

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

For

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

Prepared by: Allan Borcoski

Date audit commenced: 17 January 2020

Date audit report completed: 11 February 2020

Audit report due date: 08-Feb-20

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## TABLE OF CONTENTS

Executive summary .....	5
Audit summary .....	6
Non-compliances .....	6
Recommendations .....	9
Issues .....	9
1. Administrative .....	10
1.1. Exemptions from Obligations to Comply With Code (Section 11) .....	10
1.2. Structure of Organisation .....	10
1.3. Persons involved in this audit .....	10
1.4. Use of Agents (Clause 10.3) .....	11
1.5. Hardware and Software .....	11
1.6. Breaches or Breach Allegations .....	11
1.7. ICP Data .....	11
1.8. Authorisation Received .....	12
1.9. Scope of Audit .....	12
1.10. Summary of previous audit .....	13
2. Operational Infrastructure .....	15
2.1. MEP responsibility for services access interface (Clause 10.9(2)) .....	15
2.2. Dispute Resolution (Clause 10.50(1) to (3)) .....	15
2.3. MEP Identifier (Clause 7(1) of Schedule 10.6) .....	16
2.4. Communication Equipment Compatibility (Clause 40 Schedule 10.7) .....	16
2.5. Participants to Provide Accurate Information (Clause 11.2 and Clause 10.6) .....	17
3. Process for a Change of MEP .....	19
3.1. Change of metering equipment provider (Clause 10.22) .....	19
3.2. Registry Notification of Metering Records (Clause 2 of Schedule 11.4) .....	19
3.3. Provision of Metering Records to Gaining MEP (Clause 5 of Schedule 10.6) .....	21
3.4. Termination of MEP Responsibility (Clause 10.23) .....	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) .....	24
4.3. Metering Installation Design & Accuracy (Clause 4(1) of Schedule 10.7) .....	25
4.4. Subtractive Metering (Clause 4(2)(a) of Schedule 10.7) .....	26
4.5. HHR Metering (Clause 4(2)(b) of Schedule 10.7) .....	27
4.6. NSP Metering (Clause 4(3) of Schedule 10.7) .....	27
4.7. Responsibility for Metering Installations (Clause 10.26(10)) .....	28
4.8. Suitability of Metering Installations (Clause 4(4) of Schedule 10.7) .....	28
4.9. Installation & Modification of Metering Installations (Clauses 10.34(2), (2A) and (3)) .....	29
4.10. Changes to Registry Records (Clause 3 of Schedule 11.4) .....	29
4.11. Metering Infrastructure (Clause 10.39(1)) .....	31
4.12. Decommissioning of an ICP (Clause 10.23A) .....	32
4.13. Measuring Transformer Burden and Compensation Requirements (Clause 31(4) and (5) of Schedule 10.7) .....	33
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) .....	34
4.16. Temporary Electrical Connection (Clause 10.30A) .....	35
4.17. Temporary Electrical Connection (Clause 10.31A) .....	35
5. Metering Records .....	36
5.1. Accurate and Complete Records (Clause 4(1)(a) and (b) of Schedule 10.6, and Table 1, Schedule 11.4) .....	36
5.2. Inspection Reports (Clause 4(2) of Schedule 10.6) .....	39
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).....	40
6. Maintenance of Registry Information.....	41
6.1. MEP Response to Switch Notification (Clause 1(1) of Schedule 11.4).....	41
6.2. Provision of Registry Information (Clause 7 (1), (2) and (3) of Schedule 11.4) .....	41
Non-compliance.....	<b>Error! Bookmark not defined.</b>
6.3. Correction of Errors in Registry (Clause 6 of Schedule 11.4).....	45
6.4. Cancellation of Certification (Clause 20 of Schedule 10.7).....	46
6.5. Registry Metering Records (Clause 11.8A) .....	48
7. Certification of Metering Installations .....	51
7.1. Certification and Maintenance (Clause 10.38 (a), clause 1 and clause 15 of Schedule 10.7) .....	51
Non-compliance.....	52
7.2. Certification Tests (Clause 10.38(b) and clause 9 of Schedule 10.6) .....	53
7.3. Active and Reactive Capability (Clause 10.37(1) and 10.37(2)(a)) .....	54
7.4. Local Service Metering (Clause 10.37(2)(b)) .....	55
7.5. Measuring Transformer Burden (Clause 30(1) and 31(2) of Schedule 10.7).....	55
7.6. Certification as a Lower Category (Clauses 6(1)(b) and (d), and 6(2)(b) of Schedule 10.7) .....	56
7.7. Insufficient Load for Certification Tests (Clauses 14(3) and (4) of Schedule 10.7)....	57
7.8. Insufficient Load for Certification – Cancellation of Certification (Clause 14(6) of Schedule 10.7) .....	57
7.9. Alternative Certification Requirements (Clauses 32(2), (3) and (4) of Schedule 10.7) .....	58
7.10. Timekeeping Requirements (Clause 23 of Schedule 10.7) .....	58
7.11. Control Device Bridged Out (Clause 35 of Schedule 10.7).....	59
7.12. Control Device Reliability Requirements (Clause 34(5) of Schedule 10.7) .....	59
7.13. Statistical Sampling (Clauses 16(1) and (5) of Schedule 10.7).....	60
7.14. Compensation Factors (Clause 24(3) of Schedule 10.7) .....	60
7.15. Metering Installations Incorporating a Meter (Clause 26(1) of Schedule 10.7).....	61
7.16. Metering Installations Incorporating a Measuring Transformer (Clause 28(1) of Schedule 10.7) .....	63
7.17. Metering Installations Incorporating a Data Storage Device (Clause 36(1) of Schedule 10.7) .....	65
7.18. Notification of ATH Approval (Clause 7 (3) Schedule 10.3).....	66
7.19. Interim Certification (Clause 18 of Schedule 10.7).....	66
8. Inspection of metering installations .....	69
8.1. Category 1 Inspections (Clause 45 of Schedule 10.7) .....	69
8.2. Category 2 to 5 Inspections (Clause 46(1) of Schedule 10.7).....	70
8.3. Inspection Reports (Clause 44(5) of Schedule 10.7) .....	72
8.4. Broken or removed seals (Clause 48(4) and (5) of Schedule 10.7) .....	73

9.	Process for Handling Faulty Metering Installations.....	74
9.1.	Investigation of Faulty Metering Installations (Clause 10.43(4) and (5)).....	74
9.2.	Testing of Faulty Metering Installations (Clause 10.44) .....	74
9.3.	Statement of Situation (Clause 10.46(2)).....	75
10.	Access to and Provision of Raw meter Data and Metering Installations .....	77
10.1.	Access to Raw Meter Data (Clause 1 of Schedule 10.6) .....	77
10.2.	Restrictions on Use of Raw Meter Data (Clause 2 of Schedule 10.6).....	77
10.3.	Access to Metering Installations (Clause 3(1), (3) and (4) of Schedule 10.6).....	78
10.4.	Urgent Access to Metering Installations (Clause 3(5) of Schedule 10.6) .....	78
10.5.	Electronic Interrogation of Metering Installations (Clause 8(2), 8(3), 8(5) and 8(6) of Schedule 10.6) .....	79
10.6.	Security of Metering Data (Clause 10.15(2)).....	80
10.7.	Time Errors for Metering Installations (Clause 8(4) of Schedule 10.6) .....	80
10.8.	Event Logs (Clause 8(7) of Schedule 10.6).....	81
10.9.	Comparison of HHR Data with Register Data (Clause 8(9) of Schedule 10.6).....	81
10.10.	Correction of Raw Meter Data (Clause 10.48(2),(3)) .....	82
	Conclusion .....	83
	Participant response .....	83

## EXECUTIVE SUMMARY

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

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

It appears the TPCO/ELIN MEPs have been quite busy during the audit period transitioning ICPs to SMCO as part of the change of business model for metering at PowerNet. During 2019 the number of ICPs TPCO is responsible for has decreased by 5312 ICPs and ELIN by 3254 ICPs.

With a large number of meter changes and data transactions occurring and competition for field and back office resources, it is inevitable some discrepancies will occur. There was a relatively small volume of discrepancies found during the audit but they were broadly spread across the code requirements. It was noted that some registry information discrepancies appeared to have been a result of other participant activity, for example where a retailer is late nominating the MEP this will create a non-compliance for the nominated MEP.

It was good to see the category 1 annual inspections on track during the audit period. The main issues identified during this audit were around category 2 metering installations for example:

- Category 2 metering installations expired
- Missing CT information in the registry

PowerNet have had some difficulty gaining access to a number metering installations to carry out inspection and re-certification work. Despite numerous discussions with retailers this situation has not improved. We understand this issue has also been raised directly with Electricity Authority in August 2019.

Based on Table 1 of the Guidelines for Reconciliation Participant audit, the next audit should happen within the next 6 months. Our recommendation is to conduct the next audit in 6 months.

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

The audit period was 16 January 2019 to 15 January 2020.

## AUDIT SUMMARY

### NON-COMPLIANCES

#### Electricity Invercargill (ELIN)

Subject	Section	Clause	Non Compliance	Controls	Audit Risk Rating	Breach Risk Rating	Remedial Action
Participants to provide accurate information	2.5	11.2 & 10.6	Information for a small number of ICPs is missing or not up to date.	Moderate	Low	2	Identified
Registry Notification of Metering Records	3.2	CI 2 11.4	Metering information registry updates at MEP nomination greater than 15 Days	Moderate	Low	2	Identified
Metering Installation Design & Accuracy	4.3	CI 4(1) 10.7	A number of metering installation design anomalies and missing design numbers were identified in the metering installation reports	Moderate	Low	2	Identified
Changes to Registry Records	4.10	CI3 11.4	Registry metering information updated later than 10 business days for a small percentage of metering installation records	Strong	Low	1	Identified
Accurate and Complete Records	5.1	CI 4(1)(a)(b) 10.6 Table 1 11.4	Certification information missing for some Metec Q meters	Moderate	Low	2	Identified
Provision of Registry Information	6.2	CI 7(1)(2)(3) 11.4	5 x CT records not populated in registry	Moderate	Low	2	Identified
Correction of errors in Registry	6.3	CI6 11.4	The day 13 discrepancy report process has been operating irregularly during this audit period.	Moderate	Low	2	Identified
Registry Metering Records	6.5	CI 11.8A	5 x CT records and 190 x Load Control Devices not recorded in registry	Moderate	Low	2	Identified

Certification and Maintenance	7.1	CI 10.38(a)clause 1, clause 15 10.7	424 Category 1 and 7 category 2 TPCO ICPs with expired certification.	Moderate	Low	2	Identified
Metering Installations Incorporating a meter	7.15	CI26(1) 10.7	2 x cat 2 for ELIN installations have expired certification. The selected component method of certification (all components have same certification) means the meter certification has also expired	Moderate	Low	2	Identified
Metering Installations Incorporating a measuring transformer	7.16	CI 28(1) 10.7	2 x cat 2 for ELIN installations have expired certification. The selected component method of certification (all components have same certification) means the CT certification has also expired	Moderate	Low	2	Identified
Category 2 to 5 Inspections	8.2	CI 46(1) 10.7	2 x cat 2 ELIN installations were not inspected within the required timeframe.	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

## 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 & 10.6	Information for a small number of ICPs is missing or not up to date.	Moderate	Low	2	Identified
Registry Notification of Metering Records	3.2	CI 2 11.4	Metering information registry updates at MEP nomination greater than 15 Days	Moderate	Low	2	Identified
Metering Installation Design & Accuracy	4.3	CI 4(1) 10.7	A number of metering installation design anomalies and missing design numbers were identified in the metering installation reports	Moderate	Low	2	Identified
Changes to Registry Records	4.10	CI3 11.4	Registry metering information updated later than 10 business days for a small percentage of metering installation records	Strong	Low	1	Identified
Provision of Registry Information	6.2	CI 7(1)(2)(3) 11.4	9 x CT records not populated in registry	Moderate	Low	2	Identified
Correction of errors in Registry	6.3	CI6 11.4	The day 13 discrepancy report process has been operating irregularly during this audit period.	Moderate	Low	2	Identified
Registry Metering Records	6.5	CI 11.8A	TPCO 9 x CT records and 486 x Load Control Devices not recorded	Moderate	Low	2	Identified
Certification and Maintenance	7.1	CI 10.38(a)clause 1, clause 15 10.7	1x Category 1 and 2 Category 2 Metering Installation Certificates expired	Moderate	Low	2	Identified
Metering Installations Incorporating a meter	7.15	CI26(1) 10.7	7 x cat 2 TPCO installations have expired certification. The selected component method of certification (all components have same certification) means the	Moderate	Low	2	Identified



			meter certification has also expired				
Metering Installations Incorporating a measuring transformer	7.16	CI 28(1) 10.7	7 x cat 2 TPCO installations have expired certification. The selected component method of certification (all components have same certification) means the CT certification has also expired	Moderate	Low	2	Identified
Interim Certification	7.19	CI 18 10.7	383 TPCO ICPs with expired interim certification	Moderate	Low	2	Identified
Category 2 to 5 Inspections	8.2	CI 46(1) 10.7	7 x cat 2 TPCO installations were not inspected within the required timeframe.	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

## ISSUES

Subject	Section	Description	Issue

## 1. ADMINISTRATIVE

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

#### Code reference

*Section 11 of Electricity Industry Act 2010.*

#### Code related audit information

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

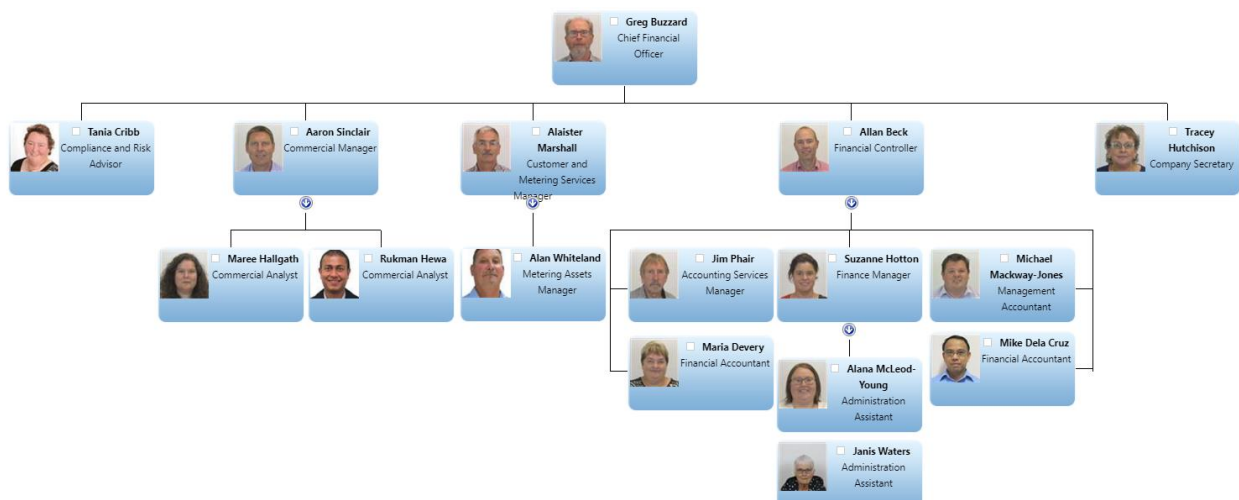
#### Audit observation

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

#### Audit commentary

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

### 1.2. Structure of Organisation



### 1.3. Persons involved in this audit

Name	Title	Company	Comment
Alaister Marshall	Customer and Metering Services Manager	PowerNet	Contact person
Alan Whiteland	Metering Assets Manager	PowerNet	
Fiona Mason	Operations Administrator	PowerNet	

Name	Title	Company	Comment
Allan Borcoski	Electricity Authority Approved Auditor	Borcoski Energy Services Ltd	

#### 1.4. Use of Agents (Clause 10.3)

##### Code reference

Clause 10.3

##### Code related audit information

*A participant who uses a contractor*

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

##### Audit observation

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

##### Audit commentary

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

#### 1.5. Hardware and Software

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

#### 1.6. Breaches or Breach Allegations

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

#### 1.7. ICP Data

##### ELIN

Metering Category	Number of ICPs (2020)	Number of ICPs (2019)
1	3013	6267
2	122	126
3	0	0

4	0	0
5	0	0

## TPCO

Metering Category	Number of ICPs (2020)	Number of ICPs (2019)
1	7702	12834
2	94	90
3	0	0
4	0	0
5	0	0

### 1.8. Authorisation Received

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

### 1.9. Scope of Audit

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

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

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

The scope of the audit is:

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

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

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

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

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

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

#### 1.10. Summary of previous audit

The previous audit was conducted on Jan 19 by Ewa Glowacka of TEG Associates. The following non-compliances were identified.

#### Electricity Invercargill (ELIN)

Subject	Section	Clause	Non-Compliance	Comment
Participants to provide accurate information	2.5	11.2	Information for a small number of ICPs is missing	Still exists
Changes to registry records	4.10	3 of Schedule 11.4	Registry metering data updated later than 10 business days for a small number of ICPs	Still exists
Accurate and complete records	5.1	4(1)(b)(v) of Schedule 10.6	Lack of certification tests for some Q meters	Still exists
Provision of registry information	6.2	7(1) of Schedule 11.4	CT information not populated in the registry for 7 ICPs	Still exists
Registry metering records	6.5	11.8A	7 category 2 metering installations do not have CT information recorded in the registry.	Still exists
Certification and maintenance	7.1	10.38(a)	Certification expired for 3 installations (cat 2)	Still exists
Category 1 inspections	8.1	45 of Schedule 10.7	Category 1 metering installations were not inspected in 2018	Cleared
Category 2 to 5 inspections	8.2	46(1) of Schedule 10.7	3 category 2 installations were not inspected	Still exists

### The Power Company (TPCO)

Subject	Section	Clause	Non-Compliance	Comment
Participants to provide accurate information	2.5	11.2	Information for a small number of ICPs is missing	Still exists
Changes to registry records	4.10	3 of Schedule 11.4	Registry metering data updated later than 10 business days for a small number of ICPs	Still exists
Accurate and complete records	5.1	4(1)(b)(v) of Schedule 10.6	Lack of certification tests for some Q meters	Still exists
Provision of registry information	6.2	7(1) of Schedule 11.4	CT information not populated in the registry for 10 ICPs	Still exists
Registry metering records	6.5	11.8A	10 category 2 metering installations do not have CT information recorded in the registry.	Still exists
Certification and maintenance	7.1	10.38(a)	Certification expired for 525 installations (cat 1) and 3 ICPs (cat 2)	Still exists
Interim certification	7.19	18 of Schedule 10.7	397 ICPs with expired interim certification	Still exists
Category 1 inspections	8.1	45 of Schedule 10.7	Category 1 metering installations were not inspected in 2018	Cleared

## 2. OPERATIONAL INFRASTRUCTURE

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

#### Code reference

*Clause 10.9(2)*

#### Code related audit information

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

#### Audit observation

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

The meter register display is the designated services access interface for meters operated by the ELIN and TPCO MEPs.

#### Audit commentary

The manual meter reading process is an important source of meter performance information and any service access related issues reported by retailers or picked up during inspections are addressed promptly.

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

#### Audit outcome

Compliant

### 2.2. Dispute Resolution (Clause 10.50(1) to (3))

#### Code reference

*Clause 10.50(1) to (3)*

#### Code related audit information

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

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

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

#### Audit observation

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.

### Audit commentary

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

### Audit outcome

Compliant

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

### Code reference

*Clause 7(1) of Schedule 10.6*

### Code related audit information

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

### Audit observation

The LIS file dated 15/01/19 was checked.

### Audit commentary

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

### Audit outcome

Compliant

## 2.4. Communication Equipment Compatibility (Clause 40 Schedule 10.7)

### Code reference

*Clause 40 Schedule 10.7*

### Code related audit information

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

### Audit observation

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

### Audit commentary

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

Compliance was not assessed.



## Audit outcome

Not applicable

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

## Code reference

Clause 11.2 and Clause 10.6

## Code related audit information

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

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

## Audit observation

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

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

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

## Audit commentary

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

The following areas identified information discrepancies:

Section	Information discrepancy
5.1	<ul style="list-style-type: none"><li>Missing Q meter calibration reports</li></ul>
6.2	<ul style="list-style-type: none"><li>Missing CT information</li><li>Register configuration</li></ul>
6.5	<ul style="list-style-type: none"><li>Missing load control information</li></ul>
7.1	<ul style="list-style-type: none"><li>Expired metering installation certification</li></ul>
7.15	<ul style="list-style-type: none"><li>CT meter certificate expiry</li></ul>
7.16	<ul style="list-style-type: none"><li>CT certification expiry</li></ul>

7.19	<ul style="list-style-type: none"> <li>Interim Certification expiry</li> </ul>
8.2	<ul style="list-style-type: none"> <li>Category 2 metering installation inspection</li> </ul>

### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 2.5 With: Clause 11.2 and Clause 10.6  From: 16-Jan-19 To: 15-Jan-20	Information for a small number of ICPs for both TPCO and ELIN is missing 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		
<b>Low</b>	Controls are rated as moderate because there are robust procedures in place including monitoring and correction, registry data is corrected as anomalies are identified. PowerNet is committed to accurate registry data even where backdating is required even with the consequent non-compliance.		
Actions taken to resolve the issue		Completion date	Remedial action status
In PowerNet we believe our metering information is of a very high level, but unfortunately there are still a small number of deficiencies which are due to historic information. These can only be obtained by detailed examination within the meter boards on site. As ICPs come up for recertification the information will be collected.		Ongoing	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Utmost accuracy is employed with all new data loaded.		Ongoing	

### 3. PROCESS FOR A CHANGE OF MEP

#### 3.1. Change of metering equipment provider (Clause 10.22)

##### Code reference

*Clause 10.22*

##### Code related audit information

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

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

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

##### Audit observation

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

##### Audit commentary

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

##### Audit outcome

Compliant

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

##### Code reference

*Clause 2 of Schedule 11.4*

##### Code related audit information

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

##### Audit observation

The ELIN/TPCO MEP EDA file and audit compliance report for the audit period were checked along with the registry.

##### Audit commentary

TPCO received 8 MEP nominations 1 was rejected as it already had SmartCo meters installed. Metering information registry updates for 4 of these nominations were greater than 15 days, a range of 19 to 32 days.

ELIN received 2 MEP nominations. Both metering information registry updates were greater than 15 days, a range of 31 to 48 days.

Some of these anomalies appear to involve backdating of metering information prior to as ICPs switch into ELIN/TPCO MEP, non-compliance then becomes an unavoidable consequence of maintaining accurate registry records. This situation appears to occur because a retailer is late to nominate ELIN/TPCO as an MEP.

#### Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 3.2 With: Clause 2 of Schedule 11.4  From: 16-Jan-19 To: 15-Jan-20	Metering information registry updates at MEP nomination for 4 (50%) of TPCO nominations were greater than 15 days, and for 2(100%) of ELIN metering updates were greater than 15 days. Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2
Audit risk rating	Rationale for audit risk rating
<b>Low</b>	Controls are rated as moderate because there are procedures in place however they were not followed. 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

<p>These have been installations where ELIN/TPCO has been gaining MEP in a switch away from a previous MEP. Work has been carried under the retailer instructions and meter change info recorded into PowerNet's Metering Database within 1 to 3 BD of install, in readiness for populating the Registry. The issue has been created by the retailer being quite delayed in proposing the MEP switch on the Registry, and our data can only be added once that has taken place.</p> <p>Immediately the MEP nominations were received they have been accepted and metering records populated to the Registry, which results in the MEP switch being completed. With the focus of this measure being the timeliness of completing the MEP switch, we consider we have been fully compliant in taking all actions under our control to become the new MEP within the required 15 days.</p> <p>While this results in the metering data being back-dated for more than 15 days, which in itself technically is a breach, we consider our actions with respect to becoming MEP have been completely timely and therefore ELIN/TPCO are compliant.</p>	Ongoing	Identified
<b>Preventative actions taken to ensure no further issues will occur</b>	<b>Completion date</b>	
Recent alterations in business arrangements will reduce the instances of this type of change, therefore should reduce the occurrence.	Feb 20	

### 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**

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

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

#### **Audit commentary**

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

#### **Audit outcome**

Compliant

### **3.4. Termination of MEP Responsibility (Clause 10.23)**

#### **Code reference**

*Clause 10.23*

#### **Code related audit information**

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

*The MEP is responsible if it:*

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

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

*An MEPs obligations terminate only when;*

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

#### **Audit observation**

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

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

#### **Audit commentary**

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

#### **Audit outcome**

Compliant

## 4. INSTALLATION AND MODIFICATION OF METERING INSTALLATIONS

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

#### Code reference

*Clause 2 of Schedule 10.7*

#### Code related audit information

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

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

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

#### Audit observation

PowerNet use the Delta and Vircom EMS Approved Test Houses.

The metering installation designs used are for the installation of EDMl meters. The design documentation was sighted.

#### Audit commentary

PowerNet have adopted the metering installation designs used by SmartCo in the PowerNet network. PowerNet installs only EDMl meters on category 1 sites and takes the opportunity to replace non-SMART meters with EDMl meters when required to service a metering installation.

ELIN/TPCO provide MEP functions for category 1 and 2 metering installations only.

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

#### Audit outcome

Compliant

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

#### Code reference

*Clause 9 of Schedule 10.6*

#### Code related audit information



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

#### **Audit observation**

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

#### **Audit commentary**

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

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 4(1) of Schedule 10.7*

#### **Code related audit information**

*The MEP must ensure:*

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

#### **Audit observation**

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

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

The metering installation designs were observed, 9 category 1 and 5 Category 2 metering installation reports were reviewed.

#### **Audit commentary**

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

The review of the sample metering installation reports identified 6 metering installation design anomalies. 5 on the TPC MEP and 1 on the ELIN MEP. The metering design numbers recorded in 4 metering installation reports did not match the metering installed or the approved PowerNet

design set. A further 2 metering installation reports had no design numbers recorded at all. It should be noted the installations passed their certification tests

4 metering installation reports for Category 2 metering installations with burden fitted to the CT circuits, had no specific design identified that provided the engineering calculations of the burden required, the burden equipment selected or how it was connected to the CT circuit. The installations passed the end to end comparative testing.

Non-compliance	Description		
Audit Ref: 4.3 With: <i>Clause 4(1) of Schedule 10.7</i>  From: 16-Jan-19 To: 15-Jan-20	A number of metering installation design anomalies and missing design numbers were identified in the metering installation report samples provided by PowerNet.  Potential impact: Low Actual impact: Low Audit history: None Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	Controls are rated as moderate because there are robust procedures in place however it appears that they were not followed. 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
PowerNet works in conjunction with the Delta and Vircom-EMS ATH. ELIN/TPCO provide the MEP functions for category 1 and 2 metering installations only. All installations are wired in accordance with the wiring diagrams approved by ATHs. Deficiencies in metering installation documentation are noted.		Noted	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Completeness of meter installation documentation will be monitored in future.		Ongoing	

## Audit outcome

Non-compliant

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

## Code reference

*Clause 4(2)(a) of Schedule 10.7*

## Code related audit information

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

## Audit observation

Review of PowerNet documentation confirmed that ELIN/TPCO metering installations do not use subtraction to determine submission information used for the purposes of Part 15.

## Audit commentary

PowerNet is aware that there may be a very small number of historic metering installations using subtraction metering (only within the remaining 400 interim certified installations). If subtraction metering is found during metering replacement it is removed.

## Audit outcome

Compliant

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

## Code reference

*Clause 4(2)(b) of Schedule 10.7*

## Code related audit information

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

## Audit observation

The ELIN and TPCO LIS files for the audit period were checked.

## Audit commentary

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

This clause is not applicable. Compliance was not assessed.

## Audit outcome

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**

ELIN and TPCO are not MEPs for any NSP's metering installations that are not connected to the grid.

#### **Audit commentary**

This clause is not applicable. Compliance was not assessed.

#### **Audit outcome**

Not applicable

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

#### **Code reference**

*Clause 10.26(10)*

#### **Code related audit information**

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

#### **Audit observation**

ELIN and TPCO are not a MEP for any NSP's metering installations that are connected to the grid.

#### **Audit commentary**

This clause is not applicable. Compliance was not assessed.

#### **Audit outcome**

Not applicable

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

#### **Code reference**

*Clause 4(4) of Schedule 10.7*

#### **Code related audit information**

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

#### **Audit observation**

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

#### **Audit commentary**

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

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

#### **Audit outcome**

Compliant

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

##### **Code reference**

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

##### **Code related audit information**

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

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

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

##### **Audit observation**

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

##### **Audit commentary**

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

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

#### **Audit outcome**

Compliant

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

##### **Code reference**

*Clause 3 of Schedule 11.4*

##### **Code related audit information**

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

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

#### **Audit observation**

The ELIN/TPCO EDA files for the audit period were checked.

#### **Audit commentary**

##### **ELIN**

PowerNet uploaded 2263 metering information files for ELIN ICPs, 97.2% (2199) updates were uploaded to the registry within 10 business days (BD). 64 (2.8%) metering records were updated in greater than 10 BD with a range between 11 and 2299 BD.

##### **TPCO**

PowerNet uploaded 3497 metering information files for TPCO ICPs, 95.2% (3328) updates were uploaded to the registry within 10 BD. 169 (4.8%) of metering records were updated in greater than 10 BD with a range between 11 and 4280 BD.

PowerNet endeavours to have correct and complete information in the registry and have a data monitoring and correction process in place. In some cases, this means corrections to the registry information are backdated and unfortunately this creates non-compliance.

#### **Audit outcome**

Non-compliant

<b>Non-compliance</b>	<b>Description</b>		
Audit Ref: 4.10 With: Clause 3 of Schedule 11.4  From: 16-Jan-19 To: 15-Dec-19	ELIN/TPCO- Registry metering information updated later than 10 business days for a small percentage of metering installation records. Potential impact: Low Actual impact: Low Audit history: Multiple times Controls: Strong Breach risk rating: 1		
<b>Audit risk rating</b>	<b>Rationale for audit risk rating</b>		
<b>Low</b>	Controls are assessed as strong. Monitoring and correction process are in place and registry data is corrected as anomalies are identified. PowerNet is committed to accurate registry data even where backdating is required even with the consequent non-compliance. There was no impact on settlement outcomes. The audit risk rating is recorded as low.		
<b>Actions taken to resolve the issue</b>		<b>Completion date</b>	<b>Remedial action status</b>

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

#### 4.11. Metering Infrastructure (Clause 10.39(1))

##### Code reference

Clause 10.39(1)

##### Code related audit information

*The MEP must ensure that for each metering installation:*

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

##### Audit observation

The PowerNet Metering Installation Requirements and Guidelines were reviewed along with the metering installation designs and installation procedures used by SmartCo in the PowerNet network. 12 metering installation reports were reviewed.

##### Audit commentary

PowerNet use the EDM I Mk7 1 phase and 10D 3 phase range of meters for all new and replacement category 1 meter installations. Meter installation is supported by the SmartCo EDM I Meter Installation requirements and Guidelines specifically developed for the SMART meter rollout in the PowerNet network.

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

Meter installations are installed, commissioned and certified using approved Test House procedures (Delta or Vircom-EMS). Metering installation reports are completed by the

installation technicians and returned to PowerNet where the metering information is captured in the Metering Database.

#### **Audit outcome**

Compliant

#### **4.12. Decommissioning of an ICP (Clause 10.23A)**

#### **Code reference**

*Clause 10.23A*

#### **Code related audit information**

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

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

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

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

#### **Audit observation**

The decommissioning process was checked along with 10 decommissioning meter reports.

#### **Audit commentary**

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

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

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

We confirmed the process was followed appropriately.

#### **Audit outcome**

Compliant



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

##### Code reference

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

##### Code related audit information

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

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

##### Audit observation

The approach to managing measuring transformer burden and compensation requirements was discussed with the PowerNet staff. The EDA was checked.

Category 2 Metering Installations:

ELIN

Metering Category	Number of ICPs (2020)	Number of ICPs (2019)
2	122	126

TPCO

Metering Category	Number of ICPs (2020)	Number of ICPs (2019)
2	94	90

##### Audit commentary

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

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

##### 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

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.

#### Audit commentary

This clause is not applicable. Compliance was not assessed.

#### 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

Not applicable

#### 4.17. Temporary Electrical Connection (Clause 10.31A)

##### Code reference

Clause 10.31A

##### Code related audit information

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

##### Audit observation

The PowerNet Metering Installation Requirements and Guidelines were reviewed.

##### Audit commentary

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

PowerNet confirm this verbally.

##### Audit outcome

Compliant

## 5. METERING RECORDS

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

#### Code reference

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

#### Code related audit information

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

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

#### Audit observation

The metering database was reviewed along with 12 cat 1, 5 cat 2 metering installation reports along with samples of meter and CT calibration reports.

#### Audit commentary

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

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

There are some meter certification/calibration reports missing for example PowerNet do not hold certification information for a number of Metec Q meters, however these are historic installations and are being actively replaced by EDM1 meters.

	<b>Metering Installation Attribute</b>	<b>Primary Record Storage</b>	<b>Comment</b>
a.	The certification expiry date of each metering component in the metering installation	Metering Database	metering installation reports archived in document management
b.	All equipment used in relation to the metering installation, including serial numbers and details of the equipment's manufacturer	Metering Database	metering installation reports archived in document management
c.	The manufacturer's or (if different) most recent test certificate for each metering component in the metering installation	Metering Database	metering installation reports archived in document management
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"> <li>metering installation reports, calibration reports and certification reports archived in document management</li> <li>TWS CT test certificates filed as hard copies</li> </ul>
f.	The contractor who installed each metering component in the metering installation	metering installation reports archived in document management	
g.	The certification sticker, or equivalent details, for each metering component that is certified under Schedule 10.8 in the metering installation:	Metering Database	metering installation reports archived in document management
h.	Any variations or use of the 'alternate certification' process	N/A	ELIN/TPCO do not use any alternate certification process
i.	Seal identification information	metering installation reports archived in document management	
j.	Any applicable compensation factors	Metering Database	metering installation reports archived in document management

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

### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 5.1 With: 4(1)(a) and (b) of Schedule 10.6, and Table 1, Schedule 11.4 From: 16-Jan-19 To: 15-Jan-20	ELIN/TPCO do not have certification information for some Metec Q meters Potential impact: None Actual impact: Low Audit history: Multiple Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	Controls are assessed as moderate. This is a known industry issue. The issue is being managed and will correct itself as the meters are removed from service. There was no impact on settlement. The audit risk rating is recorded as low.		
Actions taken to resolve the issue		Completion date	Remedial action status
This is an historic situation relating to meters purchased a number of years ago. As time goes on these meters are being withdrawn from service, thus the situation is diminishing.		Ongoing	Identified

Preventative actions taken to ensure no further issues will occur	Completion date	
For future meter purchases certification documents are obtained. Therefore no reoccurrence is expected.	N/A	

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

### Code reference

*Clause 4(2) of Schedule 10.6*

### Code related audit information

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

### Audit observation

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

The 2019 (for the 2018 calendar year) Report of Inspection of Category 1 Metering Installations to the EA was sighted for both ELIN and TPCO.

### Audit commentary

These reports are available on request. To date no participant has requested an inspection report.

### Audit outcome

Compliant

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

### Code reference

*Clause 4(3) of Schedule 10.6*

### Code related audit information

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

### Audit observation

This was discussed with PowerNet Staff.

### Audit commentary

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

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 6 Schedule 10.6*

#### **Code related audit information**

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

#### **Audit observation**

PowerNet has arrangements in place to take ATH services from Delta and Vircom-EMS ATHs currently.

#### **Audit commentary**

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

#### **Audit outcome**

Compliant



## 6. MAINTENANCE OF REGISTRY INFORMATION

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

#### Code reference

*Clause 1(1) of Schedule 11.4*

#### Code related audit information

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

#### Audit observation

The ELIN/TPCO MEP EDA files for the audit period were checked along with the registry and the Audit Summary report.

A well documented procedure for running the registry report to identify and process ELIN/TPCO MEP nominations was observed, along with a live demonstration of MEP nomination acceptance and rejection.

#### Audit commentary

PowerNet Staff advise the MEP nomination procedure is run twice a week.

During the audit period TPCO received 8 MEP nominations 1 was rejected as it already had SmartCo meters installed.

ELIN received 2 MEP nominations during the audit period.

Reports indicate that MEP nominations are accepted or rejected appropriately.

#### Audit outcome

Compliant

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

#### Code reference

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

#### Code related audit information

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

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

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

### Audit observation

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

### Audit commentary

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

PowerNet staff endeavour to maintain accurate metering information in the metering database and consequently the Registry, they are aware of how other participants registry activity can create discrepancies that are difficult to identify and correct. The audit summary report was introduced to PowerNet during the audit and this may prove a useful tool to assist with identifying discrepancies.

Despite the efforts made to maintain accurate information the following discrepancies were identified:

Registry Metering Discrepancies	TPCO ICPs	ELIN ICPs
No CT information	9	5
CN only	3	2
Day + Night not = 24	1	2
Day without night	1	0
Night without day	6	1
IN24 or IN0	0	0
UN not =24	57	41
UN only with a load control device	57	41

### Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 6.2</p> <p>With:</p> <p>Clause 7 (1), (2) and (3) of Schedule 11.4</p> <p>From: 16-Jan-19</p> <p>To: 15-Jan-20</p>	<p>TPCO 9 x CT records and ELIN 5 x CT records not populated in the registry. Also a small number of meter register discrepancies.</p> <p>Actual impact: Low</p> <p>Audit history: Multiple times</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	<p>Controls are rated as moderate because there is a robust metering database and procedures in place. There was no impact on settlement. The audit risk rating is recorded as low.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status

<p>Historically CT information had not been recorded for a small number of installations and can only obtained by detailed examination within the switchboard on site. As ICPs come up for recertification the information will be collected. Progress has been made during the audit period, and the remainder will fall due through the next year.</p> <p>UN not =24 UN=0 A number of meters with multiple registers with one register which is never activated, therefore its period of availability can only be "0". In this case the Channel on the Registry is set to Settlement = NO. We believe this is compliant</p> <p>AC020MEP18 0000565786TPF43 CN8 is identified as a data error, should be UN24 Registry has been corrected.</p> <p>0000387638TP834 Interim Certificate unable to update registry - Arranged for Meter to be changed</p> <p>0006512315TP125 Erroneously had 2 CN20 registers Registry corrected to UN24 and CN20</p> <p>ELIN</p> <p>0000921554NV308 Meter now replaced - 4/2/2020</p> <p>0000784134NVB27 CN20 Register should be UN24 Registry corrected</p> <p>AC020MEP20</p> <p>0000834381NVEAE missing registers added</p> <p>0000794500NV935 register data error corrected to UN24 (meter is single register)</p> <p>0000207595TP73A This installation has a very historic and now obsolete 3 tariff system. Presently one meter is never activated, therefore its period of availability can only be "0". In this case the Channel on the Registry is set to Settlement = NO</p> <p>AC020MEP21</p> <p>000204345TPE9E the meter has 2 registers. One register is never activated, therefore its period of availability can only be "0". In this case the Channel on the Registry is set to Settlement = NO. We believe this is compliant</p>	Ongoing	Identified
	Completion date	

Any errors or omissions are historic and there have been no previous prompts of their existence. These situations are corrected as soon as they are discovered, in many cases this is via retailer queries, eg number of dials.	Ongoing	
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### 6.3. Correction of Errors in Registry (Clause 6 of Schedule 11.4)

#### Code reference

*Clause 6 of Schedule 11.4*

#### Code related audit information

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

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

*No later than 5 business days following collection of data from the registry, the MEP must compare the information obtained from the registry with the MEP's own records.*

*Within 5 business days of becoming aware of any discrepancy between the MEP's records and the information obtained from the registry, the MEP must correct the records that are in error and advise the registry manager of any necessary changes to the registry metering records.*

#### Audit observation

The PowerNet Metering Installation Requirements and Guidelines were reviewed. The statistical sampling process was checked along with the job management process and discussion with PowerNet Staff.

#### Audit commentary

PowerNets intention is to maintain accurate metering information in the metering database and consequently the Registry. PowerNet staff are diligent and efficient regarding capturing metering information in the Metering Database and ensuring the registry is updated using the daily upload process.

PowerNet staff are aware of how other participants registry activity can create discrepancies that are difficult to identify and correct.

Despite it was found that the day 13 discrepancy report process has been operating irregularly during this audit period.

#### Audit outcome

Non-compliant

Non-compliance	Description
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Audit Ref: 6.3 With: Clause 6 of Schedule 11.4  From: 16-Jan-19 To: 15-Jan-20	The day 13 discrepancy report process has been operating irregularly during this audit period.  Actual impact: Low  Audit history: Multiple times  Controls: Moderate  Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
Low	Controls are rated as moderate because there is a robust metering database and procedures in place. 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
In PowerNet we are well aware of the requirement for the day 13 comparison and carry it out as much as practical. Reconciliation is very difficult with the constant transition of installations to MEP to SmartCo and other meter movements undertaken by SmartCo directly.		Ongoing	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
We continue to do what we can.		Ongoing	

#### 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:*

- the metering installation is modified otherwise than under sub clause 19(3) or 19(6)*
- 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*
- an ATH advises the metering equipment provider responsible for the metering installation of a reference standard or working standard used to certify the metering installation not being compliant with this Part at the time it was used to certify the metering installation, or the failure of a group of meters in the statistical sampling*

*recertification process for the metering installation, or the failure of a certification test for the metering installation*

- d) the manufacturer of a metering component in the metering installation determines that the metering component does not comply with the standards to which the metering component was tested*
- e) an inspection of the metering installation, that is required under this Part, is not carried out in accordance with the relevant clauses of this Part*
- f) if the metering installation has been determined to be a lower category under clause 6 and the maximum current conveyed through the metering installation at any time exceeds the current rating of its metering installation category as set out in Table 1 of Schedule 10.1*
- g) the metering installation is certified under clause 14 and sufficient load is available for full certification testing and has not been retested under clause 14(4)*
- h) a control device in the metering installation certification is, and remains for a period of at least 10 business days, bridged out under clause 35(1)*
- i) the metering equipment provider responsible for the metering installation is advised by an ATH under clause 48(6)(b) that a seal has been removed or broken and the accuracy and continued integrity of the metering installation has been affected.*

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

#### **Audit observation**

The PowerNet Metering Installation Requirements and Guidelines were reviewed. The statistical sampling process was checked along with the job management process and discussion with PowerNet Staff.

#### **Audit commentary**

	<b>Certification Cancellation Reasons</b>	<b>ELIN/TPCO MEP</b>	
a.	the metering installation is modified	ELIN/TPCO use Delta and SmartCo Vircom-EMS ATH. ELIN/TPCO have adopted the EDM I 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	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 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	<p>PowerNet use the EDM Meter Installation requirements and Guidelines used by SmartCo for the SMART meter rollout in the PowerNet network.</p> <p>PowerNet advise this has not occurred during this audit period.</p>	
e.	an inspection of the metering installation, that is required under this Part, is not carried out	ELIN/TPCO use statistical sampling to meet these obligations. PowerNet advise the annual inspections samples have been completed.	
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	PowerNet does not allow this practice.	
g.	sufficient load is available for full certification testing and has not been retested	ELIN/TPCO do not provide HHR MEP services only cat 1 and 2 NHH.	
h.	a control device in the metering installation certification is, and remains for a period of at least 10 business days, bridged out	PowerNet Fault Call Centre handle faults on behalf of ELIN/TPCO See section 7.11 for detail on fault procedure	
i.	a seal has been removed or broken and the accuracy and continued integrity of the metering installation has been affected.	Reseal jobs sent to technician immediately with a next day service level. See section 8.4 for more detail	

PowerNet advise ELIN/TPCO have not had any reason to cancel any metering installation certificates during this audit period. There have been some metering installation certifications expire during the audit period.

## Audit outcome

Compliant

### 6.5. Registry Metering Records (Clause 11.8A)

## Code reference

Clause 11.8A

## Code related audit information



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

#### Audit observation

The TPCO and ELIN LIS, PR-255 files and Audit Summary Report for the audit period were checked. the registry was also checked.

#### Audit commentary

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

The following data was identified as missing from the registry:

MEP	Missing Metering Information Records
ELIN	<ol style="list-style-type: none"> <li>5 x CT records</li> <li>143 x Load Control Devices not recorded despite controlled registers recorded (potentially internally programmed?)</li> </ol>
TPCO	<ol style="list-style-type: none"> <li>9 x CT records</li> <li>402 x Load Control Devices not recorded despite controlled registers recorded (potentially internally programmed?)</li> </ol>

#### Audit outcome

Non-compliant

Non-compliance	Description
Audit Ref: 6.5 With: Clause 11.8A  From: 16-Jan-19 To: 15-Jan-20	ELIN 5 x CT records and 143 x Load Control Devices not recorded despite controlled registers recorded. TPCO 9 x CT records and 402 x Load Control Devices not recorded despite controlled registers recorded. Actual impact: Low Audit history: Multiple times Controls: Moderate Breach risk rating: 2
Audit risk rating	Rationale for audit risk rating

Low	Controls are rated as moderate because there is a robust metering database and procedures in place. 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
<p>Missing CT information:-</p> <p>Is an historic situation which is known, and addressed when the opportunity arises for each metering installation, which has already been covered elsewhere in this report.</p> <p>Non-Recorded LCD:-</p> <p>ELIN 29 and TPCO 126 Installations are historic data where LCD information is missing, which we have not had visibility of in the past. This situation will be corrected as meters are replaced for recertification.</p> <p>The balance of these are modern smart meters with internal LCD, ie there is no separate LCD to record. We consider this is compliant, as there is no specific LCD to record.</p>		Ongoing	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
<p>Historic CT Data will be collected as installations are recertified.No recurrence is anticipated, all future CT installations will have full information recorded.</p> <p>Missing LCD data will be superseded by new metering information once meter replacement is completed.</p>		Ongoing	

## 7. CERTIFICATION OF METERING INSTALLATIONS

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

#### Code reference

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

#### Code related audit information

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

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

#### Audit observation

The PR-255, Audit Compliance Report were checked for ICPs due for expired certification during the audit period, the registry was also checked

#### Audit commentary

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

ELIN/TPCO meters do not require battery replacement.

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

MEP	Metering Category 1	Metering Category 2	Comment
TPCO	424	7	Includes 383 Interim certified ICPs
ELIN	1	2	

Note 1 There are also 383 category 1 TPCO interim certified installations that have expired This has been dealt with under section **7.19**

#### Audit outcome

Non-compliant

## NON-COMPLIANCE

Non-compliance	Description		
<p>Audit Ref: 7.1</p> <p>With:</p> <p>Clause 10.38 (a), clause 1 and clause 15 of Schedule 10.7</p> <p>From: 16-Jan-19</p> <p>To: 15-Jan-20</p>	<p>424 Category 1 and 7 category 2 TPCO ICPs with expired certification.</p> <p>1 Category 1 and 2 category 2 ELIN ICPs with expired certification.</p> <p>Actual impact: Low</p> <p>Audit history: Multiple times</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	<p>Controls are rated as moderate because there is a procedure in place however it appears that it was not followed. There was no impact on settlement. The audit risk rating is recorded as low.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status

<p>ELIN</p> <p>0008509503NV51F Expired 14/01/20 Recertification already with a contractor under action</p> <p>0007302253NV064 Expired 6/04/19 Recertified 25/10/19</p> <p>0007350104NV691 Expired 30/06/18 Recertification has been under action for a very long period. Have made numerous attempts to gain access but the customer is not responsive. Has been referred to the retailer, but still unsuccessful.</p> <p>TPCO</p> <p>Cat 1 installations - 424 Expired</p> <p>Are those which failed statistical sample recertification in 2017. These are the tail end sites where various difficulties have prevented meter replacement, eg customer refusals (which have now been referred to retailers) or technical difficulties.</p> <p>158 Customer refusals have been referred to retailers placing responsibility on them to achieve recertification by providing access.</p> <p>Cat 2 Installations - 7 TPCO Expired:</p> <p>1 has since been recertified</p> <p>5 are under action, one proving difficult to gain access through the customer.</p> <p>1 had been Inactive for a number of years and became Active 11/11/19 without our knowledge, will be recertified</p>		Identified
<p>Preventative actions taken to ensure no further issues will occur</p>	<p>Completion date</p>	

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

### Code reference

*Clause 10.38(b) and clause 9 of Schedule 10.6*

### Code related audit information

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

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

### Audit observation

The PowerNet Installation Requirements and Guidelines, SmartCo/PowerNet metering installation designs were reviewed along with 12 cat 1, 5 cat 2 metering installation reports with samples of meter and CT calibration reports.

The Electricity Authority website was checked for Delta and Vircom-EMS ATH status.

### Audit commentary

PowerNet have adopted the EDMl Meter Installation requirements and Guidelines used by SmartCo, and specifically developed for the SMART meter rollout in the PowerNet network. Delta and Vircom -EMS provide ATH functions for PowerNet and approve PowerNet staff and contractors to operate under the their ATH system.

Delta and Vircom-EMS are both EA approved ATHs.

### Audit outcome

Compliant

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

### Code reference

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

### Code related audit information

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

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

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

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

*All other installations must measure and separately record:*

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

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

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

d) export reactive energy

#### **Audit observation**

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

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

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

#### **Audit commentary**

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**

PowerNet advise that ELIN/TPCO do not have any local service metering.

#### **Audit commentary**

This clause is not applicable. Compliance was not assessed.

#### **Audit outcome**

Not applicable

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

#### **Code reference**

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

#### **Code related audit information**

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

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

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

### Audit observation

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

CT Burdening was discussed with PowerNet staff who advised that they had a burdening policy in place.was only carried out at installation or re-certification

### Audit commentary

PowerNet advised burdening was only carried out at metering installation or re-certification consequently the installing ATH carries out the burdening.

### Audit outcome

Compliant

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

### Code reference

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

### Code related audit information

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

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

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

*If a meter is certified in this manner:*

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

### Audit observation

PowerNet advise that ELIN/TPCO have no metering installations certified as a lower category.

### Audit commentary



This clause is not applicable. Compliance was not assessed.

#### **Audit outcome**

Not applicable

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

#### **Code reference**

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

#### **Code related audit information**

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

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

#### **Audit observation**

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

#### **Audit commentary**

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**

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

#### **Audit commentary**

This clause is not applicable. Compliance was not assessed.

## Audit outcome

Not applicable

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

#### Code reference

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

#### Code related audit information

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

- *advise the Authority, by no later than 10 business days after the date of certification of the metering installation, of the details in clause 32(2)(a) of Schedule 10.7*
- *respond, within 5 business days, to any requests from the Authority for additional information*
- *ensure that all of the details are recorded in the metering installation certification report*
- *take all steps to ensure that the metering installation is certified before the certification expiry date.*

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

#### Audit observation

PowerNet advise they have not had any access issues relating to this clause during the audit period.

#### Audit commentary

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

## Audit outcome

Compliant

### 7.10. Timekeeping Requirements (Clause 23 of Schedule 10.7)

#### Code reference

*Clause 23 of Schedule 10.7*

#### Code related audit information

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

- a) *has a time keeping error of not greater than an average of 2 seconds per day over a period of 12 months*
- b) *is monitored and corrected at least once every 12 months.*

#### Audit observation

PowerNet advise that ELIN/TPCO were responsible for a remaining 10 timeclocks during the audit period.

#### **Audit commentary**

PowerNet advise the timeclocks are visited and checked annually. The time clocks are programmed to adjust for daylight saving.

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 35 of Schedule 10.7*

#### **Code related audit information**

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

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

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

#### **Audit observation**

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

#### **Audit commentary**

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

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 34(5) of Schedule 10.7*

#### **Code related audit information**

*If the MEP is advised by an ATH that the likelihood of a control device not receiving signals would affect the accuracy or completeness of the information for the purposes of Part 15, the*

*MEP must, within 3 business days inform the following parties of the ATH's determination (including all relevant details):*

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

#### **Audit observation**

The LIS files for the audit period were checked.

#### **Audit commentary**

There 118 ICPs on ELIN RPS E08 or T07 T23 and 225 on TPCO that may be affected by unreliable control signals received by the load control device.

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

#### **Audit outcome**

Compliant

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

#### **Code reference**

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

#### **Code related audit information**

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

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

#### **Audit observation**

No statistical sampling had been carried out under this clause during this audit period.

#### **Audit commentary**

PowerNet last carried out statistical sampling under this clause in 2017.

Not assessed

#### **Audit outcome**

Not applicable

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

#### **Code reference**

*Clause 24(3) of Schedule 10.7*

#### **Code related audit information**

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

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

#### **Audit observation**

ELIN/TPCO are not responsible for any NSP metering.

#### **Audit commentary**

This clause is not applicable. No compliance was assessed.

#### **Audit outcome**

Not applicable

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

#### **Code reference**

*Clause 26(1) of Schedule 10.7*

#### **Code related audit information**

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

#### **Audit observation**

The PR-255, Audit Compliance Report were checked for ICPs due for expired certification during the audit period, the registry was also checked.

#### **Audit commentary**

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

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

There are also 383 category 1 TPCO interim certified installations that have expired and as the meter is the only the only equipment in the installation, it is the meter certificate expiry that drives the installation certificate expiry. This has been dealt with under section **7.19**

#### **ELIN**

ICP	Metering Installation Expiry	Comment
0008509503NV51F	14/01/2020	
0007350104NV691	30/06/2018	No CT information in Registry

#### **TPCO**

ICP	Metering Installation Expiry	Comment
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0004245065TP816	17/12/2019	No CT information in Registry
0001231515TP025	04/11/2019	Certified on 23/01/2020 79 days overdue
0000192505TP48D	07/01/2020	
0008001128TPE1C	08/01/2020	No CT information in Registry
0000383834TPBA1	24/11/2018	CT owner FCLM
0000440469TP3A5	19/05/2019	No CT information in Registry
0000141895TP0D3	18/01/2020	No owner listed in Registry

### Audit outcome

Non-compliant

Non-compliance	Description		
<p>Audit Ref: 7.15</p> <p>With:</p> <p>Clause 26(1) of Schedule 10.7</p> <p>From: 16-Jan-19</p> <p>To: 15-Jan-20</p>	<p>7 x category 2 installations for which TPCO is responsible and 2 x category 2 installations for ELIN have expired certification. The certification method used is selected component with the CTs, meter and installation having the same certification date, expiry would occur at the same time. The meter certification will have expired.</p> <p>Potential impact: Low</p> <p>Actual impact: Low</p> <p>Audit history: none</p> <p>Controls: Moderate</p> <p>Breach risk rating: 2</p>		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	<p>Controls are rated as moderate because there is a procedure in place however it appears that it was not followed. There was no impact on settlement. The audit risk rating is recorded as low.</p>		
Actions taken to resolve the issue		Completion date	Remedial action status

<p>The expired Cat 2 installations is also covered in Clause 7.1 of this audit. A program of recertification of installations is underway, with activity specific to the identified ICPs as follows:</p> <p>ELIN</p> <p>0008509503NV51F Expired 14/01/20 Recertification already with a contractor under action</p> <p>0007350104NV691 Expired 30/06/18 Recertification been under action for a very long period. Have made numerous attempts to gain access but the customer not responsive. Has been referred to the retailer, but still unsuccessful.</p> <p>TPCO</p> <p>0001231515TP025 Recertified on 23/01/2020. Delay was due to access difficulty</p> <p>0004245065TP816 Recertification under action, delayed by customer preventing access. CT information will be populated on completion</p> <p>0000192505TP48D Recertification under action</p> <p>0008001128TPE1C Recertification under action. CT information will be populated on completion</p> <p>0000383834TPBA1 Has been Inactive for a number of years and became Active 11/11/19 without our knowledge. Recertification to be initiated</p> <p>0000440469TP3A5 Recertification has been completed, all data still to be populated</p> <p>0000141895TP0D3 Recertification under action. CT MEO will be populated on completion</p>	Ongoing	Identified
<b>Preventative actions taken to ensure no further issues will occur</b>	<b>Completion date</b>	
Certification expiry is monitored and recertification initiated.	Ongoing	

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

## Code reference

Clause 28(1) of Schedule 10.7

## Code related audit information

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

## Audit observation

The PR-255 and Audit Compliance Report were checked for ICPs due for expired certification during the audit period, the registry was also checked.

The Vircom-EMS CT certification procedure was checked along with 5 x CT metering installation certification reports. Certification reports for TWS CTs were reviewed.

## 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 17 CT metering installations during the audit period.

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

### ELIN

ICP	Metering Installation Expiry	Comment
0008509503NV51F	14/01/2020	
0007350104NV691	30/06/2018	No CT information in Registry

### TPCO

ICP	Metering Installation Expiry	Comment
0004245065TP816	17/12/2019	No CT information in Registry
0001231515TP025	04/11/2019	Certified on 23/01/2020 79 days overdue
0000192505TP48D	07/01/2020	
0008001128TPE1C	08/01/2020	No CT information in Registry
0000383834TPBA1	24/11/2018	CT owner FCLM



0000440469TP3A5	19/05/2019	No CT information in Registry
0000141895TP0D3	18/01/2020	No owner listed in Registry

## Audit outcome

### Non-compliant

Non-compliance	Description		
Audit Ref: 7.16 With: Clause 28(1) of Schedule 10.7  From: 16-Jan-19 To: 15-Jan-20	7 x category 2 installations for which TPCO is responsible and 2 x category 2 installations for ELIN have expired certification. The certification method used is selected component with the CTs, meter and installation having the same certification date, expiry would occur at the same time. The CTs have not yet been re certified.  Potential impact: Low  Actual impact: Low  Audit history: none  Controls: Moderate  Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	Controls are rated as moderate because there is a procedure in place however it appears that it was not followed. 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
See comments in 7.15		Ongoing	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
See comments in 7.15		Ongoing	

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

## Code reference

Clause 36(1) of Schedule 10.7

## Code related audit information

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

### Audit observation

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

### Audit commentary

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

PowerNet is aware of clause 7.

### Audit commentary

This situation did not occur during the audit period. If it were to occur PowerNet would take appropriate action in conjunction with the Electricity Authority.

### Audit outcome

Compliant

## 7.19. Interim Certification (Clause 18 of Schedule 10.7)

### Code reference

Clause 18 of Schedule 10.7

### Code related audit information

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

### Audit observation

The PR-255, Audit Compliance Report were checked for ICPs with interim certification during the audit period.

### Audit commentary

#### Expired Interim Certification

MEP	Quantity
-----	----------

TPCO	383
ELIN	0

### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 7.19 With: Clause 18 of Schedule 10.7 From: 16-Jan-19 To: 15-Jan-20	383 TPCO ICPs with expired interim certification Potential impact: Low Actual impact: Low Audit history: Multiple Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	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
Recertification of expired interim certified Category 1 sites was attempted via a statistical sample method in 2016. This group of ICPs failed to achieve recertification. In consultation with Retailers, PowerNet engages directly with customers for meter replacement and these ICPs have been issued to an FSP for meter replacement. Attempts have been made, which to date have been unsuccessful for a variety of reasons, eg customer refusal or technical. Efforts continue, and progress is still made. Where issues fall completely on the customer and they will not progress any solution the ICPs and have been referred to the Retailer to provide access.		Ongoing	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	

By definition there can be no recurrence of this situation.	Ongoing	
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## 8. INSPECTION OF METERING INSTALLATIONS

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

#### Code reference

*Clause 45 of Schedule 10.7*

#### Code related audit information

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

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

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

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

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

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

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

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

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

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

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

### Audit observation

The EA approved statistical sampling programme was checked along with the 2019 (for the 2018 calendar year) Report of Inspection of Category 1 Metering Installations to the EA for both ELIN/TPCO.

The 2019 statistical sampling plan and was provided by PowerNet.

### Audit commentary

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

The following was provided by PowerNet:

#### 2019 statistical sampling plan summary

MEP	Batch Size	Inspections Required	Actual Inspections
TPCO	1422	125	137
ELIN	331	50	55

#### Result Summary Advised by PowerNet

MEP	Inspections completed	Unable to make appointment	Appointment waiting to complete
TPCO	127	11	6
ELIN	40	14	1

**Note 1.** 15 x additional ELIN ICPs picked to complete the 50 inspections required

The full outcome will be reported in the 2020 Report of Inspection of Category 1 Metering Installations report due by 1 April 2020.

### Audit outcome

Compliant

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

### Code reference

*Clause 46(1) of Schedule 10.7*

### Code related audit information

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

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

### Audit observation

The PR-255, Audit Compliance Report were checked for ICPs due for inspection during the audit period, the registry was also checked.

### Audit commentary

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

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

#### ELIN

ICP	Metering Installation Expiry	Comment
0008509503NV51F	14/01/2020	
0007350104NV691	30/06/2018	No CT information in Registry

#### TPCO

ICP	Metering Installation Expiry	Comment
0004245065TP816	17/12/2019	No CT information in Registry
0001231515TP025	04/11/2019	Certified on 23/01/2020 79 days overdue
0000192505TP48D	07/01/2020	
0008001128TPE1C	08/01/2020	No CT information in Registry
0000383834TPBA1	24/11/2018	CT owner FCLM
0000440469TP3A5	19/05/2019	No CT information in Registry
0000141895TP0D3	18/01/2020	No owner listed in Registry

### Audit outcome

Non-compliant

Non-compliance	Description		
Audit Ref: 8.2 With: Clause 46(1) of Schedule 10.7  From: 16-Jan-19 To: 15-Jan-20	7 x category 2 installations for which TPCO is responsible were not inspected and 2 x category 2 installations for ELIN were not inspected within the required timeframe. Potential impact: Low Actual impact: Low Audit history: Multiple Times Controls: Moderate Breach risk rating: 2		
Audit risk rating	Rationale for audit risk rating		
<b>Low</b>	Controls are rated as moderate because there is a procedure in place however it appears that it was not followed. 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
For Cat 2 installations inspections fall due at the same time as certification expires, therefore there is no intention to carry out inspections. Installations will be recertified as has been outlined earlier in this report.		Ongoing	Identified
Preventative actions taken to ensure no further issues will occur		Completion date	
Ongoing recertification will negate the requirement for inspections			

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

#### Code reference

*Clause 44(5) of Schedule 10.7*

#### Code related audit information

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

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

#### Audit observation

The Meter inspection process was checked.



### Audit commentary

PowerNet engage electrical inspectors to carry out inspection work as required. The inspectors are approved to work under Delta and Vircom-EMS approved test houses.

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

### Audit outcome

Compliant

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

### Code reference

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

### Code related audit information

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

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

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

*The MEP must make the above arrangements within*

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

### Audit observation

The missing or broken seal process was checked.

### Audit commentary

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

If broken seals are found during an inspection the seal is remedied immediately and the situation reported back to PowerNet.

### Audit outcome

Compliant

## 9. PROCESS FOR HANDLING FAULTY METERING INSTALLATIONS

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

#### Code reference

Clause 10.43(4) and (5)

#### Code related audit information

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

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

#### Audit observation

The process for handling metering faults was discussed with PowerNet staff and 10 meter fault jobs were checked.

#### Audit commentary

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

Potential meter faults notifications are received from retailers, Powernet staff or contractors by email and filed in the email system.

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

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

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

#### Audit outcome

Compliant

### 9.2. Testing of Faulty Metering Installations (Clause 10.44)

#### Code reference

Clause 10.44

#### Code related audit information

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

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

- a) test the metering installation*
- b) provide the MEP with a statement of situation within 5 business days of:*
- c) becoming aware that the metering installation may be inaccurate, defective or not fit for purpose; or*
- d) reaching an agreement with the participant.*

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

#### **Audit observation**

The process for handling metering faults was discussed with PowerNet staff and 10 meter faults were checked.

#### **Audit commentary**

As a result of a meter fault notification an investigation/repair job is raised same day and issued to a metering contractor. The service level is next day resolution, and the meter installation report will be received at PowerNet next day with information entered into The Metering Database that day. A copy of the meter installation report is sent to the retailer by email and the new metering details are uploaded into the registry in the daily upload.

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

#### **Audit outcome**

Compliant

### **9.3. Statement of Situation (Clause 10.46(2))**

#### **Code reference**

*Clause 10.46(2)*

#### **Code related audit information**

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

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

#### **Audit observation**

The process for handling metering faults was discussed with PowerNet staff and 10 meter faults were checked.

#### **Audit commentary**

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

A meter fault investigation job is raised same day and issued to a metering contractor with a service level of next day resolution. PowerNet have a standard instruction in place to replace the metering in all cases so every job becomes a meter replacement by default.

The meter installation report will be received at PowerNet and information entered into The Metering Database next day. A copy of the meter installation report is sent to the retailer by email.

#### **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

ELIN/TPCO do not have headend infrastructure to electronically interrogate meters, consequently they have no access to raw data. Meters are manually read by retailers.

#### Audit commentary

ELIN/TPCO do not have access to raw meter 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

ELIN/TPCO do not have headend infrastructure to electronically interrogate meters, consequently they have no access to raw data. Meters are manually read by retailers.

### Audit commentary

ELIN/TPCO do not have access to raw meter 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

During this audit period PowerNet has not received a request for access to metering installations under this clause.

### Audit commentary

PowerNet advises it would use its best endeavours to provide physical access to a metering installation to subject to health and safety requirements.

### Audit outcome

Compliant

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

### Code reference

*Clause 3(5) of Schedule 10.6*

### Code related audit information

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

#### **Audit observation**

During this audit period PowerNet has not been asked to provide urgent physical access to a metering installation.

#### **Audit commentary**

PowerNet advises it would use its best endeavours to provide physical access to an installation subject to health and safety requirements.

#### **Audit outcome**

Compliant

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

#### **Code reference**

*Clause 8(2), 8(3), 8(5) and 8(6) of Schedule 10.6*

#### **Code related audit information**

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

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

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

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

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

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

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

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

- *for no less than 48 months after the interrogation date*
- *in a form that cannot be modified without creating an audit trail*

- *in a form that is secure and prevents access by any unauthorised person*
- *in a form that is accessible to authorised personnel.*

#### **Audit observation**

ELIN/TPCO do not have headend infrastructure to electronically interrogate meters, consequently they have no access to raw data. Meters are manually read by retailers.

#### **Audit commentary**

ELIN/TPCO do not have access to raw meter data.

This clause is not applicable. Compliance was not assessed.

#### **Audit outcome**

Not applicable

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

#### **Code reference**

*Clause 10.15(2)*

#### **Code related audit information**

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

#### **Audit observation**

ELIN/TPCO do not have headend infrastructure to remotely access meters.

#### **Audit commentary**

ELIN/TPCO do not have access to raw meter data.

This clause is not applicable. Compliance was not assessed

#### **Audit outcome**

Not applicable

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

#### **Code reference**

*Clause 8(4) of Schedule 10.6*

#### **Code related audit information**

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

#### **Audit observation**

ELIN/TPCO do not have headend infrastructure to remotely access meters.

#### **Audit commentary**



ELIN/TPCO do not have access to raw meter data.

This clause is not applicable. Compliance was not assessed.

#### **Audit outcome**

Not applicable

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

#### **Code reference**

*Clause 8(7) of Schedule 10.6*

#### **Code related audit information**

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

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

#### **Audit observation**

ELIN/TPCO do not have headend infrastructure to electronically interrogate meters, consequently they have no access to interrogation logs.

#### **Audit commentary**

ELIN/TPCO do not have access to raw meter data.

This clause is not applicable. Compliance was not assessed.

#### **Audit outcome**

[Click here to choose outcome from the drop down list.](#)

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

#### **Code reference**

*Clause 8(9) of Schedule 10.6*

#### **Code related audit information**

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

#### **Audit observation**

ELIN/TPCO do not have headend infrastructure to electronically interrogate meters, consequently they have no access half hour data. Meters are manually read by retailers.

#### **Audit commentary**

ELIN/TPCO do not have access to raw meter data.

This clause is not applicable. Compliance was not assessed.

#### **Audit outcome**

Not applicable

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

#### **Code reference**

*Clause 10.48(2),(3)*

#### **Code related audit information**

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

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

#### **Audit observation**

ELIN/TPCO do not have access to raw metering data.

#### **Audit commentary**

This clause is not applicable. Compliance was not assessed.

#### **Audit outcome**

Not applicable

## CONCLUSION

### PARTICIPANT RESPONSE

At PowerNet we strive for full compliance. The recent appointment of a dedicated Metering Assets Manager has bolstered our metering team and will improve our ability to give this full attention going forward.

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

We are concerned that the indication from the scoring against non-compliances is for a six month period until the next audit. We ask that the following points are taken into consideration when setting the timeframe for our next audit, and seek twelve months be applied:-

- Clause 3.2 MEP Switches. We have been deemed noncompliant due to timeframes, when we have acted immediately on information presented to us. But our action to become MEP was delayed due to being dependant on actions by other participants, ie MEP nomination by the Trader. We challenge the assessed non-compliance against this measure.
- A certain number of non-compliant issues come up repeatedly, eg missing information such as CTs, which generates multiple non-compliances. Each of these adds to the overall score, but still due to the same fundamental non-compliance.
- Clauses 7.15 and 7.16 effectively duplicate non-compliance regarding CT metering, which again generates another score.
- Clause 8.2 investigates inspections of Category 2 and higher installation. It appears there is an anomaly in the code in that the Cat 2 inspection period is the same as the certification period. Once an installation has exceeded the inspection period it has also reached certification expiry. We recognise we have a small number of installations which have reached this point, but question whether it is appropriate to score it on both counts.