TPC86	06/03/2022	Contacted customer on 11/02/2022; a building project undertaken; TPCO will be contacted when the project is finalised. It is 300 kVA therefore it will be instigated by a retailer. PowerNet will contact a customer asking for update
0000655717TP179	28/02/2023	Job not raised yet
0000482070TPCA8	21/12/2022	PNET policies determine that any ICPs with a load over 150kVA should have full HH metering, ELIN/TPCO do not supply full HH metering so require the retailer to nominate another MEP.
0000308479TPA96	26/07/2022	Retailer to be contacted to make arrangements 200 kVA CT 500/5
0000177604TP196	23/05/2022	Now IHUB accepted MEP nomination
0000405769TPC13	21/11/2022	Retailer to be contacted to make arrangements 200 kVA CT 300/5

Installation certification for ICP highlighted in orange expired during this audit period.

ELIN

ICP	Meter Expiry	PowerNet MEP Staff Comment
0007302445NVD40	23/02/2020	Job to be issued
0000900319NV09D	10/02/2020	With retailer as requires TOU metering, 2021 note tried contact customer, can't be done by ELIN 200 kVA

0000734347NV6B4	19/03/2020	Board unsafe, cannot recertify installation, with retailer, CTCT notified
0008102904NV286	23/02/2020	Cust advised they want to change from Cat2 to WC metering, follow up with the customer
0007302197NV582	08/02/2020	Installation certified, late registry update
0007344596NVB93	09/05/2022	No job raised
0000744540NV7C1	30/03/2022	No job raised
0007227013NV247	21/05/2022	No job raised
0007227012NVE02	21/05/2022	No job raised
0000732181NVF13	08/05/2023	No job raised
0000930505NVE04	05/07/2022	No job raised 400/5 150kVA
0007447592NVD72	13/12/2022	No job raised, possible capacity downgrade, currently 150 kVA CT 200/5

Installation certification for ICP highlighted in orange expired during this audit period

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref 7.16 With: Clause 28(1) of Schedule 10.7 From: 01-May-22 To: 30-Apr-23	<ul style="list-style-type: none"> TPCO – 8 ICPs with expired CT certification ELIN -11 ICPs with expired CT certification Potential impact: Low Actual impact: Low Audit history: Twice previously Controls: Weak Breach risk rating: 3		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are assessed as weak because only one cat 2 installation was recertified during the audit period. The audit risk rating is recorded as low.		
Actions taken to resolve the issue		Completion date	Remedial action status
5 Cat 2 Jobs have been raised for Meter Replacements and CT Certification. 1 Job for ELIN has now been completed for ICP 0000732181NVF13, completed 12/06/2023. Action step created to contact Retailers for ICP's with higher than 150kVA to install and certify new metering.			Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Using the Audit Compliance Report, run monthly, to identify these discrepancies and ensuring these issues are prioritised to be corrected.			

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

We discussed the process with PowerNet MEP Staff.

Audit commentary

ELIN/TPCO does not provide the 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

We discussed the process 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. It would be an industry-wide issue.

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 Audit Compliance reports and PR-255 file were reviewed. This was also discussed with PowerNet MEP Staff.

Audit commentary

Expired Interim Certification

MEP	Quantity	PowerNet MEP Staff Comment
TPCO	47	54 ICPs at last audit
ELIN	0	

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref 7.19 With: Clause 18 of Schedule 10.7 From: 01-May-22 To: 30-Apr-23	TPCO – 47 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 assessed as moderate as the issue is known and PowerNet are making efforts on behalf of TPCO to recertify the Interim certified installations. There was no impact on settlement. The audit risk rating is recoded as low.		
Actions taken to resolve the issue		Completion date	Remedial action status
We have identified that there are 41 remaining sites with expired interim certification's and we will be including these in the next Batch Meter Replacement Project.			Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
After these have been replaced this will no longer be an issue.			

8. INSPECTION OF METERING INSTALLATIONS

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

Code reference

Clause 45 of Schedule 10.7

Code related audit information

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

- *have been inspected by an ATH within 126 months from the date of the metering installation's most recent certification or*
- *for each 12 month period, commencing 1 January and ending 31 December, ensure an ATH has completed inspections of a sample of the category 1 metering installations selected under clause 45(2) of Schedule 10.7.*

Before a sample inspection process can be carried out, the MEP must submit a documented process for selecting the sample to the Electricity Authority, at least 2 months prior to first date on which the inspections are to be carried out, for approval (and promptly provide any other information the Authority may request).

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

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

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

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

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

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

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

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

Audit observation

PowerNet follows an approved procedure of conducting annual inspections on category 1 metering installations using statistical sampling. This was discussed with the PowerNet MEP staff.

Audit commentary

The report of inspections of category 1 metering installations for the calendar year 2022 was filed with the Authority at end of March 2023 for both ELIN and TPCO.

ELIN

- List of ICPs inspected if using the method under clause 45(1)(b) – sample inspection

Number of all category 1 metering installations for which the MEP is responsible, other than interim certified metering installations	419
Number of ICPs certified or inspected within the previous 84 months	477
Applicable minimum sample size of metering inspections requiring inspection	20
Sample size selected	23
Total sample size actually inspected	18

- Summary of the instances of non-compliance (Clause 45(8)(a)(ii) or 45(8)(b)(ii))

Count of ICPs	Description of non-compliance
1	Meter seal replaced

TPCO

- List of ICPs inspected if using the method under clause 45(1)(b) – sample inspection

Number of all category 1 metering installations for which the MEP is responsible, other than interim certified metering installations	1,017
Number of ICPs certified or inspected within the previous 84 months	863
Applicable minimum sample size of metering inspections requiring inspection	50
Sample size selected	55
Total sample size actually inspected	52

- Summary of the instances of non-compliance (Clause 45(8)(a)(ii) or 45(8)(b)(ii))

Count of ICPs	Description of non-compliance
2	Meter or LCD seals missing or broken
5	Certification sticker missing or unreadable

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:

- 126 months for Category 2
- 63 months for Category 3
- 33 months for Category 4
- 19 months for Category 5.

Audit observation

We reviewed the Audit Compliance reports and PR-255, and we discussed it 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 have not been inspected within the applicable period of 120 months:

TPCO

ICP	Metering Installation Certification Expire Date
0008001685TP65A	28/06/2020
0000658467TPD07	21/04/2022
0008001876TPC86	06/03/2022
0000655717TP179	28/02/2023
0000482070TPCA8	21/12/2022
0000308479TPA96	26/07/2022
0000177604TP196	23/05/2022
0000405769TPC13	21/11/2022

ELIN

ICP	Metering Installation Certification Expire Date
0007302445NVD40	23/02/2020
0000900319NV09D	10/02/2020
0000734347NV6B4	19/03/2020
0008102904NV286	23/02/2020
0007344596NVB93	09/05/2022

000744540NV7C1	30/03/2022
0007227013NV247	21/05/2022
0007227012NVE02	21/05/2022
0000732181NVF13	08/05/2023
0000930505NVE04	05/07/2022
0007447592NVD72	13/12/2022

Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref 8.2 With: Clause 46(1) of Schedule 10.7 From: 01-May-22 To: 30-Apr-23	8 category 2 installations for which TPCO is responsible were not inspected and 11 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 robust process in place but due to a lack of resources only one cat 2 metering installation was re-certified The audit risk rating is recorded as low due to the low number of ICPs.		
Actions taken to resolve the issue		Completion date	Remedial action status
5 Cat 2 Jobs have been raised for Meter Replacements and CT Certification. 1 Job for ELIN has now been completed for ICP 0000732181NVF13, completed 12/06/2023. Action step created to contact Retailers for ICP's with higher than 150kVA to install and certify new metering.			Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Using the Audit Compliance Report, run monthly, to identify these discrepancies and ensuring these issues are prioritised to be corrected.			

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

We reviewed the meter inspection process and the current inspection results and discussed them with the PowerNet MEP Staff.

Audit commentary

PowerNet engages electrical inspectors authorized to work under Delta's approved test house to conduct sample metering installation inspections.

The PowerNet process requires inspection reports to be compared to existing data and any discrepancies to be corrected if noted. These reports are archived and available to participants upon request.

Audit outcome

Compliant

8.4. Broken or removed seals (Clause 48(1G), (4) and (5) of Schedule 10.7)

Code reference

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

Code related audit information

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

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

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

The MEP must make the above arrangements within

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

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

Audit observation

We examined the process for dealing with missing or damaged seals and discussed it with the PowerNet MEP Staff. Additionally, we reviewed one job that involved repairing a broken seal.

Audit commentary

If it is reported that seals are missing or broken, PowerNet MEP Staff will send a fault job request to an approved contractor to investigate and fix the issue. The contractor will then report the results back to PowerNet within the next day. In most cases, a new smart meter will be installed during this process.

If any broken seals are found during an inspection, they are immediately fixed, and the situation is reported back to PowerNet.

We reviewed one job and confirm that the information was communicated back to the retailer and 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

We reviewed the procedure for managing meter faults and discussed it with PowerNet MEP Staff. Additionally, we examined two category 1 metering installation fault tasks.

Audit commentary

ELIN/TPCO are the MEPs for installations of categories 1 and 2 only.

Once PowerNet is made aware, by a trader or one of their contractors, of a meter being inaccurate or defective, a job request is created, and a contractor goes on site. According to the process, a contractor's role is to investigate and fix the situation. The trader is notified once the job is complete, and the registry is updated if the meter is changed.

PowerNet has a standard procedure where they replace existing meters with smart meters in all cases. If there are any faulty load control devices, PowerNet resolves them by replacing the meter with a smart meter that includes load control. If a meter or ripple receiver is identified as faulty, a smart meter is installed.

We reviewed four jobs and confirm that the information was communicated back to the retailer and 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

We reviewed and discussed the procedure for managing meter faults with PowerNet MEP Staff.

Audit commentary

The PowerNet MEP Staff has a standard procedure of replacing faulty meters in all cases. If a retailer requests a removed meter to be tested for accuracy, the meter will be sent to an ATH for testing.

After fixing any inaccuracies or defects in the meter installation, a Meter Report will be created with all the details. The Meter Report is then sent to the PowerNet office on the same day or the following day, and the information is recorded in the Metering Database. The trader will also receive a copy of the Meter Report.

PowerNet was not able to provide any example of a faulty meter.

Audit outcome

Compliant

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

Code reference

Clause10.46(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

We reviewed and discussed the procedure for managing meter faults with PowerNet MEP Staff.

We checked four fault jobs for category 1 meter metering installation.

Audit commentary

ELIN/TPCO are the MEPs for installations of category 1 and 2 only.

PowerNet has a standard procedure where they replace existing meters with smart meters in all cases. The Meter Report is received at PowerNet next day and information entered into the Metering Database immediately. The retailer is then emailed a copy of the meter installation report, and the registry is updated with the new metering information overnight.

If a retailer requests a removed meter to be tested for accuracy, the meter will be sent to an ATH for testing.

Audit outcome

Compliant

9.4. Timeframe to correct defects and inaccuracies (Clause 10.46A)

Code reference

Clause 10.46A

Code related audit information

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

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

Audit observation

We reviewed and discussed the procedure for managing meter faults with PowerNet MEP Staff.

We checked four fault jobs for category 1 metering installation.

Audit commentary

We reviewed four jobs and confirm that the information was communicated back to the retailer and updated in the registry within 10 business days.

Audit outcome

Compliant

9.5. Meter bridging (Clause 10.33C)

Code reference

Clause 10.33C

Code related audit information

An MEP may only electrically connect an ICP in a way that bypasses a meter that is in place (“bridging”) if the MEP has been authorised by the responsible trader.

The MEP can then only proceed with bridging the meter if, despite best endeavours:

- *the MEP is unable to remotely electrically connect the ICP*
- *the MEP cannot repair a fault with the meter due to safety concerns*
- *the consumer will likely be without electricity for a period which would cause significant disadvantage to the consumer*

If the MEP bridges a meter, the MEP must notify the responsible trader within 1 business day, and include the date of bridging in its advice.

Audit observation

We checked the process with PowerNet staff.

Audit commentary

We checked one example of a bridged meter, and the bridging was necessary because remote reconnection was not possible, and the customers would be disadvantaged without reconnection occurring.

PowerNet issues a meter replacement job to their installer the same day to get meters changed, as PowerNet does not just replace ripples.

PowerNet was not able to provide any example of a bridged meter.

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

We reviewed the PowerNet Metering Installation Requirements and Guidelines and the design documentation and discussed it 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

We reviewed the PowerNet Metering Installation Requirements and Guidelines and the design documentation and discussed it with the PowerNet MEP staff.

Audit commentary

MEP audit template V10

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

10.3. 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

We reviewed the PowerNet Metering Installation Requirements and Guidelines and discussed with the PowerNet MEP staff.

Audit commentary

According to PowerNet MEP staff, they have not received any requests for physical access to metering installations during this audit period. However, they assure that they will make every effort to provide access while prioritizing health and safety standards.

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

We reviewed the PowerNet Metering Installation Requirements and Guidelines and discussed them with the PowerNet MEP staff.

Audit commentary

According to PowerNet MEP staff, they have not received any urgent requests for physical access to metering installations during this audit period. However, they assure that they will make every effort to provide access while prioritizing health and safety standards.

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

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

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

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

Audit observation

We reviewed the PowerNet Metering Installation Requirements and Guidelines and discussed them 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.

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

We reviewed the PowerNet Metering Installation Requirements and Guidelines and discussed them 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.

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

We reviewed the PowerNet Metering Installation Requirements and Guidelines and discussed them with the PowerNet MEP staff.

Audit commentary

The PowerNet MEP team has confirmed that ELIN/TPCO do not have headend infrastructure to access or retrieve data from the meters electronically.

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

We reviewed the PowerNet Metering Installation Requirements and Guidelines and discussed them with the PowerNet MEP staff.

Audit commentary

The PowerNet MEP team has confirmed that ELIN/TPCO do not have headend infrastructure to access or retrieve data from the meters electronically.

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 for the same period.

Audit observation

We reviewed the PowerNet Metering Installation Requirements and Guidelines and discussed them with the PowerNet MEP staff.

Audit commentary

The PowerNet MEP team has confirmed that ELIN/TPCO do not have headend infrastructure to access or retrieve data from the meters electronically.

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

We reviewed the PowerNet Metering Installation Requirements and Guidelines and discussed them with the PowerNet MEP staff.

Audit commentary

The PowerNet MEP team has confirmed that ELIN/TPCO do not have headend infrastructure to access or retrieve data from the meters electronically.

This clause is not applicable. Compliance was not assessed.

Audit outcome

Not applicable

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

Code reference

Clause 8(10) of Schedule 10.6

Code related audit information

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

Audit observation

We reviewed the PowerNet Metering Installation Requirements and Guidelines and discussed them with the PowerNet MEP staff.

Audit commentary

The PowerNet MEP team has confirmed that ELIN/TPCO do not have headend infrastructure to access or retrieve data from the meters electronically.

This clause is not applicable. Compliance was not assessed.

Audit outcome

Not applicable

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

Code reference

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

Code related audit information

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

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

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

Audit observation

We reviewed the PowerNet Metering Installation Requirements and Guidelines and discussed them with the PowerNet MEP staff.

Audit commentary

The PowerNet MEP team has confirmed that ELIN/TPCO do not have headend infrastructure to access or retrieve data from the meters electronically.

This clause is not applicable. Compliance was not assessed.

Audit outcome

Not applicable

CONCLUSION

PARTICIPANT RESPONSE

We wish to thank Ewa for her guidance and support throughout this Audit.

PowerNet have addressed the Resourcing issue by undertaking training, extending the knowledge base of the Metering Coordinator and ensuring tasks are shared to enable active management of ELIN/TPCO Metering to ensure compliance going forward. Use of the Audit Compliance Report on a monthly basis will ensure that any discrepancies are identified to enable them to be rectified.

Bringing the Day 13 report in-house will ensure that this action is completed and remedial action taken when required.

While we will be undertaking a Meter Recertification Programme, which will begin within the next month, we are aware that full compliance is unlikely within the next 18 months to 2 years due to the reducing meter fleet numbers and the information on the Unable to Complete report.

As part of PowerNet's Business Improvement Process, the Quality and Improvement Manager will be involved in assigning action steps and following up on the non-compliances addressed within this Audit.